

**பாடத்திட்ட அமைப்பு**  
**ஸ்ரீ ஜி.வி.ஜி. விசாலாட்சி மகளிர் கல்லூரி (தன்னாட்சி)**  
**பாரதியார் பல்கலைக் கழகத்திற்கு உட்பட்டது**  
**தமிழ்த்துறை (சுயநிதிப்பிரிவு)**  
**இளங்கலை தமிழ் இலக்கியம்**  
**பருவமுறைத் தேர்வும் மதிப்பெண் பகிர்வும்**  
**2017-2018-ஆம் கல்வியாண்டு முதல் பயிலும் மாணவியருக்குரியது**

பாடக் குறியீட்டு எண்	பாடத் தலைப்புகள்	கற்பிக்கும் காலம் ஒரு வாரத்திற்கு	தேர்வு				தரப் புள்ளிகள்
			காலம்	அகமதிப்பீட்டுத் தேர்வு	புற மதிப்பீட்டு தேர்வு	மொத்த மதிப்பெண்	
<b>பருவம் - I</b>							
117TA1	பகுதி I – தமிழ்த்தாள் - I	6	3	25	75	100	4
117EN1	பகுதி II – ஆங்கிலம் – I	6	3	25	75	100	4
117Q01	பகுதி III – முதன்மைப்பாடம் – I கவிதை இலக்கியம்	5	3	25	50	75	3
117Q02	முதன்மைப்பாடம் – II நாட்டுப்புறவியல்	5	3	25	50	75	3
117AQ1	துணைப்பாடம் I – தமிழக வரலாறும் பண்பாடும் - I	6	3	25	75	100	4
117EVS	பகுதி IV – Environmental Studies	2	2	50	--	50	2
<b>பருவம் - II</b>							
217TA2	பகுதி I – தமிழ்த்தாள் – II	6	3	25	75	100	4
217EN2	பகுதி II – ஆங்கிலம் – II	6	3	25	75	100	4
217Q03	பகுதி III – முதன்மைப்பாடம் – III உரைநடை இலக்கியம்	5	3	25	75	100	4
217Q04	முதன்மைப்பாடம் IV இலக்கணம் I நன்னூல் - எழுத்து	5	3	25	75	100	4
217AQ2	துணைப்பாடம் II – தமிழக வரலாறும் பண்பாடும் - II	6	3	25	75	100	4
217VEC	பகுதி IV – Value Education	2	2	50	--	50	2
<b>பருவம் - III</b>							
317TA3	பகுதி I – தமிழ்த்தாள் – III	6	3	25	75	100	4
317EN3	பகுதி II – ஆங்கிலம் – III	6	3	25	75	100	4
317Q05	பகுதி III – முதன்மைப்பாடம் – V பக்தி இலக்கியமும் சிறுநிலக்கியமும்	3	3	25	75	100	4
317Q06	முதன்மைப்பாடம் VI இலக்கணம் II நன்னூல் - சொல்	4	3	25	75	100	4
317AQ3	துணைப்பாடம் III – தமிழ் இலக்கிய வரலாறு – I	6	3	25	75	100	4
317NUM	துறைசாரா சிறப்பு இலக்கியம் – I உணவே மருந்து	3	3	75	--	75	3
317NUM	பகுதி IV-Skill Enhancement course I-திரைத்தமிழ்	2	2	50	--	50	2

பாடக் குறியீட்டு எண்	பாடத் தலைப்புகள்	கற்பிக்கும் காலம் ஒரு வாரத்திற்கு	தேர்வு				தரப் புள்ளிகள்
			காலம்	அகமதிப்பீட்டுத் தேர்வு	புற மதிப்பீட்டு தேர்வு	மொத்த மதிப்பெண்	
<b>பருவம் -IV</b>							
417TA4	பகுதி I – தமிழ்த்தாள் – IV	6	3	25	75	100	4
417EN4	பகுதி II – ஆங்கிலம் – IV	6	3	25	75	100	4
417Q07	பகுதி III – முதன்மைப்பாடம் – VII காப்பியங்கள்	3	3	25	75	100	4
417Q08	முதன்மைப்பாடம் – VIII – இலக்கணம் III யாப்பருங்கலக்காரிகை(ஒழிபியல் நீங்கலாக)தண்டியலங்காரம்	4	3	25	75	100	4
417AQ4	துணைப்பாடம் IV – தமிழ் இலக்கிய வரலாறு – II	6	3	25	75	100	4
417NGA	General Awareness	-	1	50	--	50	2
417QS2	பகுதி IV-Skill Enhancement Course II-ஆட்சித்தமிழ் பகுதிGGGGGJJjmm	3	3	75	--	75	3
417GIS	Information Security	2	2	50	--	Grade	Grade
417ALQ	Advanced Learners Course I வாய்மொழித் தேர்வு	--	--	--	100	100	4*
<b>பருவம் - V</b>							
517Q09	பகுதி III – முதன்மைப்பாடம் – IX அற இலக்கியம்	5	3	25	75	100	4
517Q10	முதன்மைப்பாடம் – X சங்க இலக்கியம் - அகம்	6	3	25	75	100	4
517Q11	முதன்மைப்பாடம் – XI இலக்கணம் -IV- நம்பியகப்பொருள் புறப்பொருள் வெண்பாமாலை	5	3	25	75	100	4
517Q12	முதன்மைப்பாடம் – XII படைப்புக்கலை	5	3	25	75	100	4
517QE1 517QE2	சிறப்புப்பாடம் I- இதழியல்/ கோயிற்கலைகள்	6	3	25	75	100	4
517QS3	பகுதி IV – Skill Enhancement Course – III - இயற்கை மருத்துவம்	3	3	75	--	75	3
<b>பருவம் - VI</b>							
617Q13	பகுதி III – முதன்மைப்பாடம் – XIII சங்க இலக்கியம் - புறம்	5	3	25	75	100	4
617Q14	முதன்மைப்பாடம் – XIV தமிழ்மொழி வரலாறு	5	3	25	75	100	4
617Q15	முதன்மைப்பாடம் – XV தமிழின் செம்மொழிப் பண்புகள்	5	3	25	75	100	4
617QE3/ 617QE4	சிறப்புப்பாடம் – II – திறனாய்வு இலக்கியம்/கால்டுவெல் ஒப்பிலக்கண	6	3	25	75	100	4
617QE5 617QE6	சிறப்புப்பாடம் – III – சுற்றுலாவியல்/ மொழிபெயர்ப்பியல்	6	3	25	75	100	4
617QS4	பகுதி IV – Skill Enhansment Course IV அரசுத்தேர்வில் தமிழ்	3	3	75	--	75	3
617EX1/ 617EX2/ 617EX3/ 617EX4/	பகுதி – V Extension Activity	--	--	50	--	50	2

பாடக் குறியீட்டு எண்	பாடத் தலைப்புகள்	கற்பிக்கும் காலம் ஒரு வாரத்திற்கு	தேர்வு				தரப் புள்ளிகள்
			காலம்	அகமதிப்பீட்டுத் தேர்வு	புற மதிப்பீட்டு தேர்வு	மொத்த மதிப்பெண்	
617EX5							
617ALQ	Advanced Learners Course - II வாய்மொழித் தேர்வு	--	--	--	100	100	4*
	Total Credits						140

**இளங்கலை தமிழ் இலக்கியம்**

**முதலாண்டு-முதல்பருவம்**

**பகுதி-III முதன்மைப்பாடம் I-கவிதை இலக்கியம்**

(2017-2018 ஆம் கல்வியாண்டு முதல் பயிலும் மாணவியருக்குரியது)

**117Q01**

(65மணி)

நோக்கம்:

மரபுக்கவிதைகள், புதுக்கவிதைகள் வழி சமூக உணர்வுட்டல் அயலகக் கவிதைகளை மாணவியருக்கு அறிமுகப்படுத்துதல் அலகு:1

பாரதியார் தேசியகீதங்கள் (5கவிதைகள்)  
பாரதிதாசன் -தமிழ்(முழுவதும்)  
கவிமணி - இயற்கை இன்பம் (முழுவதும்)  
உடுமலை நாராயணகவி (5 கவிதைகள்)

அலகு :2

மீரா – ஊசிகள் (5 கவிதைகள்)  
அப்துல் ரகுமான் -ஆலாபனை (5 கவிதைகள்)  
வைரமுத்து – கொடி மரத்து வேர்கள் (5 கவிதைகள்)  
நா.முத்துக்குமார் நா.முத்துக்குமார் கவிதைகள்(5கவிதைகள்)

அலகு :3

சிற்பி கண்ணாடி சிறகுள்ள ஒரு பறவை(5கவிதைகள்)  
புவியரசு –முக்கிய அறிவிப்பு(5கவிதைகள்)  
மீனாசுந்தர் -மருதத்திணை` (5கவிதைகள்)  
அம்சப்பிரியா- அம்சப்பிரியா கவிதைகள்` (5கவிதைகள்)

அலகு:4

அ.வெண்ணிலா -இரவு வரைந்த ஓவியம்` (5கவிதைகள்)  
பாலபாரதி –அவர்களும் அவர்களும்` (5கவிதைகள்)  
சக்திஜோதி-நிலம் புகும் சொற்கள்` (5கவிதைகள்)  
நர்மதா- நர்மதாகவிதைகள் (5கவிதைகள்)

அலகு :5

இனியன் -மரணம் என் தேசத்தின் உயிர்` (5கவிதைகள்)  
தீபச்செல்வன் கூடார நிழல் (5கவிதைகள்)  
ஊர்வசி-இன்னும் வராத சேதி` (5கவிதைகள்)  
மோழிபெயர்புகக்கவிதைகள் (5கவிதைகள்)

பாடநூல்

தேர்ந்தெடுக்கப்பட்ட கவிதைகள் தொகுத்து துறை வெளியீடு

இளங்கலை தமிழ் இலக்கியம்

முதலாண்டு-முதல்பருவம்

பகுதி-III முதன்மைப்பாடம் III-உரைநடை இலக்கியம்

117Q03

(2017-2018 ஆம் கல்வியாண்டு முதல் பயிலும் மாணவியருக்குரியது)

(65மணி)

நோக்கம்:

மாணவர்களுக்கு உரைநடை இலக்கிய வடிவங்களான சிறுகதை,புதினம்,கட்டுரை,நாடகம் போன்ற இலக்கிய வடிவங்களை அறிமுகப்படுத்துதல்

அலகு:1

சிறுகதை -சிறுகதைகள் தொகுப்பு துறை வெளியீடு

அலகு` 2

நாவல் - தூப்புக்காரி -மலர்வதி

அலகு:3

நாடகம் -ஆறுநாடகங்கள் -சிவக்கண்ணன்

அலகு :4

பயணக்கட்டுரை -உலகம் சுற்றும் தமிழன்-ஏ.கே.செட்டியார்

அலகு :5

கடித இலக்கியம் -தங்கைக்கு -மு.வரதராசனார்

பாட நூல்கள்

- 1.தேர்ந்தெடுத்த சிறுகதைகள் தொகுப்பு துறை வெளியீடு
2. மலர்வதி- தூப்புக்காரி- அனல்பதிப்பகம்-2014
3. சிவக்கண்ணன் - ஆறுநாடகங்கள் பாவை பதிப்பகம் 2013
4. `ஏ.கே.செட்டியார்-உலகம் சுற்றும் தமிழன் சந்தியா பதிப்பகம் 2013
5. மு.வரதராசனார்- தங்கைக்கு-பாரி நிலையம் மறுபதிப்பு 2013

இளங்கலை தமிழ் இலக்கியம்

இரண்டாமாண்டு -மூன்றாம் பருவம்

பகுதி-III முதன்மைப்பாடம் -V பக்தி இலக்கியமும் சிற்றிலக்கியமும்

(2017-2018 கல்வியாண்டில் முதல் பயிலும் மாணவியருக்குரியது)

317Q05

நோக்கம்:

பக்தி இலக்கியங்கள் வழி ஆன்மீக உணர்வூட்டல்

நாயன்மார்கள் ஆழ்வார்கள் பக்தமையையும்,இறைவனின் அற்புதச் செயல்களையும் அறியச்செய்தல்

அலகு 1:சைவம்

- 1.திருஞானசம்பந்தர்-திருவண்ணாமலை பதிகம் -உண்ணாமுலை யுமையாளொடு எனத் தொடங்கும் 11 பாடல்கள், திருப்பிரமபுரம் பதிகம்-தோடுடைய செவியன் எனத் தொடங்கும் 11 பாடல்கள்
- 2.திருநாவுக்கரசர்-நமச்சிவாயப் பதிகம் -எல்லாம் சிவனென் எனத் தொடங்கும் 10 பாடல்கள் திருவாரூர் பதிகம் - தில்லைவாழ் எனத் தொடங்கும் 11 பாடல்கள்
- 3.சுந்தரர்-திருவெண்ணெய் நல்லூர் பதிகம் -பித்தா பிறைசூடி எனத் தொடங்கும் 10 பாடல்கள்
- 4.மாணிக்கவாசகர் -சிவபுராணம் முழுமையும்

அலகு 2: வைணவம்

- 1.பொய்கையாழ்வார் -வையம் தகழியா எனத் தொடங்கும் 10பாடல்கள்
- 2.நம்மாழ்வார் -பெரியதிருவந்தாதி-முயற்று சுமந்தெழுந்து எனத் தொடங்கும் 10பாடல்கள்
- 3.பெரியாழ்வார் -திருமொழி -திருப்பல்லாண்டு -12 பாடல்கள்  
திருமழிசையாழ்வார் -திருச்சந்த விருத்தம் -12 பாடல்கள்
4. நாச்சியார் திருமொழி -தாமுகக்கும் தம்கையில் -10பாடல்கள்
- 5..குலசேகர ஆழ்வார்-பெருமாள் திருமொழி -11பாடல்கள்.

அலகு 3:கிறித்துவமும் இஸ்லாமும்

1.வீரமாமுனிவர் -தேம்பாவணி-மகிழ்வினை படலம்-திருமகன் உயர்வு கருதிய

சூசையின் உருகம் -12பாடல்கள்,

சூசையின்நன்றிக் கனிவு -13பாடல்கள்,

2.குணங்குடி மஸ்தானசாகிப -இஸ்லாம் பராபரக்கண்ணி-அண்ட புவனமென்றும் எனத் தொடங்கும் 20 பாடல்கள்.

அலகு 4: சிற்றிலக்கியம்

1.முத்துகுமரசாமி பிள்ளைத் தமிழ்-செங்கீரைப் பருவம்,தாலப் பருவம்,முத்தப் பருவம், வருகைப் பருவம் 5 பருவங்களிலும் முதல் -2 பாடல்கள்.

2.சரசுவதி அந்தாதி- 30 பாடல்கள்

3.முக்கூடற்பள்ளு -மழைக்குறி - (34-49) 15 பாடல்கள்.

அலகு 5: சிற்றிலக்கியம்

1.திருவரங்க கலம்பகம் - முதல் 10பாடல்கள்.

2.கலிங்கத்துப்பரணி - தேவியைப் பாடியது- (82-85) 4 பாடல்கள்.

போர்ப் பாடியது (145- 163) 19 பாடல்கள்.

களம் பாடியது 7பாடல்கள்.

3.தமிழ்விடுதாது - 30 கண்ணிகள் தேர்ந்தெடுக்கப்பட்டவை.

பார்வை நூல்கள்

1. டாக்டர் ரா.கண்ணன் -சிற்றிலக்கிய ஆராய்ச்சி 2002.

2.மு.அருணாச்சலம் -பிரபந்த மரபியல், முதற்பதிப்பு-1976.

**இளங்கலை தமிழ் இலக்கியம்**

**இரண்டாமாண்டு-நான்காம்பருவம்**

**பகுதி-III-முதன்மைப்பாடல்-VII-காப்பியங்கள்**

**417Q07**

**(2017-2018ஆம் கல்வியாண்டு முதல் பயிலும் மாணவியருக்குரியது) (38 மணி)**

**நோக்கம்:**

காப்பியங்களின் வழி நான்கு வகை உறுதிப்பொருள்களின் தன்மையை உணரக் செய்தல்.

தனிமனிதனுடைய வீரம், அறப்பண்புகள் பற்றி தெளிவுறுத்தல்.

அலகு 1: சிலப்பதிகாரம்

புறஞ்சேரியிறுத்த காதை ,வழக்குரைத்த காதை

அலகு 2: மணிமேகலை

மணிமேகலா தெய்வம் வந்து தோன்றிய காதை ,பளிக்கறை புக்க காதை

அலகு 3: சீவக சிந்தாமணி

சுரமஞ்சரியார் இலம்பகம் -30 பாடல்கள் (தேர்ந்தெடுக்கப்பட்டவை)

பெருங்கதை

மகத காண்டம் -யாழ் நலந் தெரிந்தது

அலகு 4: கம்பராமாயணம்

பால காண்டம் -கடிமணப்படலம் -30பாடல்கள்

வில்லிபாரதம் -சூது போர்ச் சருக்கம்

தருமனைச் சூதாட அழைத்தல் 10 பாடல்கள்

தருமன் தோற்றல் - 6 பாடல்கள்

திரௌபதியின் முறையீடு - 2 பாடல்கள்

திரௌபதி நியாயம் வேண்டல் - 2 பாடல்கள்

கண்ணன் அருள்புரிதல் -4 பாடல்கள்

வீமன் சினம் - 4பாடல்கள்

திரௌபதியும் தம்பியும் சபதம் ஏற்றல் - 5 பாடல்கள்

அலகு 5: கவிமணி -மருமக்கள் வழி மான்மியம் (முழுவதும்)

முடியரசன் -பூங்கொடி -முதல் 5 காதைகள்

பார்வை நூல்கள்

1.சோம இளவரசு -காப்பியத்திறன் -குமரன் பதிப்பகம் ,சிதம்பரம் 1973.

2.காசிராசன்,இரா.காப்பியத்தமிழ், அருள்நாதர் பதிப்பகம்,மதுரை.

**இளங்கலை தமிழ் இலக்கியம்**

**இரண்டாமாண்டு-நான்காம்பருவம்**

**பகுதி-III-Skill Enhancement Course VII-ஆட்சித்தமிழ்**

**417QS2**

**(2017-2018ஆம் கல்வியாண்டு முதல் பயிலும் மாணவியருக்குரியது) (38 மணி)**

**நோக்கம்:**

தமிழ் ஆட்சிமொழியாவதன் இன்றியமையாமையும் பயனும் குறித்து விளக்குதல்.

அலகு 1:

ஆட்சி மொழித்திட்டம்- தமிழ் ஆட்சி மொழி விழ்ப்புணர்வு- பயன்படுத்தியுள்ள சொற்கள் கழகங்களும் தொண்டும் -ஆங்கில ஆதிக்கம் - ஆட்சிமொழித் தோற்றமும் வளர்ச்சியும் - தாய்மொழி உரிமை -தமிழ் ஆட்சி மொழி

அலகு 2:

சட்டங்கள்-ஆணையர்கள் -ஆட்சி மொழித்திட்டச் செயல்பாடு-ஆட்சிமொழிக் குழுவின் பணிகள் -மொழிப்பெயர்ப்புப்பான பணிகள் -தமிழ் திட்ட தொடர்பான பயிற்சி வகுப்புகள் -ஆய்வு பணிகள்-தமிழ் வளர்ச்சி துறையும் துணைநூல்கள் தயாரிப்பு பணியும்.

அலகு: 3

திட்ட செயலாக்க நிலை -மொழிபெயர்ப்பு -அகராதிகள்- பயிற்சி-தட்டச்சு மாற்றம் -ஆய்வு ஊர் மற்றும் தெருபெயரமைப்பு

அலகு: 4

கலைசொற்கள் மொழிபெயர்ப்பும் சொல்லாக்கமும் சொல்லாக்கநிலையில் காரணப்பெயர்கள் நிறுவனங்களின் பங்கு-இதழ்களின் பங்கு -புதுச்சொல்லாக்கம் காலத்திற்கு ஏற்ற சொல்வடிவம்

அலகு 5

மொழியாக்கம் -மொழியாக்கத்தின் இன்றியமையாமை-வழங்கும் சொற்கள் - தமிழ் இலக்கணமரபு -அரசு பணியில் மொழிபெயர்ப்பு துறை - சட்டமன்றமும் சட்ட மொழி ஆணையத்தின் மொழிபெயர்ப்பு பணிகள் - சிக்கல்களும் தீர்வுகளும்- நீதி மன்றத்தில் தமிழ் பாடநூல்

1.டாக்டர் த.பெரியாண்டவன் ஆட்சித் தமிழ் . வளர் தமிழ் பதிப்பகம் மறுபதிப்பு 2013

பார்வை நூல்

1.டாக்டர்.மலையமான் தமிழ் ஆட்சி மொழி சிக்கல்களும் தீர்வுகளும் அன்பு பதிப்பகம். சென்னை

2.இரா. பெ. கண்ணகி தமிழ் மொழி ஆட்சி மொழி கல்வி மொழி நியூசெஞ்சரி புக்ஹவுஸ் சென்னை

**இளங்கலை தமிழ் இலக்கியம்**

**இரண்டாமாண்டு-நான்காம்பருவம்**

**Advanced Learner CourseI-வாய்மொழித்தேர்வு**

**417ALQ**

நான்காம் பருவத்தில் கற்ற அனைத்துப் பாடங்களிலிருந்தும் வினாக்கள் அமைக்கப்பட்டு(அகமதிப்பீட்டுத் தேர்வாளர் முன்னிலையில்) வாய்மொழித்தேர்வு நடத்தப்படும்.

**(2017-2018ஆம் கல்வியாண்டு முதல் பயிலும் மாணவியருக்குரியது)**

**ஸ்ரீ ஜி.வி.ஜி. விசாலாட்சி மகளிர் கல்லூரி (தன்னாட்சி)**  
**பாரதியார் பல்கலைக் கழகத்திற்கு உட்பட்டது**  
**தமிழ்த்துறை**  
**இளங்கலை தமிழ் இலக்கியம்**  
**பருவமுறைத் தேர்வும் மதிப்பெண் பகிர்வும்**  
**2015-2016-ஆம் கல்வியாண்டு முதல் பயிலும் மாணவியருக்குரியது**

பாடக் குறியீட்டு எண்	பாடத் தலைப்புகள்	கற்பிக்கும் காலம் ஒரு வாரத்திற்கு	தேர்வு				தரப் புள்ளிகள்
			காலம்	அகமதிப்பீட்டுத் தேர்வு	புற மதிப்பீட்டு தேர்வு	மொத்த மதிப்பெண்	
<b>பருவம் - I</b>							
115TA1	பகுதி I – தமிழ்த்தாள் - I	6	3	25	75	100	4
115EN1	பகுதி II – ஆங்கிலம் – I	6	3	25	75	100	4
115Q01	பகுதி III – முதன்மைப்பாடம் – I இக்கால இலக்கியம்	5	3	25	50	75	3
115Q02	முதன்மைப்பாடம் – II இலக்கணம் I: நன்னூல் - எழுத்து	5	3	25	50	75	3
115AQ1	துணைப்பாடம் I – தமிழக வரலாறும் பண்பாடும் - I	6	3	25	75	100	4
115EVS	பகுதி IV – Environmental Studies	2	2	50	--	50	2
<b>பருவம் - II</b>							
215TA2	பகுதி II – தமிழ்த்தாள் – II	6	3	25	75	100	4
215EN2	பகுதி II – ஆங்கிலம் – II	6	3	25	75	100	4
215Q03	பகுதி III – முதன்மைப்பாடம் – III நாட்டுப்புறவியல்	5	3	25	75	100	4
215Q04	முதன்மைப்பாடம் IV இலக்கணம் II நன்னூல் - சொல்	5	3	25	75	100	4
215AQ2	துணைப்பாடம் II – தமிழக வரலாறும் பண்பாடும் - II	6	3	25	75	100	4
215VEC	பகுதி IV – Value Education	2	2	50	--	50	2
<b>பருவம் - III</b>							
315TA3	பகுதி I – தமிழ்த்தாள் – III	6	3	25	75	100	4
315EN3	பகுதி II – ஆங்கிலம் – III	6	3	25	75	100	4
315Q05	பகுதி III – முதன்மைப்பாடம் – V பக்தி இலக்கியமும் சிற்றிலக்கியமும்	3	3	25	75	100	4
315Q06	முதன்மைப்பாடம் VI இலக்கணம் III யாப்பருங்கலக்காரிகையும் (ஒழிபியல் நீங்கலாக) தண்டியலங்காரமும்	4	3	25	75	100	4
315AQ3	துணைப்பாடம் III – தமிழ் இலக்கிய வரலாறு – I	6	3	25	75	100	4
315QS1	பகுதி IV – Skill Based Course I – மொழியியல்	3	3	75	--	75	3
315NUM	துறைசாரா சிறப்பு இலக்கியம் – I உணவே மருந்து	2	2	50	--	50	2
<b>பருவம் -IV</b>							
415TA4	பகுதி I – தமிழ்த்தாள் – IV	6	3	25	75	100	4

பாடக் குறியீட்டு எண்	பாடத் தலைப்புகள்	கற்பிக்கும் காலம் ஒரு வாரத்திற்கு	தேர்வு				தரப் புள்ளிகள்
			காலம்	அகமதிப்பீட்டுத் தேர்வு	புற மதிப்பீட்டு தேர்வு	மொத்த மதிப்பெண்	
415EN4	பகுதி II – ஆங்கிலம் – IV	6	3	25	75	100	4
415Q07	பகுதி III – முதன்மைப்பாடம் – VII காப்பியங்கள்	4	3	25	75	100	4
415Q08	முதன்மைப்பாடம் – VIII – இலக்கணம் IV: நம்பியகப்பொருளும், புறப்பொருள் வெண்பாமாலையும்	4	3	25	75	100	4
415AQ4	துணைப்பாடம் IV – தமிழ் இலக்கிய வரலாறு – II	6	3	25	75	100	4
415QS2	பகுதி IV – Skill Based Course II – மொழிபெயர்ப்பியல்	3	3	75	--	75	3
415NGA	துறைசாரா சிறப்பு இலக்கியம் II General Awareness (Online)	--	1	50	--	50	2
415GIS	Information Security	2	2	--	50	50	Grade
415EX1/ 415EX2/ 415EX4/ 415EX5	பகுதி – V Extension	--	--	50	--	50	2
<b>415ALQ</b>	<b>Advanced Learners Course I வாய்மொழித் தேர்வு</b>	--	--	--	100	100	3*
<b>பருவம் - V</b>							
515Q09	பகுதி III – முதன்மைப்பாடம் – IX அற இலக்கியம்	5	3	25	75	100	4
515Q10	முதன்மைப்பாடம் – X சங்க இலக்கியம் - அகம்	5	3	25	75	100	4
515Q11	முதன்மைப்பாடம் – XI தமிழ்மொழி வரலாறு	6	3	25	75	100	4
515Q12	முதன்மைப்பாடம் – XII இலக்கியத் திறனாய்வியல்	5	3	25	75	100	4
515QE1	சிறப்புப்பாடம் – I – இதழியல்	6	3	25	75	100	4
515QS3	பகுதி IV – Skill Based Course – III - இயற்கை மருத்துவம்	3	3	75	--	75	3
<b>பருவம் - VI</b>							
615Q13	பகுதி III – முதன்மைப்பாடம் – XIII சங்க இலக்கியம் - புறம்	5	3	25	75	100	4
615Q14	முதன்மைப்பாடம் – XIV காலடுவெல் ஒப்பிலக்கணம்	5	3	25	75	100	4
615Q15	முதன்மைப்பாடம் – XV தமிழின் செம்மொழிப் பண்புகள்	5	3	25	75	100	4
615QE2	சிறப்புப்பாடம் – II – சுற்றுலாவியல்	6	3	25	75	100	4
615QE3	சிறப்புப்பாடம் – III – கவின்கலைகள்	6	3	25	75	100	4
615QS4	பகுதி IV – Skill Based Course IV கல்வெட்டியல்	3	3	75	--	75	3
415EX3/	பகுதி – V Extension	--	--	50	--	50	2
<b>615ALQ</b>	<b>Advanced Learners Course - II வாய்மொழித் தேர்வு</b>	--	--	--	100	100	3*
Total Credits							140



**இளங்கலை தமிழ் இலக்கியம்**  
**இரண்டாமாண்டு-நான்காம்பருவம்**  
**Advanced Learner Course I-வாய்மொழித்தேர்வு 415ALQ**

நான்காம் பருவத்தில் கற்ற அனைத்துப் பாடங்களிலிருந்தும் வினாக்கள் அமைக்கப்பட்டு (அகமதிப்பீட்டுத் தேர்வாளர் முன்னிலையில்) வாய்மொழித்தேர்வு நடத்தப்படும்.

(2015-2016ஆம் கல்வியாண்டு முதல் பயிலும் மாணவியருக்குரியது)

**இளங்கலை தமிழ் இலக்கியம்**  
**இரண்டாமாண்டு-நான்காம்பருவம்**  
**Advanced Learner Course I-வாய்மொழித்தேர்வு 615ALQ**

ஆறாம் பருவத்தில் கற்ற அனைத்துப் பாடங்களிலிருந்தும் வினாக்கள் அமைக்கப்பட்டு (அகமதிப்பீட்டுத் தேர்வாளர் முன்னிலையில்) வாய்மொழித்தேர்வு நடத்தப்படும்.

(2015-2016ஆம் கல்வியாண்டு முதல் பயிலும் மாணவியருக்குரியது)

**ஸ்ரீ ஜி.வி.ஜி. விசாலாட்சி மகனிர் கல்லூரி (தன்னாட்சி)**  
**பாரதியார் பல்கலைக் கழகத்திற்கு உட்பட்டது**  
**தமிழ்த்துறை**  
**இளங்கலை தமிழ் இலக்கியம்**  
**பருவமுறைத் தேர்வும் மதிப்பெண் பகிர்வும்**  
**2015-2016-ஆம் கல்வியாண்டு முதல் பயிலும் மாணவியருக்குரியது**

பாடக் குறியீட்டு எண்	பாடத் தலைப்புகள்	கற்பிக்கும் காலம் ஒரு வாரத்திற்கு	தேர்வு				தரப் புள்ளிகள்
			காலம்	அகமதிப்பீட்டுத் தேர்வு	புற மதிப்பீட்டு தேர்வு	மொத்த மதிப்பெண்	
<b>பருவம் - I</b>							
114TA1	பகுதி I – தமிழ்த்தாள் - I	6	3	25	75	100	3
114EN1	பகுதி II – ஆங்கிலம் – I	6	3	25	75	100	3
114Q01	பகுதி III – முதன்மைப்பாடம் – I இக்கால இலக்கியம் I	5	3	25	75	100	4
114Q02	முதன்மைப்பாடம் – II இலக்கணம் I: நன்னூல் - எழுத்து	5	3	25	75	100	4
114AQ1	துணைப்பாடம் I – தமிழக வரலாறும் பண்பாடும் - I	6	3	25	75	100	2
114EVS	பகுதி IV – Environmental Studies	2	2	50	--	50	2
<b>பருவம் - II</b>							
214TA2	பகுதி I – தமிழ்த்தாள் – II	6	3	25	75	100	4
214EN2	பகுதி II – ஆங்கிலம் – II	6	3	25	75	100	4

பாடக் குறியீட்டு எண்	பாடத் தலைப்புகள்	கற்பிக்கும் காலம் ஒரு வாரத்திற்கு	தேர்வு				தரப் புள்ளிகள்
			காலம்	அகமதிப்பீட்டுத் தேர்வு	புற மதிப்பீட்டு தேர்வு	மொத்த மதிப்பெண்	
214Q03	பகுதி III – முதன்மைப்பாடம் – III இக்கால இலக்கியம் II	5	3	25	75	100	4
214Q04	முதன்மைப்பாடம் IV இலக்கணம் II நன்னூல் - சொல்	5	3	25	75	100	4
214AQ2	துணைப்பாடம் II – தமிழக வரலாறும் பண்பாடும் - II	6	3	25	75	100	4
214VEC	பகுதி IV – Value Education	2	2	25	--	50	2
<b>214ALQ</b>	<b>Advanced Learners Course –I</b> <b>பேச்சுக்கலை</b>		3	-	100	100	3*
<b>பருவம் - III</b>							
314TA3	பகுதி I – தமிழ்த்தாள் – III	6	3	25	75	100	4
314EN3	பகுதி II – ஆங்கிலம் – III	6	3	25	75	100	4
314Q05	பகுதி III – முதன்மைப்பாடம் – V பக்தி இலக்கியமும் சிற்றிலக்கியமும்	3	3	25	75	100	4
314Q06	முதன்மைப்பாடம் VI இலக்கணம் III யாப்பருங்கலக்காரிகையும் (ஒழியியல் நீங்கலாக) தண்டியலங்காரமும்	4	3	25	75	100	4
314AQ3	துணைப்பாடம் III – தமிழ் இலக்கிய வரலாறு – I	6	3	25	75	100	4
314QS1	பகுதி IV – Skill Based Course I – மொழியியல்	3	3	75	--	75	3
314NNI	துறைசாரா சிறப்பு இலக்கியம் – I உடும்லை நாராயண கவி இலக்கியம்	2	2	75	--	75	2
<b>பருவம் -IV</b>							
414TA4	பகுதி I – தமிழ்த்தாள் – IV	6	3	25	75	100	4
414EN4	பகுதி II – ஆங்கிலம் – IV	6	3	25	75	100	4
414Q07	பகுதி III – முதன்மைப்பாடம் – VII காப்பியங்கள்	4	3	25	75	100	4
414Q08	முதன்மைப்பாடம் – VIII – இலக்கணம் IV: நம்பியகப்பொருளும், புறப்பொருள் வெண்பாமாலையும்	4	3	25	75	100	4
414AQ4	துணைப்பாடம் IV – தமிழ் இலக்கிய வரலாறு – II	6	3	25	75	100	4
414QS2	பகுதி IV – Skill Based Course II – மொழிபெயர்ப்பியல்	3	3	75	--	75	3
414NGA	துறைசாரா சிறப்பு இலக்கியம் II General Awareness (Online)	--	1	50	--	50	2
<b>414ALQ</b>	<b>Advanced Learners Course</b> <b>II திரைத்தமிழ்</b>	--	--	--	100	100	3*
<b>பருவம் - V</b>							
514Q09	பகுதி III – முதன்மைப்பாடம் – IX அற இலக்கியம்	5	3	25	75	100	4
514Q10	முதன்மைப்பாடம் – X சங்க இலக்கியம் - அகம்	5	3	25	75	100	4
514Q11	முதன்மைப்பாடம் – XI தமிழ்மொழி வரலாறு	6	3	25	75	100	4

பாடக் குறியீட்டு எண்	பாடத் தலைப்புகள்	கற்பிக்கும் காலம் ஒரு வாரத்திற்கு	தேர்வு				தரப் புள்ளிகள்
			காலம்	அகமதிப்பீட்டுத் தேர்வு	புற மதிப்பீட்டு தேர்வு	மொத்த மதிப்பெண்	
514Q12	முதன்மைப்பாடம் – XII இலக்கியத் திறனாய்வியல்	5	3	25	75	100	4
514QE1	சிறப்புப்பாடம் – I – இதழியல்	6	3	25	75	100	4
514QS3	பகுதி IV – Skill Based Course – III - இயற்கை மருத்துவம்	3	3	75	--	75	3
<b>பருவம் - VI</b>							
614Q13	பகுதி III – முதன்மைப்பாடம் – XIII சங்க இலக்கியம் - புறம்	5	3	25	75	100	4
614Q14	முதன்மைப்பாடம் – XIV கால்டுவெல் ஒப்பிலக்கணம்	5	3	25	75	100	4
614Q15	முதன்மைப்பாடம் – XV தமிழின் செம்மொழிப் பண்புகள்	5	3	25	75	100	4
614QE2	சிறப்புப்பாடம் – II – சுற்றுலாவியல்	6	3	25	75	100	4
614QE3	சிறப்புப்பாடம் – III – கவின்கலைகள்	6	3	25	75	100	4
614QS4	பகுதி IV – Skill Based Course IV கல்வெட்டியல்	3	3	75	--	75	3
614EX1/ 614EX2/ 614EX3/ 614EX4/ 614EX5	பகுதி – V Extension	--	--	50	--	50	2
614ALQ	Advanced Learners Course - III போட்டித் தேர்வில் தமிழ்	--	--	--	100	100	3*
Total Credits							140

இளங்கலைத் தமிழ் இலக்கியம்

முதலாம் ஆண்டு -இரண்டாம் பருவம்

214QALQ

ALC-1:பேச்சுக்கலை(தற்படிப்பு)

(2014-2015ஆம் கல்வியாண்டு முதல் பயிலும் மாணவியருக்குரியது)

நோக்கம்: தமிழிலக்கியம் பயிலும் மாணவியரைச் சிறந்த பேச்சாளராக்குதல்

அலகு 1 :மேடைப்பேச்சு வரலாறு-மேடைப் பேச்சு வகைகள்-எழுத்தும் பேச்சும்-சிறந்த பேச்சின் இலக்கணம்-பேச்சைத் தொடங்குவது எப்படி? – பொருள் விளக்கும் முறை

அலகு 2:பேச்சை முடிப்பது எப்படி –பாராட்டும் வாழ்த்தும் இரங்களும் -சொற்போர் அவைத்தலைமை-நன்றி நவில்ல-நினைவாற்றலைப் பெருக்கும் வழிமுறைகள்-கவனத்தைக் கவர்தல்

அலகு 3: மேடைத் தோற்றம்-மேடைப்பேச்சு நடை-கூட்ட அமைப்பாளர்க்கு- இருபத்தொரு குறிப்புகள்

அலகு 4:பேச்சாளனாக-இலக்கிய அடிப்படை-புகழோடு தோன்றுக-புதியன போற்றுக –பேச்சுநடை-அவையறிதல்

அலகு 5: நகைச்சுவையின் நன்மைகள் -நெகிழ்வும் மகிழ்வும்- கற்பனவும்-வெல்லும் சொல்-பேச்சில் தன்னப்பிக்கை-சேசட்சாளனும் வாசிப்பும்

பாடநூல்கள் :

- 1.பேச்சாளராக,அ.கி. பரந்தாமனார் பாரிநிலையம்,1994
- 2.பேசும் கலை,முனைவர் கு.ஞானசம்பந்தன் விஜயா பதிப்பகம்

இளங்கலைத் தமிழ் இலக்கியம்

இரண்டாம்ஆண்டு –நான்காம்பருவம்

414QALQ

ALC-II:திரைத்தமிழ்(தற்படிப்பு)

(2015-2015ஆம் கல்வியாண்டு முதல் பயிலும் மாணவியருக்குரியது)

அலகு1: திரைதந்த கானமும் சிரைதந்த ஞானமும்- திரையிசையில் உழைப்பாளர் உலகம்- திரையிசைப்பாடல்களில் மகளிர் நிலை –திரையிசையும் கம்பராமாயணமும்

அலகு2: திரையிசையில் பறவைகளும் விலங்குகளும்-திரையிசைப்பாடல்களில் எண்கள்-திரையிசையில் நிலவு

அலகு 3:திரையிசையும் தாலாட்டும் -திரையிசையில் தாய்மை-திரையிசையில் தூது –திரையிசையில் பிற இலக்கியங்கள்

அலகு4: திரையிசையில் கண்கள்-ஒரு பார்வை-திரையிசையில் பணம்-திரையிசையில் சிரிப்பு

அலகு 5:திரையிசையில் கதைப்பாடல்கள்-திரையிசையில் வாழ்த்து-திரையிசையில் கடவுள்-திரையிசையில் உவமை

பாடநூல்

1.முனைவர் இன்பரதி,திரையிசையும் தமிழிசையும் பாவை பப்ளிகேசன்ஸ் 2014

இளங்கலை தமிழ் இலக்கியம்

மூன்றாமாண்டு ஆறாம் பருவம்

Advanced Learners Course - III

போட்டித்தேர்வில் தமிழ்

614ALQ

(2014-2015ஆம் கல்வியாண்டில் பயிலும் மாணவியருக்குரியது)

நோக்கம் :

1. மாணவியரைப் போட்டித் தேர்வுகளுக்குத் தயார்படுத்துதல்
2. போட்டித்தேர்வுகளில் தமிழ் இலக்கிய வரலாறு தொடர்பான வினாக்கள் பெரும்பங்கு வகிப்பதால் அவைகளுக்கு எளிமையாக விடையளிக்கும் வகையில் கற்பித்தல்
3. இலக்கணத்தை எளிமையாகக் கற்பித்தல்
4. போட்டித் தேர்வுகளில் இடம்பெறும் இலக்கணம் தொடர்பான வினாக்களிலும் முழு மதிப்பெண்கள் பெற வழிவகை செய்தல்

- அலகு 1 : தமிழ் மொழி - தமிழ் இலக்கியம் - தமிழ் இலக்கிய வரலாற்றுக் கல்வி - தொல்காப்பியம் - சங்க இலக்கியம் - அற இலக்கியம் - காப்பிய இலக்கியம் - பக்தி இலக்கியம் - சிற்றிலக்கியம்
- அலகு 2 : உரையாசிரியர்கள் - இலக்கணமும் நிகண்டும் - தனிப்பாடல்களும் பிற்காலப் புலவர்களும் - சமயம் வளர்த்த தமிழ் - வெளிநாடுகள் தந்த இலக்கியம் - நாடக இலக்கியம் - கதை இலக்கியம் - உரைநடை இலக்கியம் இக்கால கவிதை இலக்கியம்
- அலகு 3 : புதுக்கவிதை - நாட்டார் இலக்கியம் - சுவடியியல் - பதிப்பகங்கள் - இதழ்கள் - நிறுவனங்கள் - குழந்தை சிறுவர் இலக்கியங்கள் - மாநாடுகள் - கருத்தரங்குகள் - ஹைகூக் கவிதைகள் - பலதுறைகளில் தமிழ்
- அலகு 4 : மொழி - இலக்கண வகை - எழுத்திலக்கணம் - எழுத்துவகை - எழுத்துப்போலி - சொல்வகை - பெயர்ச்சொல் - வினைச்சொல் - இடைச்சொல் - உரிச்சொல் (5-66)
- அலகு 5 : புணர்ச்சி - வாக்கியம் - யாப்பு - யாப்பின் உறுப்புகள் - அணிவகைகள் - அகப்பொருள், அகத்திணை வகைகள் - புறத்திணை வகைகள் - எழுத்துப்பிழைகளும் திருத்தங்களும் - எழுத்துப் பிழைகளும் சொற்பிழைகளும் திருத்தங்களும் - எழுத்து வேறுபாடு அறிதல்

**பாடநூல் :**

1. ச.வே.சுப்பிரமணியன் -தமிழிலக்கிய வரலாறு மணிவாசகர் பதிப்பகம் மு.ப.1999.
2. கமலா தியாகராஜன் - தமிழிலக்கண கையேடு அநுராகம், மு.ப. 2002.

**பார்வை நூல்கள்:**

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3. டாக்டர் சொ. பரமசிவம் - நற்றமிழ் இலக்கணம்,பட்டுப் பதிப்பகம், மு.ப. 1966.
4. டாக்டர் பொற்கோ - இலக்கண உலகில் புதிய பார்வை, நியூ செஞ்சுரி புத்தக நிலையம், மு.ப. 1973.

தயாரிப்பு : முனைவர் மா.போ.ஆனந்தி  
சரிபார்ப்பு : முனைவர்.ப.தமிழ்ப்பாவை  
மேற்பார்வை : சு.பிருந்தா

**பாடத்திட்ட அமைப்பு**  
**ஸ்ரீ ஜி.வி.ஜி. விசாலாட்சி மகளிர் கல்லூரி (தன்னாட்சி)**  
**பாரதியார் பல்கலைக் கழகத்திற்கு உட்பட்டது**  
**தமிழ்த்துறை (சுயநிதிப்பிரிவு)**  
**இளங்கலை தமிழ் இலக்கியம்**  
**பருவமுறைத் தேர்வும் மதிப்பெண் பகிர்வும்**  
**2017-2018-ஆம் கல்வியாண்டு முதல் பயிலும் மாணவியருக்குரியது**

பாடக் குறியீட்டு எண்	பாடத் தலைப்புகள்	கற்பிக்கும் காலம் ஒரு வாரத்திற்கு	தேர்வு				தரப் புள்ளிகள்
			காலம்	அகமதிப்பீட்டுத் தேர்வு	புற மதிப்பீட்டு தேர்வு	மொத்த மதிப்பெண்	
<b>பருவம் - I</b>							
117TA1	பகுதி I – தமிழ்த்தாள் - I	6	3	25	75	100	4
117EN1	பகுதி II – ஆங்கிலம் – I	6	3	25	75	100	4
117Q01	பகுதி III – முதன்மைப்பாடம் – I கவிதை இலக்கியம்	5	3	25	50	75	3
117Q02	முதன்மைப்பாடம் – II நாட்டுப்புறவியல்	5	3	25	50	75	3
117AQ1	துணைப்பாடம் I – தமிழக வரலாறும் பண்பாடும் - I	6	3	25	75	100	4
117EVS	பகுதி IV – Environmental Studies	2	2	50	--	50	2
<b>பருவம் - II</b>							
217TA2	பகுதி I – தமிழ்த்தாள் – II	6	3	25	75	100	4
217EN2	பகுதி II – ஆங்கிலம் – II	6	3	25	75	100	4
217Q03	பகுதி III – முதன்மைப்பாடம் – III உரைநடை இலக்கியம்	5	3	25	75	100	4
217Q04	முதன்மைப்பாடம் IV இலக்கணம் I நன்னூல் - எழுத்து	5	3	25	75	100	4
217AQ2	துணைப்பாடம் II – தமிழக வரலாறும் பண்பாடும் - II	6	3	25	75	100	4
217VEC	பகுதி IV – Value Education	2	2	50	--	50	2
<b>பருவம் - III</b>							
317TA3	பகுதி I – தமிழ்த்தாள் – III	6	3	25	75	100	4
317EN3	பகுதி II – ஆங்கிலம் – III	6	3	25	75	100	4
317Q05	பகுதி III – முதன்மைப்பாடம் – V பக்தி இலக்கியமும் சிறுநூல்களும்	3	3	25	75	100	4
317Q06	முதன்மைப்பாடம் VI இலக்கணம் II நன்னூல் - சொல்	4	3	25	75	100	4
317AQ3	துணைப்பாடம் III – தமிழ் இலக்கிய வரலாறு – I	6	3	25	75	100	4
317NUM	துறைசாரா சிறப்பு இலக்கியம் – I உணவே மருந்து	3	3	75	--	75	3
317NUM	பகுதி IV-Skill Enhancement course I-திரைத்தமிழ்	2	2	50	--	50	2
<b>பருவம் -IV</b>							

பாடக் குறியீட்டு எண்	பாடத் தலைப்புகள்	கற்பிக்கும் காலம் ஒரு வாரத்திற்கு	தேர்வு				தரப் புள்ளிகள்
			காலம்	அகமதிப்பீட்டுத் தேர்வு	புற மதிப்பீட்டு தேர்வு	மொத்த மதிப்பெண்	
417TA4	பகுதி I – தமிழ்த்தாள் – IV	6	3	25	75	100	4
417EN4	பகுதி II – ஆங்கிலம் – IV	6	3	25	75	100	4
417Q07	பகுதி III – முதன்மைப்பாடம் – VII காப்பியங்கள்	3	3	25	75	100	4
417Q08	முதன்மைப்பாடம் – VIII – இலக்கணம் III யாப்பருங்கலக்காரிகை(ஒழிபியல் நீங்கலாக)தண்டியலங்காரம்	4	3	25	75	100	4
417AQ4	துணைப்பாடம் IV – தமிழ் இலக்கிய வரலாறு – II	6	3	25	75	100	4
417NGA	General Awareness	-	1	50	--	50	2
417QS2	பகுதி IV-Skill Enhancement Course II-ஆட்சித்தமிழ்	3	3	75	--	75	3
417GIS	Information Security	2	2	50	--	Grade	Grade
417ALQ	Advanced Learners Course I வாய்மொழித் தேர்வு	--	--	--	100	100	4*
<b>பருவம் - V</b>							
517Q09	பகுதி III – முதன்மைப்பாடம் – IX அற இலக்கியம்	5	3	25	75	100	4
517Q10	முதன்மைப்பாடம் – X சங்க இலக்கியம் - அகம்	6	3	25	75	100	4
517Q11	முதன்மைப்பாடம் – XI இலக்கணம் -IV- நம்பியகப்பொருள் புறப்பொருள் வெண்பாமாலை	5	3	25	75	100	4
517Q12	முதன்மைப்பாடம் – XII படைப்புக்கலை	5	3	25	75	100	4
517QE1 517QE2	சிறப்புப்பாடம் I- இதழியல்/ கோயிற்கலைகள்	6	3	25	75	100	4
517QS3	பகுதி IV – Skill Enhancement Course – III - இயற்கை மருத்துவம்	3	3	75	--	75	3
<b>பருவம் - VI</b>							
617Q13	பகுதி III – முதன்மைப்பாடம் – XIII சங்க இலக்கியம் - புறம்	5	3	25	75	100	4
617Q14	முதன்மைப்பாடம் – XIV தமிழ்மொழி வரலாறு	5	3	25	75	100	4
617Q15	முதன்மைப்பாடம் – XV தமிழின் செம்மொழிப் பண்புகள்	5	3	25	75	100	4
617QE3/ 617QE4	சிறப்புப்பாடம் – II – திறனாய்வு இலக்கியம்/காலடுவெல் ஒப்பிலக்கண	6	3	25	75	100	4
617QE5 617QE6	சிறப்புப்பாடம் – III – சுற்றுலாவியல்/ மொழிபெயர்ப்பியல்	6	3	25	75	100	4
617QS4	பகுதி IV – Skill Enhansment Course IV அரசுத்தேர்வில் தமிழ்	3	3	75	--	75	3
617EX1/ 617EX2/ 617EX3/ 617EX4/ 617EX5	பகுதி – V Extension Activity	--	--	50	--	50	2

பாடக் குறியீட்டு எண்	பாடத் தலைப்புகள்	கற்பிக்கும் காலம் ஒரு வாரத்திற்கு	தேர்வு				தரப் புள்ளிகள்
			காலம்	அகமதிப்பீட்டுத் தேர்வு	புற மதிப்பீட்டு தேர்வு	மொத்த மதிப்பெண்	
617ALQ	Advanced Learners Course - II வாய்மொழித் தேர்வு	--	--	--	100	100	4*
	Total Credits						140

**ஸ்ரீ ஜி.வி.ஜி. விசாலாட்சி மகளிர் கல்லூரி (தன்னாட்சி)**  
**பாரதியார் பல்கலைக் கழகத்திற்கு உட்பட்டது**  
**தமிழ்த்துறை**  
**இளங்கலை தமிழ் இலக்கியம்**  
**பருவமுறைத் தேர்வும் மதிப்பெண் பகிர்வும்**  
**2015-2016-ஆம் கல்வியாண்டு முதல் பயிலும் மாணவியருக்குரியது**

பாடக் குறியீட்டு எண்	பாடத் தலைப்புகள்	கற்பிக்கும் காலம் ஒரு வாரத்திற்கு	தேர்வு				தரப் புள்ளிகள்
			காலம்	அகமதிப்பீட்டுத் தேர்வு	புற மதிப்பீட்டு தேர்வு	மொத்த மதிப்பெண்	
	<b>பருவம் - I</b>						
115TA1	பகுதி I – தமிழ்த்தாள் - I	6	3	25	75	100	4
115EN1	பகுதி II – ஆங்கிலம் – I	6	3	25	75	100	4
115Q01	பகுதி III – முதன்மைப்பாடம் – I இக்கால இலக்கியம்	5	3	25	50	75	3
115Q02	முதன்மைப்பாடம் – II இலக்கணம் I: நன்னூல் - எழுத்து	5	3	25	50	75	3
115AQ1	துணைப்பாடம் I – தமிழக வரலாறும் பண்பாடும் - I	6	3	25	75	100	4
115EVS	பகுதி IV – Environmental Studies	2	2	50	--	50	2
	<b>பருவம் - II</b>						
215TA2	பகுதி II – தமிழ்த்தாள் – II	6	3	25	75	100	4
215EN2	பகுதி II – ஆங்கிலம் – II	6	3	25	75	100	4
215Q03	பகுதி III – முதன்மைப்பாடம் – III நாட்டுப்புறவியல்	5	3	25	75	100	4
215Q04	முதன்மைப்பாடம் IV இலக்கணம் II நன்னூல் - சொல்	5	3	25	75	100	4
215AQ2	துணைப்பாடம் II – தமிழக வரலாறும் பண்பாடும் - II	6	3	25	75	100	4
215VEC	பகுதி IV – Value Education	2	2	50	--	50	2
	<b>பருவம் - III</b>						
315TA3	பகுதி I – தமிழ்த்தாள் – III	6	3	25	75	100	4
315EN3	பகுதி II – ஆங்கிலம் – III	6	3	25	75	100	4
315Q05	பகுதி III – முதன்மைப்பாடம் – V பக்தி இலக்கியமும் சிற்றிலக்கியமும்	3	3	25	75	100	4



பாடக் குறியீட்டு எண்	பாடத் தலைப்புகள்	கற்பிக்கும் காலம் ஒரு வாரத்திற்கு	தேர்வு				தரப் புள்ளிகள்
			காலம்	அகமதிப்பீட்டுத் தேர்வு	புற மதிப்பீட்டு தேர்வு	மொத்த மதிப்பெண்	
315Q06	முதன்மைப்பாடம் VI இலக்கணம் III யாப்பருங்கலக்காரிகையும் (ஒழியியல் நீங்கலாக) தண்டியலங்காரமும்	4	3	25	75	100	4
315AQ3	துணைப்பாடம் III – தமிழ் இலக்கிய வரலாறு – I	6	3	25	75	100	4
315QS1	பகுதி IV – Skill Based Course I – மொழியியல்	3	3	75	--	75	3
315NUM	துறைசாரா சிறப்பு இலக்கியம் – I உணவே மருந்து	2	2	50	--	50	2
<b>பருவம் -IV</b>							
415TA4	பகுதி I – தமிழ்த்தாள் – IV	6	3	25	75	100	4
415EN4	பகுதி II – ஆங்கிலம் – IV	6	3	25	75	100	4
415Q07	பகுதி III – முதன்மைப்பாடம் – VII காப்பியங்கள்	4	3	25	75	100	4
415Q08	முதன்மைப்பாடம் – VIII – இலக்கணம் IV: நம்பியகப்பொருளும், புறப்பொருள் வெண்பாமாலையும்	4	3	25	75	100	4
415AQ4	துணைப்பாடம் IV – தமிழ் இலக்கிய வரலாறு – II	6	3	25	75	100	4
415QS2	பகுதி IV – Skill Based Course II – மொழிபெயர்ப்பியல்	3	3	75	--	75	3
415NGA	துறைசாரா சிறப்பு இலக்கியம் II General Awareness (Online)	--	1	50	--	50	2
415GIS	Information Security	2	2	--	50	50	Grade
415EX1/ 415EX2/ 415EX4/ 415EX5	பகுதி – V Extension	--	--	50	--	50	2
415ALQ	Advanced Learners Course I வாய்மொழித் தேர்வு	--	--	--	100	100	3*
<b>பருவம் - V</b>							
515Q09	பகுதி III – முதன்மைப்பாடம் – IX அற இலக்கியம்	5	3	25	75	100	4
515Q10	முதன்மைப்பாடம் – X சங்க இலக்கியம் - அகம்	5	3	25	75	100	4
515Q11	முதன்மைப்பாடம் – XI தமிழ்மொழி வரலாறு	6	3	25	75	100	4
515Q12	முதன்மைப்பாடம் – XII இலக்கியத் திறனாய்வியல்	5	3	25	75	100	4
515QE1	சிறப்புப்பாடம் – I – இதழியல்	6	3	25	75	100	4
515QS3	பகுதி IV – Skill Based Course – III - இயற்கை மருத்துவம்	3	3	75	--	75	3
<b>பருவம் - VI</b>							
615Q13	பகுதி III – முதன்மைப்பாடம் – XIII சங்க இலக்கியம் - புறம்	5	3	25	75	100	4
615Q14	முதன்மைப்பாடம் – XIV கால்டுவெல் ஒப்பிலக்கணம்	5	3	25	75	100	4
615Q15	முதன்மைப்பாடம் – XV தமிழின் செம்மொழிப் பண்புகள்	5	3	25	75	100	4

பாடக் குறியீட்டு எண்	பாடத் தலைப்புகள்	கற்பிக்கும் காலம் ஒரு வாரத்திற்கு	தேர்வு				தரப் புள்ளிகள்
			காலம்	அகமதிப்பீட்டுத் தேர்வு	புற மதிப்பீட்டு தேர்வு	மொத்த மதிப்பெண்	
615QE2	சிறப்புப்பாடம் – II – சுற்றுலாவியல்	6	3	25	75	100	4
615QE3	சிறப்புப்பாடம் – III – கவின்கலைகள்	6	3	25	75	100	4
615QS4	பகுதி IV – Skill Based Course IV கல்வெட்டியல்	3	3	75	--	75	3
415EX3/	பகுதி – V Extension	--	--	50	--	50	2
615ALQ	Advanced Learners Course - II வாய்மொழித் தேர்வு	--	--	--	100	100	3*
Total Credits							140

**ஸ்ரீ ஜி.வி.ஜி. விசாலாட்சி மகளிர் கல்லூரி (தன்னாட்சி)**  
**பாரதியார் பல்கலைக் கழகத்திற்கு உட்பட்டது**  
**தமிழ்த்துறை**  
**இளங்கலை தமிழ் இலக்கியம்**  
**பருவமுறைத் தேர்வும் மதிப்பெண் பகிர்வும்**  
**2015-2016-ஆம் கல்வியாண்டு முதல் பயிலும் மாணவியருக்குரியது**

பாடக் குறியீட்டு எண்	பாடத் தலைப்புகள்	கற்பிக்கும் காலம் ஒரு வாரத்திற்கு	தேர்வு				தரப் புள்ளிகள்
			காலம்	அகமதிப்பீட்டுத் தேர்வு	புற மதிப்பீட்டு தேர்வு	மொத்த மதிப்பெண்	
<b>பருவம் - I</b>							
114TA1	பகுதி I – தமிழ்த்தாள் - I	6	3	25	75	100	3
114EN1	பகுதி II – ஆங்கிலம் – I	6	3	25	75	100	3
114Q01	பகுதி III – முதன்மைப்பாடம் – I இக்கால இலக்கியம் I	5	3	25	75	100	4
114Q02	முதன்மைப்பாடம் – II இலக்கணம் I: நன்னூல் - எழுத்து	5	3	25	75	100	4
114AQ1	துணைப்பாடம் I – தமிழக வரலாறும் பண்பாடும் - I	6	3	25	75	100	2
114EVS	பகுதி IV – Environmental Studies	2	2	50	--	50	2
<b>பருவம் - II</b>							
214TA2	பகுதி I – தமிழ்த்தாள் – II	6	3	25	75	100	4
214EN2	பகுதி II – ஆங்கிலம் – II	6	3	25	75	100	4
214Q03	பகுதி III – முதன்மைப்பாடம் – III இக்கால இலக்கியம் II	5	3	25	75	100	4
214Q04	முதன்மைப்பாடம் IV இலக்கணம் II நன்னூல் - சொல்	5	3	25	75	100	4
214AQ2	துணைப்பாடம் II – தமிழக வரலாறும் பண்பாடும் - II	6	3	25	75	100	4
214VEC	பகுதி IV – Value Education	2	2	25	--	50	2

பாடக் குறியீட்டு எண்	பாடத் தலைப்புகள்	கற்பிக்கும் காலம் ஒரு வாரத்திற்கு	தேர்வு				தரப் புள்ளிகள்
			காலம்	அகமதிப்பீட்டுத் தேர்வு	புற மதிப்பீட்டு தேர்வு	மொத்த மதிப்பெண்	
214ALQ	Advanced Learners Course –I பேச்சுக்கலை		3	-	100	100	3*
<b>பருவம் - III</b>							
314TA3	பகுதி I – தமிழ்த்தாள் – III	6	3	25	75	100	4
314EN3	பகுதி II – ஆங்கிலம் – III	6	3	25	75	100	4
314Q05	பகுதி III – முதன்மைப்பாடம் – V பக்தி இலக்கியமும் சிறுநிலக்கியமும்	3	3	25	75	100	4
314Q06	முதன்மைப்பாடம் VI இலக்கணம் III யாப்பருங்கலக்காரிகையும் (ஒழிபியல் நீங்கலாக) தண்டியலங்காரமும்	4	3	25	75	100	4
314AQ3	துணைப்பாடம் III – தமிழ் இலக்கிய வரலாறு – I	6	3	25	75	100	4
314QS1	பகுதி IV – Skill Based Course I – மொழியியல்	3	3	75	--	75	3
314NNI	துறைசாரா சிறப்பு இலக்கியம் – I உடும்லை நாராயண கவி இலக்கியம்	2	2	75	--	75	2
<b>பருவம் -IV</b>							
414TA4	பகுதி I – தமிழ்த்தாள் – IV	6	3	25	75	100	4
414EN4	பகுதி II – ஆங்கிலம் – IV	6	3	25	75	100	4
414Q07	பகுதி III – முதன்மைப்பாடம் – VII காப்பியங்கள்	4	3	25	75	100	4
414Q08	முதன்மைப்பாடம் – VIII – இலக்கணம் IV: நம்பியகப்பொருளும், புறப்பொருள் வெண்பாமாலையும்	4	3	25	75	100	4
414AQ4	துணைப்பாடம் IV – தமிழ் இலக்கிய வரலாறு – II	6	3	25	75	100	4
414QS2	பகுதி IV – Skill Based Course II – மொழிபெயர்ப்பியல்	3	3	75	--	75	3
414NGA	துறைசாரா சிறப்பு இலக்கியம் II General Awareness (Online)	--	1	50	--	50	2
414ALQ	Advanced Learners Course II திரைத்தமிழ்	--	--	--	100	100	3*
<b>பருவம் - V</b>							
514Q09	பகுதி III – முதன்மைப்பாடம் – IX அற இலக்கியம்	5	3	25	75	100	4
514Q10	முதன்மைப்பாடம் – X சங்க இலக்கியம் - அகம்	5	3	25	75	100	4
514Q11	முதன்மைப்பாடம் – XI தமிழ்மொழி வரலாறு	6	3	25	75	100	4
514Q12	முதன்மைப்பாடம் – XII இலக்கியத் திறனாய்வியல்	5	3	25	75	100	4
514QE1	சிறப்புப்பாடம் – I – இதழியல்	6	3	25	75	100	4
514QS3	பகுதி IV – Skill Based Course – III - இயற்கை மருத்துவம்	3	3	75	--	75	3
<b>பருவம் - VI</b>							

பாடக் குறியீட்டு எண்	பாடத் தலைப்புகள்	கற்பிக்கும் காலம் ஒரு வாரத்திற்கு	தேர்வு				தரப் புள்ளிகள்
			காலம்	அகமதிப்பீட்டுத் தேர்வு	புற மதிப்பீட்டு தேர்வு	மொத்த மதிப்பெண்	
614Q13	பகுதி III – முதன்மைப்பாடம் – XIII சங்க இலக்கியம் - புறம்	5	3	25	75	100	4
614Q14	முதன்மைப்பாடம் – XIV கால்டுவெல் ஒப்பிலக்கணம்	5	3	25	75	100	4
614Q15	முதன்மைப்பாடம் – XV தமிழின் செம்மொழிப் பண்புகள்	5	3	25	75	100	4
614QE2	சிறப்புப்பாடம் – II –சுற்றுலாவியல்	6	3	25	75	100	4
614QE3	சிறப்புப்பாடம் – III – கவின்கலைகள்	6	3	25	75	100	4
614QS4	பகுதி IV – Skill Based Course IV கல்வெட்டியல்	3	3	75	--	75	3
614EX1/ 614EX2/ 614EX3/ 614EX4/ 614EX5	பகுதி – V Extension	--	--	50	--	50	2
614ALQ	Advanced Learners Course - III போட்டித் தேர்வில் தமிழ்	--	--	--	100	100	3*
	Total Credits						140

Curriculum Design  
 Sri G.V.G. VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)  
 Affiliated to Bharathiar University  
 Department of English  
 Scheme of Examination – CBCS Pattern  
 Programme - B.A. English Literature  
 (For the Students admitted from the academic year 2017-2018 onwards)

Course Code	Course Title	Ins Hrs/Week	Examination				Credits
			Dur. Hrs.	CIA Marks	ESE Marks	Total Marks	
<b>Semester I</b>							
117 TA1/ 117 MY1 / 117 HD 1/ 117 FR1/ 117 EN1	<b>Part I - Language I</b>	6	3	25	75	100	4
117 EN1	<b>Part II - English I</b>	6	3	25	75	100	4
<b>Part III</b>							
117 L01	Core I - Poetry I	5	3	25	75	100	4
117 L02	Core II - Prose	5	3	25	75	100	4
117 AL1	Allied I - Literary Forms I	6	3	25	75	100	4
117EVS	<b>Part IV - Environmental Studies</b>	2	2	50	-	50	2
<b>Semester II</b>							
217 TA2/ 217 MY2/ 217 HD2/ 217 FR2/ 217 EN2	<b>Part I - Language II</b>	6	3	25	75	100	4
217 EN2	<b>Part II - English II</b>	6	3	25	75	100	4
<b>Part III</b>							
217 L03	Core III - English for Employability	5	3	25	75	100	4
217 L04	Core IV - Fiction	5	3	25	75	100	4
217 AL2	Allied II - Literary Forms II	6	3	25	75	100	4
217VEC	<b>Part IV - Value Education</b>	2	2	50	-	50	2

Course Code	Course Title	Ins Hrs/Week	Examination				Credits
			Dur. Hrs.	CIA Marks	ESE Marks	Total Marks	
	<b>Semester III</b>						
317 TA3/ 317 MY3/ 317 HD3/ 317 FR3/ 317 EN3	<b>Part I - Language III</b>	6	3	25	75	100	4
	<b>Part II - English III</b>	6	3	25	75	100	4
	<b>Part III</b>						
317 L05	Core V - Women's Writings	3	3	25	50	75	3
318 L06	Core VI - Drama	4	4	25	75	100	4
317 AL3	Allied III - Social History of England	6	3	25	75	100	4
	<b>Part IV</b>						
317 LS1	Skill Enhancement Course I : English Language Teaching - I	3	3	75	-	75	3
317NEC	Non-Major Elective - English for Competitive Examinations	2	2	50	-	50	2
	<b>Semester IV</b>						
417 TA4/ 417 MY4 / 417 HD4/ 417 FR4	<b>Part I - Language IV</b>	6	3	25	75	100	4
417 EN4	<b>Part II - English IV</b>	6	3	25	75	100	4
	<b>Part III</b>						
417 L07	Core VII - Poetry II	4	3	25	75	100	4
417 L08	Core VIII - English for Career Development	3	3	25	50	75	3
417 AL4	Allied IV - History of English Literature	6	3	25	75	100	4
	<b>Part IV</b>						
417LS2	Skill Enhancement Course II : English Language Teaching -II	3	3	75	-	75	3
417NGA	General Awareness(online)	-	1	50	-	50	2
417GIS	Information Security	2	2	50	-	Grade	Grade
417 ALL	Advanced Learners' Course I - Literature and Theatre Arts	-	3	-	100	100	4*

Course Code	Course Title	Ins Hrs/Week	Examination				Credits
			Dur. Hrs.	CIA Marks	ESE Marks	Total Marks	
<b>Semester V</b>							
<b>Part III</b>							
517 L09	Core IX - Shakespeare	6	3	25	75	100	4
517 L10	Core X - American Literature	6	3	25	75	100	4
517 L11	Core XI - Indian Writing in English	5	3	25	75	100	4
517 L12	Core XII - English for Business Correspondence	5	3	25	75	100	4
517 LE 1/ 517 LE 2	Elective I- Principles of Literary Criticism/ Approaches to Literature	5	3	25	75	100	4
<b>Part IV</b>							
517 LS3	Skill Enhancement Course III : English Language Teaching-III	3	3	75	-	75	3
<b>Semester VI</b>							
<b>Part III</b>							
617 L13	Core XIII - Intensive Study of an Author (Tagore)	6	3	25	75	100	4
617 L14	Core XIV - New Literatures	6	3	25	75	100	4
617 L15	Core XV - Classics in World Literature	5	3	25	75	100	4
617 LE3/ 617 LE4	Elective II - Translation / Comparative Literature	5	3	25	75	100	4
617 LE5/ 617 LE 6	Elective III - Journalism / Mass Communication	5	3	25	75	100	4
<b>Part IV</b>							
617 LS4	Skill Enhancement Course IV : English Language Teaching - IV (Project & Viva Voce)	3	3	75	-	75	3
<b>Part V</b>							
617EX1/ 617EX2/ 617 EX3/ 617EX4/ 617EX5	Extension Activity			50		50	2
617ALL	Advanced Learners' Course II - Eminent Essayists	-	3	-	100	100	4*

\*Starred Credits are treated as additional credits which are optional.

## B.A. English Literature

### Semester IV

#### Part III – Core VIII - English for Career Development

417L08

(For the students admitted from the academic year 2017-2018 onwards)

#### Course Objectives:

- To enable the students to master the skills in speaking and writing
- To learn and practice the art of effective writing
- To impart knowledge related to career-oriented skills
- To impart the essentials of team work
- To develop interpersonal communication

Hours: 38

#### UNIT I

(8 hrs)

Communication through words, Body Language and Technology

#### UNIT II

(8 hrs)

Dyadic communication, Public Speaking & Oral Presentation

#### UNIT III

(8 hrs)

Active Listening, Meetings, Seminars & Conferences

#### UNIT IV

(7 hrs)

Group Discussions, Audio Visual Aids, Reading Comprehension

#### UNIT V

(7 hrs)

Précis Writing, Business & Technical Reports

#### Book Prescribed:

Mohan, Krishna. & Banerji, Meera. *Developing Communication Skills*: 2<sup>nd</sup> Edition. MacMillan Publishers Limited, 2010.

#### Reference Books:

Orey, Maureen. *Developing Communication Skills*. Macmillan Publishers, 2014.

Tourish, D. and Hargie, O. (Eds) *Key Issues in Organisational Communication*. London Routledge. 2011.



**B. A. English Literature  
Semester IV**

**Advanced Learners' Course I- Literature and Theatre Arts**

**417ALL**

**(For the students admitted from the academic year 2017-2018 onwards)**

Course Objectives:

- To enable to read, analyze and appreciate drama
- To sensitize to the verbal and visual language of drama
- To engage actively in producing / performing drama

(Note: As this is a self-study paper only two plays are prescribed)

Saint Joan

G. B. Shaw

Hairy Ape

Eugene O' Neill

Books Prescribed:

**Shaw, George Bernard. *Saint Joan*. Penguin Books, 1974.**

**O'Neill, Eugene. *The Hairy Ape*. Amazon, 2017.**

Reference Books:

Bogard, Travis. *Contour in Time. The Plays of Eugene O'Neill*. New York: Oxford UP, 1988.

**Shaw, George Bernard. *The plays of Bernard Shaw*. Amereon Ltd. 1995.**

Curriculum Design  
 Sri G.V.G VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)  
 Affiliated to Bharathiar University  
 Department of English  
 Scheme of Examination – CBCS Pattern  
 Programme - B.A. English Literature  
 (For the Students admitted from the academic year 2015-2016 onwards)

Course Code	Course Title	Ins Hrs/Week	Examination				Credits
			Dur. Hrs.	CIA Marks	ESE Marks	Total Marks	
<b>Semester I</b>							
115 TA 1/ 115 MY1 / 115 HD 1/ 115 FR 1/	<b>Part I - Language I</b>	6	3	25	75	100	4
115 EN1	<b>Part II - English I</b>	6	3	25	75	100	4
<b>Part III</b>							
115 L01	Core I - Poetry I	5	3	25	75	100	4
115 L02	Core II - Prose	5	3	25	75	100	4
115 AL1	Allied I - Literary Forms I	6	3	25	75	100	4
115EVS	<b>Part IV - Environmental Studies</b>	2	2	50	-	50	2
<b>Semester II</b>							
215 TA 2/ 215 MY2/ 215 HD 2/ 215 FR 2/	<b>Part I - Language II</b>	6	3	25	75	100	4
215 EN 2	<b>Part II - English II</b>	6	3	25	75	100	4
<b>Part III</b>							
215 L03	Core III - English for Employability	5	3	25	75	100	4
215 L04	Core IV - Fiction	5	3	25	75	100	4
215 AL2	Allied II - Literary Forms II	6	3	25	75	100	4
215VEC	<b>Part IV - Value Education</b>	2	2	50	-	50	2

Course Code	Course Title	Ins Hrs/Week	Examination				Credits
			Dur. Hrs.	CIA Marks	ESE Marks	Total Marks	
315 TA 3/ 315 MY3 / 315 HD 3/ 315 FR 3/ 315 EN 3	<b>Semester III</b> <b>Part I - Language III</b>	6	3	25	75	100	4
315 L05	<b>Part II - English III</b> <b>Part III</b> Core V - Women's Writings	6	3	25	75	100	4
315 L06	Core VI - Drama	3	3	25	50	75	3
315 AL3	Allied III - Social History of England	4	3	25	75	100	4
315 LS1	<b>Part IV</b> Skill Based Course I: English Language Teaching – I	6	3	25	75	100	4
315NEC	Non-Major Elective Course I - English for Competitive Examinations	3	3	75	-	75	3
		2	2	50	-	50	2
415 TA 4/ 415 MY4 / 415 HD 4/ 415 FR 4 415 EN 4	<b>Semester IV</b> <b>Part I - Language IV</b>	6	3	25	75	100	4
415 L07	<b>Part II - English IV</b> <b>Part III</b> Core VII - Poetry II	6	3	25	75	100	4
415 L08	Core VIII - Career English	4	3	25	75	100	4
415 AL4	Allied IV - History of English Literature	3	3	25	50	75	3
415 LS2	<b>Part IV</b> Skill Based Course II: English Language Teaching – II	6	3	25	75	100	4
415NGA	Non - Major Elective Course II: General Awareness (online)	3	3	75	-	75	3
415GIS	Information Security	-	1	50	-	50	2
415 ALL	Advanced Learners Course I - Literature and Theatre Arts	2	2	50	-	Grade	Grade
		-	-	-	100	100	4*

Course Code	Course Title	Ins Hrs/Week	Examination				Credits
			Dur. Hrs.	CIA Marks	ESE Marks	Total Marks	
<b>Semester V</b>							
<b>Part III</b>							
515 L09	Core IX - Shakespeare	6	3	25	75	100	4
515 L10	Core X - American Literature	6	3	25	75	100	4
515 L11	Core XI - Intensive Study of an Author (Tagore)	5	3	25	75	100	4
515 L12	Core XII - Classics in World Literature	5	3	25	75	100	4
515 LE 1	Elective I - Principles of Literary Criticism	5	3	25	75	100	4
<b>Part IV</b>							
515 LS3	Skill Based Course III: English Language Teaching – III	3	3	75	-	75	3
<b>Semester VI</b>							
<b>Part III</b>							
615 L13	Core XIII - Indian writing in English	6	3	25	75	100	4
615 L14	Core XIV - New Literatures	6	3	25	75	100	4
615 L15	Core XV - English for Business Correspondence	5	3	25	75	100	4
615 LE2	Elective II - Translation	5	3	25	75	100	4
615 LE 3	Elective III - Journalism and Mass Communication	5	3	25	75	100	4
<b>Part IV</b>							
615 LS4	Skill Based Course IV: English Language Teaching – IV (Project & Viva Voce)	3	-	-	-	75	3
<b>Part V</b>							
615EX1/ 615EX2/ 615 EX3/ 615EX4/ 615EX5 615ALL	Extension Activities			50		50	2
	Advanced Learners Course II - Eminent Essayists	-	-	-	100	100	4*

\*Starred Credits are treated as additional credits which are optional.

## **B.A. English Literature**

### **Semester IV**

#### **Part III – Core VIII - Career English**

**415L08**

**(For the students admitted from the academic year 2015-2016 onwards)**

#### **Objectives:**

- To enable the students to master the skills in speaking and writing
- To enrich expressions through composition and the art of effective writing

**Total Hours: 38**

#### **UNIT I**

**(8 hrs)**

Communication through words, Body Language and Technology

#### **UNIT II**

**(8 hrs)**

Dyadic communication, Public Speaking & Oral Presentation

#### **UNIT III**

**(8 hrs)**

Active Listening, Meetings, Seminars & Conferences

#### **UNIT IV**

**(7 hrs)**

Group Discussions, Audio Visual Aids, Reading Comprehension

#### **UNIT V**

**(7 hrs)**

Précis Writing, Business & Technical Reports

#### **Book Prescribed:**

Developing Communication Skills: Krishna Mohan Meera Banerji

2<sup>nd</sup> Edition Macmillan Publishers Limited

## **B.A. English Literature**

### **Semester V**

#### **Part III - Core XII – Classics in World Literature**

**515L12**

**(For the students admitted from the academic year 2015-2016 onwards)**

#### **Objectives:**

- To enrich the knowledge of tradition and culture based epics as classics
- To enhance the students to moral values

**Total Hours: 65**

#### **UNIT I**

**(13 hrs)**

Ramayana - Abridged version of Rajaji

#### **UNIT II**

**(13 hrs)**

Thirukkural in Translation (selected Couplets) - G. U. Pope

In Praise of God, Hospitality,  
Speaking Pleasant Words, Assertion of Virtue's Power

**UNIT III** (13 hrs)

Kalil Gibran's verses (selected)

Love, Good and Evil, Beauty IXX, Eating and Drinking

**UNIT IV** (13 hrs)

Oedipus Rex – Sophocles

**UNIT V** (13 hrs)

Paradise Lost Book II

### **B.A. English Literature**

#### **Semester VI**

**Part III – Core XV- English for Business Correspondence 615L15**

**(For the students admitted from the academic year 2015-2016 onwards)**

#### **Objectives:**

- To equip the students with adequate communicative skills to face the challenges of the competitive World

**Total Hours: 65**

**UNIT I** (13 hrs)

Business Correspondence,

Purpose, Structure, Layout & form, Qualities, Types,

Bank and Insurance Correspondence, Social Correspondence

**UNIT II** (13 hrs)

Memorandum Writing, Contents, Types, Structure, Notices,

Agenda, Minutes, Examples

**UNIT III** (13 hrs)

Handbooks & Manuals, Research papers, Articles

**UNIT IV** (13 hrs)

Advertising & Job Description, Graphic Aids

**UNIT V** (13 hrs)

Common Errors

Words commonly misspelt

Punctuation & Capitalization, Abbreviations and Numerals

**Book Prescribed:**

Developing Communication Skills

Krishna Mohan & Meera Banerji Macmillan, Macmillan Publishers,

2<sup>nd</sup> Edition

**M.A. English Literature****Semester IV**

**Advanced Learners Course I – Literature and Theatre Arts      415ALL**

**(For the students admitted from the academic year 2015-2016 onwards)**

**Objectives:**

- To introduce the art of play-writing, its technique and philosophy
- To inculcate value oriented learning

**Note:** As this is a self-study paper, only two plays are prescribed.

She Stoops to Conquer      Oliver Goldsmith

The Glass Menagerie      Tennessee Williams

**Advanced Learners Course II – Eminent Essayists      615ALL**

**(For the students admitted from the academic year 2015-2016 onwards)**

**Objectives:**

- To introduce the students the variety of styles of writing in English by authors of eminence from the medieval to the modern period

**Essays of Elia – Charles Lamb**

South sea House

Poor Relations

**Spectator Essays – Addison**

Sir Roger's Disappointment in love

Sir Roger at the Church

**Francis Bacon**

Of Books

Of Truth

Of Friendship

**BA English Literature**

## Semester wise Distribution with Scheme of Examination

**(For students admitted during the academic year 2012-2013&onwards)**

Part	Course Title	Ins.hrs/ week	Exam			Credit
			CIA	Uni. exam	Total	
SEMESTER I						
I	Language –I	5	25	75	100	3
II	English –I	5	25	75	100	3
III	Core course I Poetry	6	25	75	100	5
III	Core course II Prose	5	25	75	100	4
III	Allied paper I Literary forms I	5	25	75	100	4
IV	Environmental studies (part IV)	2	-	50	50	2
SEMESTER II						
I	Language-II	6	25	75	100	3
II	English –II	6	25	75	100	3
III	Core course III English for Employability I	6	25	75	100	5
III	Core course IV Fiction I	5	25	75	100	4
III	Allied paper II Literary forms II	5	25	75	100	4
IV	Value Education – Human Rights 3 (Part IV)	2	-	50	50	2
III	Advanced Learner's Course I- Novel	-	-		100	3
SEMESTER III						
I	Language III	5	25	75	100	3
II	English III	5	25	75	100	3
III	Core course V Women's Writings	5	25	75	100	4



III	Core course VI Drama	5	25	75	100	4
III	Allied paper III Social History of England	5	25	75	100	4
IV	Skill based Diploma	3	25	75	100	3
IV	Non-Major Elective-I English for Competitive Examinations	2	25	75	100	2
SEMESTER IV						
I	Language – IV	5	25	75	100	3
II	English – IV	5	25	75	100	3
III	Core course VII Poetry II	6	25	75	100	5
III	Core course VIII English for Employability II	4	25	75	100	4
III	Allied paper IV History of English Literature	5	25	75	100	4

IV	Skill Based Diploma II	3	25	75	100	3
IV	Non-Major Elective- II General Awareness	2	25	75	100	2
III	Advanced Learners Course II- Drama				100	3
SEMESTER V						
II	Core course IX Shakespeare I	6	25	75	100	5
III	Core course X New Literature	5	25	75	100	4
III	Core course XI Intensive Study of an Author	5	25	75	100	4
III	Core course XII Indian Writing in English	5	25	75	100	4
III	Elective course- I Principles of Literary Criticism	5	25	75	100	4
IV	Skill Based Diploma III	3	25	75	100	3

SEMESTER VI						
III	Core course XIII Shakespeare II	6	25	75	100	5
III	Core course XIV American Literature	6	25	75	100	5
III	Core course XV English for Employability III	5	25	75	100	4
III	Elective course– II Translation	5	25	75	100	4
III	Elective course – III English for Journalism	5	25	75	100	4
IV	Skill Based Diploma IV	3	25	75	100	3
III	Advanced Learner's Course III -Prose				100	3
V	Extension Activities	-		-	100	1
	Total				3600	140

**Sub Code : 211 ALL**

## **B.A. English Literature**

### **Semester II**

#### **Advanced Learner's Course I-Novel**

**(For students admitted from 2012-2013 and onwards)**

#### **Objectives:**

- Study of a few representative novels will help to know more of the people and culture.
- To improve Vocabulary, Sentence structure, Idioms and Phrases.

#### **Credit 3**

**Note:** Since it is a self study, only two representative novels of Two great popular novelists of English prescribed.

Tess of the D'Urbervilles

Thomas Hardy

Silas Marner

George Eliot

**Sub Code: 312 NEC**

**B.A. English literature**

**Semester III**

**Part III – Non – Major Elective Course I - English for Competitive Examinations**

**(For students admitted from 2012-2013 & onwards)**

**Objectives:**

- To introduce the students to the basics of English.
- To acquire a high degree of proficiency in the use of English.

**Credits: 2**

**Total No. of Hours:38**

**UNIT I:** Basics of English (8hrs)

**UNIT II:** Common Errors (8hrs)

Reconstructing passages

**UNIT III:** Phrasal Verbs & Cloze Test (8hrs)

**UNIT IV:** Précis writing for Publicity Literature

Reading Comprehension for Competitive Examinations (7hrs)

**UNIT V:** Idioms and Phrases (7hrs)

English Language for communication

**Book Prescribed:** English for Competitive Examinations-R.P.Bhatnagar,Macmillan India Limited Delhi, 1994

**Suggested Reading:**

A Guide to Patterns and Usage in English-A.S. Hornby OUP, 1954

English idioms and How to use them-W.McMordic, OUP, 1975

**Sub Code: 412ALL2**

**B.A. English Literature**

**Semester IV**

**Advanced Learner's Course II-Drama**

**(For students admitted from 2012-2013 and onwards)**

**Objectives:**

- To introduce the art of play-writing, its technique and philosophy.
- To inculcate value oriented learning

**Credits: 3**

**Note:** As this is a self study paper, only two plays are prescribed.

Shoe Maker's Holiday - Thomas Dekker, Macmillan, Chennai.

She Stoops to Conquer - Oliver Goldsmith, Macmillan, Chennai.

**Sub. Code: 612 ALL**

**B.A. English Literature**

**Semester VI**

**Advanced Learner's Course III-Prose**

**(For students admitted from 2012-2013 and onwards)**

**Objectives:**

- To introduce the students to the variety of styles of writing in English by authors of eminence from the medieval to the modern period.

**Credits: 3**

Essays of Elia – Charles Lamb

Oxford in Vacation

South sea House

Old and New Schoolmasters

Chimney Sweepers

Poor Relations

**Spectator Essays -Addison**

Sir Roger at Theatre

Sir Roger's Disappointment in love

Sir Roger & the widow

Sir Roger's Ancestors

Sir Will Wimble

**Course Designed by Department of English**



**DEPARTMENT OF ENGLISH (SF)**  
**M.A. ENGLISH LITERATURE**  
Scheme of Examination- CBCS Pattern  
**[For students admitted from the academic year 2017– 2018 onwards]**

Course Code	Course	Ins. Hrs/Week	EXAMINATION				Credits
			Dur. Hrs.	CIA Marks	ESE Marks	Total Marks	
<b>Semester I</b>							
17MV01	Core I - British Literature I	6	3	25	75	100	4
17MV02	Core II - Indian Literature in English	6	3	25	75	100	4
17MV03	Core III - Language and Linguistics	6	3	25	75	100	4
17MV04	Core IV - Soft Skills through Shakespeare	6	3	25	75	100	4
17MVE1/ 17MVE2	Elective I - Applied Grammar and Composition / Business English	6	3	25	75	100	4
<b>Semester II</b>							
17MV05	Core V - British Literature II	6	3	25	75	100	4
17MV06	Core VI - American Literature	5	3	25	75	100	4
17MV07	Core VII - Literary Criticism	4	3	25	75	100	4
17MV08	Core VIII - LSRW Skills(Practical)	5	3	40	60	100	4
17MV09	Core IX - Rhetoric and Journalism	4	3	25	75	100	4
17MVE3/ 17MVE4	Elective II - Women in Development /Ecological Studies	4	3	25	75	100	4
17MVIS	Internship	-	-	50	-	50	2
17MGCS	Cyber Security	2	2	50	-	Grade	Grade
17MVA1	Advanced Learners' Course	-	-	-	100	100	4*

	I – Subject Viva Voce						
<b>Semester III</b>							
17MV10	Core X - British Literature III	6	3	25	75	100	4
17MV11	Core XI - New Literatures in English	6	3	25	75	100	4
17MV12	Core XII - Translation Studies & Practices	5	3	25	75	100	4
17MV13	Core XIII - Feminist Literature	5	3	25	75	100	4
17MV14	Core XIV - Theatrical Arts	4	3	25	75	100	4
17MVE5/ 17MVE6	Elective III – Research Methodology/ ELT and CALL	4	3	25	75	100	4
<b>Semester IV</b>							
17MV15	Core XV - British Literature IV	6	3	25	75	100	4
17MV16	Core XVI - Preparatory Course for NET	6	3	25	75	100	4
17MVE7/ 17MVE8	Elective IV-English for Competitive Examinations / Advertising for Media	6	3	25	75	100	4
17MVPV	Project - Yearlong	-	-	-	200	200	8
17MVA2	Advanced Learners' Course II - Literary Review	-	3	-	100	100	4*
	TOTAL					2250	90

**M.A. ENGLISH LITERATURE**

**SEMESTER II**

**CORE VIII – LSRW SKILLS**

**17MV08**

**[For students admitted during the academic year 2017 – 2018 only]**

**Objectives:**

**Total Hours: 65**

To improve the practical knowledge in LSRW Skills

Unit I	Listening Comprehension	<b>15 hrs.</b>
Unit II	Speaking Activities	<b>15 hrs.</b>
Unit III	Reading Comprehension	<b>15 hrs.</b>
Unit IV	Writing Activities	<b>15 hrs.</b>
Unit V	Practical Work: Phonetic Transcription	<b>5hrs.</b>

Books for Reference:

- Better English Pronunciation J.D.O'Connor, Cambridge Edition, India, 1967.
- An Outline of English Phonetics, Jones Daniel, Eighth Edition, Cambridge, 1965.
- Writing Skills, Dr.P.Thailambal, ENNES Publications, Udumalpet
- Developing Reading Skill, Francoise Grellet, Cambridge Language Teaching Library.
- A Course in Language Teaching, Peeny Ur, Cambridge University Press, 1996
- English Language Teaching, Navita Arora, Mc Graw Hill Education, 2012
- Developing Communication Skills, Krishna Mohan/Meera Banerji, Laxmi Publications, 2009

Course Designed by : Dr.K.Kamala Suganya Kumari

Course Reviewed by : Mrs. P. Rajeswari

Course Checked by : Dr.K.Kamala Suganya Kumari



**M.A. ENGLISH LITERATURE**

**SEMESTER I**

**ADVANCED LEARNERS' COURSE I –SUBJECT VIVA VOCE 17MVA1**

**[For students admitted from the academic year 2017– 2018 onwards]**

Subject Viva-Voce Examination from the 2<sup>nd</sup> Semester Core Papers.

**M.A. ENGLISH LITERATURE**

**SEMESTER IV**

**ADVANCED LEARNERS' COURSE II – LITERARY REVIEW 17MVA2**

**[For students admitted from the academic year 2017– 2018 onwards]**

<b>Unit I</b>	Reviewing Poetry
<b>Unit II</b>	Reviewing Drama
<b>Unit III</b>	Reviewing Drama
<b>Unit IV</b>	Reviewing Novel
<b>Unit V</b>	Reviewing Novel

**M.A. ENGLISH LITERATURE**

Scheme of Examination- CBCS Pattern

**(For students admitted during the academic year 2016– 2017 only)**

Course Code	Course	Ins. Hrs/Week	EXAMINATION				Credits
			Dur. Hrs.	CIA Marks	ESE Marks	TotalMarks	
<b>Semester I</b>							
15MV01	Core I - British Literature I	6	3	25	75	100	4
15MV02	Core II - Indian Literature in English	6	3	25	75	100	4
15MV03	Core III - Language and Linguistics	6	3	25	75	100	4
15MV04	Core IV - Soft Skills through Shakespeare	6	3	25	75	100	4
15MVE1	Elective I - Applied Grammar and Composition	6	3	25	75	100	4

<b>Semester II</b>							
15MV05	Core V - British Literature II	6	3	25	75	100	4
15MV06	Core VI - American Literature	5	3	25	75	100	4
15MV07	Core VII - Literary Criticism	4	3	25	75	100	4
16MV08	Core VIII –LSRW Skills	5	3	25	75	100	4
16MV09	Core IX- Rhetoric and Journalism	4	3	25	75	100	4
15MVE2	Elective II - Women in Development	4	3	25	75	100	4
	Internship	-	-	-	-	50	2
15MGCS	Cyber Security	2	2	50	-	50	Grade
15MLA1	Advanced Learners' Course I – Subject Viva Voce	-	-	-	-	100	4*
<b>Semester III</b>							
15MV10	Core X - British Literature III	6	3	25	75	100	4
15MV11	Core XI - New Literatures in English	6	3	25	75	100	4
15MV12	Core XII - Translation Studies	5	3	25	75	100	4
15MV13	Core XIII - Feminist Literature	5	3	25	75	100	4
15MV14	Core XIV - Theatrical Arts	4	3	25	75	100	4
15MVE3	Elective III - Research Methodology	4	3	25	75	100	4
<b>Semester IV</b>							
15MV15	Core XV - British Literature IV	6	3	25	75	100	4
15MV16	Core XVI - Preparatory Course for SET AND NET	6	3	25	75	100	4
15MVE4	Elective IV- English for Competitive Examinations	6	3	25	75	100	4
	Project - Yearlong	-	-	100	100	200	8
15MVA2	Advanced Learners' Course II - Literary Review	-	-	-	-	100	4*
	<b>TOTAL</b>					2250	90

\* Starred credits are treated as additional credits, which are optional

**SEMESTER IV**  
**ELECTIVE IV – ENGLISH FOR COMPETITIVE EXAMINATIONS**

[For students admitted from the academic year 2015– 2016 **only**] 15MVE4

**Objectives:**

**Total Hours: 75**

- To enhance students' language skills
- To strengthen their confidence level
- 
- To enable them to get through TOEFL, IELTS, GRE and IAS Examination

<b>*Unit I</b>	Functional Grammar	<b>15 hrs.</b>
<b>Unit II</b>	Spotting Errors, Sentence Completion and Reconstructing Passages	<b>15 hrs.</b>
<b>Unit III</b>	Phrasal Verbs & Idioms, Cloze Test, Reading and Reasoning Expand the given ideas and Essays	<b>20 hrs.</b>
<b>Unit IV</b>	Body Language, Group Discussion and Interview Skills	<b>15 hrs.</b>
<b>Unit V</b>	Writing Curriculum Vitae and Job Applications	<b>10 hrs.</b>

\* Starred unit is a Self Study unit

Books for Reference:

*Objective English*, Dr.Lal and T.S.Jain, Upkar Prakashan, Agra *Competitive English*, J.K.Gangal, S.Chand & Company Ltd., New Delhi, 2009. *English for Competitive Examinations*, R.P.Bhatnagar, Macmillan India Limited, Delhi, 1994.

Course Designed by : Mrs.S.Sathya Priya

Course Reviewed by : Ms.A.Velumani

Course Checked by : Mrs. P.Rajeswari

**M.A. ENGLISH LANGUAGE AND LITERATURE**

**SEMESTER II**

**ADVANCED LEARNERS' COURSE I –LITERARY REVIEW**

**15MLA1**

[For students admitted from the academic year 2015 – 2016 onwards]

Subject Viva-Voce Examination from the 2<sup>nd</sup> Semester Core Papers.

**M.A. ENGLISH LANGUAGE AND LITERATURE**

**SEMESTER II**

**ADVANCED LEARNERS' COURSE II –LITERARY REVIEW**

**15MVA2**

[For students admitted from the academic year 2015 – 2016 onwards]

<b>Unit I</b>	Studying Poetry Words and meanings, line and rhythm, figures of Speech
<b>Unit II</b>	Studying Prose Styles
<b>Unit III</b>	Studying Plays and Novels characters, setting, plot and story, themes
<b>Unit IV</b>	Studying Short Story
<b>Unit V</b>	Review of a Poem / Novel

**M.A. ENGLISH LANGUAGE AND LITERATURE**  
Scheme of Examination- CBCS Pattern  
(For students admitted from the academic year 2015 – 2016 onwards)

Course Code	Course	Ins. Hrs/ Week	EXAMINATION				Credits
			Dur. Hrs.	CIA Marks	ESE Marks	Total Marks	
<b>Semester I</b>							
15ML01	Core I - British Literature I	6	3	25	75	100	4
15ML02	Core II - Indian Literature in English	6	3	25	75	100	4
15ML03	Core III - Language and Linguistics	6	3	25	75	100	4
15ML04	Core IV - Soft Skills through Shakespeare	6	3	25	75	100	4
15MLE1	Elective I - Applied Grammar and Composition	6	3	25	75	100	4
<b>Semester II</b>							
15ML05	Core V - British Literature II	6	3	25	75	100	4
15ML06	Core VI - American Literature	5	3	25	75	100	4
15ML07	Core VII - Literary Criticism	4	3	25	75	100	4
15ML08	Core VIII –LSRW Skills	5	3	25	75	100	4
15ML09	Core IX- Literature and Journalism	4	3	25	75	100	4
15MLE2	Elective II - Women in Development	4	3	25	75	100	4
	Internship	-	-	-	-	50	2
15MGCS	Cyber Security	2	2	50	-	50	Grade
15MLA1	Advanced Learners' Course I – Subject Viva Voce	-	-	-	-	100	4*
<b>Semester III</b>							
15ML10	Core X - British Literature III	6	3	25	75	100	4
15ML11	Core XI - New Literatures in English	6	3	25	75	100	4
15ML12	Core XII - Translation Studies	5	3	25	75	100	4
15ML13	Core XIII - Feminist Literature	5	3	25	75	100	4
15ML14	Core XIV - Theatrical Arts	4	3	25	75	100	4
15MLE3	Elective III - Research Methodology	4	3	25	75	100	4

<b>Semester IV</b>							
15ML15	Core XV - British Literature IV	6	3	25	75	100	4
15ML16	Core XVI - Preparatory Course for SET AND NET	6	3	25	75	100	4
15MLE4	Elective IV- Commercial Correspondence and Public Speaking	6	3	25	75	100	4
	Project - Yearlong	-	-	100	100	200	8
15MLA2	Advanced Learners' Course II - Literary Review	-	-	-	-	100	4*
	<b>TOTAL</b>					2250	90

\* Starred credits are treated as additional credits, which are optional

**SEMESTER I**  
**CORE IV– SOFT SKILLS THROUGH SHAKESPEARE 15ML04**  
**[For students admitted from the academic year 2015 – 2016 onwards]**

**Objectives:**

**Total Hours: 75**

- To train the students in study of character / human behaviour
- To use characters from classics/their behavior as parallels to reflect and introspect on their own behavior
- To enable them in the use of right effects and develop skills in bringing personal emotions under the scanner of cognition
- To train them in the use of characters/interactions from literature and other areas listed as case studies.

<b>Unit I</b>	Self Esteem	Coriolanus in <i>Coriolanus</i>	<b>20hrs.</b>
<b>Unit II</b>	Integrity	Enoborbus in <i>Antony and Cleopatra</i>	<b>15 hrs.</b>
<b>Unit III</b>	Managerial Ability	Portia in <i>Merchant of Venice</i>	<b>15 hrs.</b>
<b>Unit IV</b>	Sociability	Rosalind in <i>As You Like It</i>	<b>15 hrs.</b>
<b>*Unit V</b>	Shakespearean Sonnets, Shakespearean Heroines, Supernatural Elements, Shakespearean Theatre		<b>10 hrs.</b>

\* Starred unit is a Self Study unit

Course Designed by : Mrs. P. Rajeswari  
 Course Reviewed by : Dr. J.Vijayalakshmi  
 Course Checked by : Mrs. P. Rajeswari

**M.A. ENGLISH LANGUAGE AND LITERATURE**  
**SEMESTER I**  
**ELECTIVE I – APPLIED GRAMMAR AND COMPOSITION**

**15 MLE1**

**[For students admitted from the academic year 2015 – 2016 onwards]**

**Objectives:****Total Hours: 75**

- To improve the grammar of the students
- To train them understand the theories of grammar
- To enable them understand the different styles of writing through the use of different aspects of grammar

<b>Unit I</b>	Word Class, Word Formation, Sentence Patterns, Expansion of phrase into clause, Reduction of clause into phrase	<b>15 hrs.</b>
<b>Unit II</b>	Alternative structures - Active and Passive Voice, Degrees of Comparison, Assertion - Double Negative, Interrogation, Question Tags	<b>20 hrs.</b>
<b>Unit III</b>	Comprehension (Prose and Poetry Comprehension)	<b>15 hrs.</b>
<b>Unit IV</b>	Hints development	<b>15 hrs.</b>
<b>* Unit V</b>	Composition – Essay of 500 words	<b>10 hrs.</b>

\* Starred unit is a Self Study unit

## Books for Reference:

Bhatnagar, RP Rajul Bhargava, English for Competitive Examinations Chennai: Macmillan India Limited, 1999 Vimp.2004.

Sarah Freeman: Written Communication

Course Designed by : Dr. J.Vijayalakshmi

Course Reviewed by: Ms. A.Velumani

Course Checked by : Mrs. P. Rajeswari

**M.A. ENGLISH LANGUAGE AND LITERATURE  
SEMESTER II**

**CORE VIII – LSRW SKILLS**

**15ML08**

**[For students admitted from the academic year 2015 – 2016 onwards]**

**Objectives:****Total Hours: 65**

- To improve LSRW Skills

<b>Unit I</b>	Problems in Pronunciation, Speech Organs	<b>10 hrs.</b>
<b>Unit II</b>	Consonants and Vowels, Intonation	<b>20 hrs.</b>
<b>Unit III</b>	Phonetic Transcription	<b>15 hrs.</b>
<b>Unit IV</b>	Study Skills	<b>10 hrs.</b>
<b>* Unit V</b>	Précis Writing	<b>10hrs.</b>

\* Starred unit is a Self Study unit

## Books for Reference:

*Better English Pronunciation* J.D.O'Connor, Cambridge Edition, India, 1967.

*An Outline of English Phonetics*, Jones Daniel, Eighth Edition, Cambridge, 1965.

*An Outline of General Phonetics*, Bansal.R.K, OUP, 1971

*Writing Skills*, Dr.P.Thailambal, ENNES Publications, Udumalpet

*Developing Reading Skill* by Francoise Grellet, Cambridge Language Teaching Library.

Course Designed by : Mrs. P. Rajeswari  
Course Reviewed by : Dr. J.Vijayalakshmi  
Course Checked by : Mrs. P. Rajeswari

**SEMESTER III**

**COREXIV–THEATRICALARTS**

**15ML14**

**[For students admitted from the academic year 2015 – 2016 onwards]**

**Preamble**

**Total Hours: 52**

- To give the students a successful career in the *dramatic arts*.
- To make them experience theatre life as an actor, playwright, and producer

<b>Unit I</b>	History of Theatrical Arts	<b>10 hrs.</b>
<b>Unit II</b>	Indian Classical Theatre	<b>10 hrs.</b>
<b>Unit III</b>	Theatre Performance Studies and Management	<b>10 hrs.</b>
<b>Unit IV</b>	Studying Drama The conventions of Drama, Languages of drama, character and plot, tragedy and comedy	<b>12 hrs.</b>
<b>* Unit V</b>	Activity : Staging a Play	<b>10 hrs.</b>

\* Starred unit is a Self Study unit

**Books for Reference:**

*Theatre: A Very Short Introduction*, Marvin Calson, Oxford University Press India, 2014.  
*A Study of Indian Theatre*, P.Thailambal, Ennes Publications, 2010.  
*A History of Theatrical Art in Ancient and Modern Time*, Karl Mantzius, Peter Smith, 2012.  
The Concise Oxford Companion to the Theatre, Phyllis Hartnoll and Peter Found.  
*Drama/ Theatre/ Performance (The New Critical Idiom)*, Simon Shepherd and Mick, Routledge, 2004.  
*On Theatre And the Art of Acting: a Guide to Discovery*, Michael Chekhov, 2004  
*Mastering English Literature* – Richard Gill, Macmillan, London, 1985.

Course Designed by : Mrs. P.Rajeswari  
Course Reviewed by : Dr. J.Vijayalakshmi  
Course Checked by : Mrs. P.Rajeswari

**M.A. ENGLISH LANGUAGE AND LITERATURE  
SEMESTER II**

**ADVANCED LEARNERS' COURSE I –LITERARY REVIEW  
15MLA1**

**[For students admitted from the academic year 2015 – 2016 onwards]**

Subject Viva-Voce Examination from the 2<sup>nd</sup> Semester Core Papers.

**M.A. ENGLISH LANGUAGE AND LITERATURE  
SEMESTER II**

**ADVANCED LEARNERS' COURSE II –LITERARY REVIEW**

**15MLA2**

[For students admitted from the academic year 2015 – 2016 onwards]

<b>Unit I</b>	Studying Poetry Words and meanings, line and rhythm, figures of Speech
<b>Unit II</b>	Studying Prose Styles
<b>Unit III</b>	Studying Plays and Novels characters, setting, plot and story, themes
<b>Unit IV</b>	Studying Short Story
<b>Unit V</b>	Review of a Poem / Novel

**M.A.ENGLISH LANGUAGE AND LITERATURE (SF)  
Semester wise Distribution with Scheme of Examination**

[For students admitted during the academic year 2014 – 2015 onwards]

Sem	Course code	Course	Credits	ESE Hrs.	CIA	Marks ESE TOTAL	
I	14ML01	Core I British Literature I	5	3	25	75	100
	14ML02	Core II Shakespeare	5	3	25	75	100
	14ML03	Core III Language and Linguistics	5	3	25	75	100
	14MLE1	Elective I - Grammar	3	3	25	75	100
			Diploma Course – I	3	3	100	-
II	14ML04	Core IV British Literature II	5	3	25	75	100
	14ML05	Core V American Literature	5	3	25	75	100
	14ML06	Core VI Indian Writing in English	5	3	25	75	100
	14ML07	Core VII Literary Criticism	5	3	25	75	100
	14MLE2	Elective II -Commercial Correspondence and Public Speaking	3	3	25	75	100
	14MLA1	Diploma Course II Advanced Learner's Course I – Literary Review	4*	3	-	100	100
III	14ML08	Core VIII British Literature III	5	3	25	75	100
	14ML09	Core IX New Literatures	5	3	25	75	100
	14ML10	Core X Translation Studies	5	3	25	75	100
	14MLE3	Elective III – Research Methodology	3	3	25	75	100
			Diploma Course III	3	3	100	-
IV	14ML11	Core XI British Literature IV	5	3	25	75	100
	14ML12	Core XII Preparatory Course for SET & NET	5	3	25	75	100
			3	3	25	75	100



	14MLE4	Elective IV Feminist Literature Project- Yearlong	6 3	- -	100 100	100 -	200 100
	14MLA2	Diploma Course IV - Project Advanced Learners' Course II - Teaching English at the Primary School Level	4*	3	-	100	100
		Total Credits	<b>90</b>				

### ADVANCED LEARNERS' COURSE I –LITERARY REVIEW (14MLA1)

[For students admitted during the academic year 2014 – 2015]

<b>Module I</b>	Studying poetry Words and meanings, line and rhythm, figures of Speech
<b>Module II</b>	Studying poetry Sound, rhyme and form, the poem as a whole
<b>Module III</b>	Studying novels characters, setting, plot and story, themes.
<b>Module IV</b>	Studying Drama The conventions of Drama, Languages of drama, character and plot, tragedy and comedy
<b>Module V</b>	Review of a Poem / Novel / Drama

### ADVANCED LEARNERS' COURSE II –TEACHING ENGLISH AT THE PRIMARY SCHOOL LEVEL (14MLA2)

[For students admitted during the year 2014-2015]

<b>Module I</b>	Lesson Planning – Classroom Management – Monitoring Instruction – Experimenting with Teaching
<b>Module II</b>	Language Learning Activity – Teaching – Listening – Reading Skills
<b>Module III</b>	Speaking And Writing – Classroom Activities Setting Tasks – Teaching Grammar (Indirect Method)
<b>Module IV</b>	Course Material – The need and justification - Approach to Language Teaching and Language Learning
<b>Module V</b>	PRACTICAL Teaching in a primary school for 10 days

### M.A.ENGLISH LANGUAGE AND LITERATURE (SF)

#### Semester wise Distribution of Papers

[For students admitted during the academic year 2012 – 2013]

Sem	Course	Credits	ESE Hrs.	Marks			
				CIA TOTAL	ESE		
I	12ML01	Core I British Literature I	5	3	25	75	100
	12ML02	Core II Shakespeare	5	3	25	75	100
	12ML03	Core III Language and Linguistics	5	3	25	75	100

	12MLE1	Elective I - Commercial Correspondence and Public Speaking Diploma Course – I	4 2	3 3	25 25	75 75	100 100
II	12ML04	Core IV British Literature II	5	3	25	75	100
	12ML05	Core V American Literature	5	3	25	75	100
	12ML06	Core VI Indian Writing in English	5	3	25	75	100
	12ML07	Core VII Literary Criticism	4	3	25	75	100
	12MLE2	Elective II - Advertising And Media Writing	4 4*	3 3	25 -	75 100	100 100
	12MLA1	Advanced Learner's Course I – Literary Review Diploma Course II	2	3	25	75	100
III	12ML08	Core VIII British Literature III	5	3	25	75	100
	12ML09	Core IX New Literatures	5	5	25	75	100
	12ML10	Core X Translation and Comparative Study – English and Tamil	4	3	25	75	100
	12MLE3	Elective III ELT & CALL Diploma Course III	4	3	25	75	100
			3	3	25	75	100
IV	12ML11	Core XI British Literature IV	5	3	25	75	100
	12ML12	Core XII Preparatory Course for SET & NET	5	3	25	75	100
	12MLE4	Elective IV Feminist Literature	4	3	25	75	100
	12MLA2	Project- Yearlong Advanced Learners' Course II - Teaching English at the Primary School Level Diploma Course IV	8	-	-	-	200
			4*	3	-	100	100
			2	3	25	75	100

**M.A. ENGLISH LANGUAGE AND LITERATURE (SF)  
SEMESTER II**

**ADVANCED LEARNERS' COURSE I –LITERARY REVIEW (12MLA1)**

[For students admitted during the academic year 2012 – 2013]

- Module I** Studying poetry  
Words and meanings, line and rhythm
- Module II** Studying poetry  
Sound, rhyme and form, the poem as a whole
- Module III** Studying novels  
characters, setting, plot and story, themes.
- Module IV** Studying Drama  
The conventions of Drama, Languages of drama,  
character and plot, tragedy and comedy
- Module V** Review of a Poem / Novel / Drama

**ADVANCED LEARNERS' COURSE II –TEACHING ENGLISH AT THE PRIMARY  
SCHOOL LEVEL**

[For students admitted during the year 2011 – 2012 & 2012 – 2013]

- Module I** Lesson Planning – Classroom Management – Monitoring Instruction – Experimenting with Teaching
- Module II** Language Learning Activity – Teaching – Listening – Reading Skills
- Module III** Speaking And Writing – Classroom Activities Setting Tasks – Teaching Grammar (Indirect Method)
- Module IV** Course Material – The need and justification - Approach to Language Teaching and Language Learning
- Module V** PRACTICAL  
Teaching in a primary school for 10 days

**Programme - B.A. Economics**  
**Scheme of Examination – CBCS Pattern**  
(For the Students admitted from the academic year 2017-2018 onwards)

Course Code	Course Title	Ins. Hrs/ week	Examination				Credits
			Dur Hrs	CIA Marks	ESE Marks	Total Marks	
117TA1/ 117MY1/ 117HD1/ 117FR1	<b>Semester I</b> <b>Part I – Language I</b>	6	3	25	75	100	4
117EN1	<b>Part II</b> English I	6	3	25	75	100	4
117E01	<b>Part III</b> Core I - Micro Economics I	5	3	25	75	100	4
117E02	Core II - Agricultural Economics	5	3	25	75	100	4
117AE1	Allied I - Principles of Management	6	3	25	75	100	4
117EVS	<b>Part IV</b> Environmental Studies	2	2	50	-	50	2
217TA2/ 217MY2/ 217HD2/ 217FR2	<b>Semester II</b> <b>Part I – Language II</b>	6	3	25	75	100	4
217EN2	<b>Part II</b> English II	6	3	25	75	100	4
217E03	<b>Part III</b> Core III – Micro Economics II	5	3	25	75	100	4
217E04	Core IV – Demography	5	3	25	75	100	4
217AE2	Allied II – Principles of Accountancy	6	3	25	75	100	4
217VEC	<b>Part IV</b> Value Education	2	2	50	-	50	2
317TA3/ 317MY3/ 317HD3/ 317FR3	<b>Semester III</b> <b>Part I – Language III</b>	6	3	25	75	100	4
317EN3	<b>Part II</b> English III	6	3	25	75	100	4
317E05	<b>Part III</b> Core V– Urban Economics	4	3	25	75	100	4
317E06	Core VI – Economics of Marketing	3	3	25	50	75	3
317AE3	Allied III – Mathematical Methods	6	3	25	75	100	4
317NHE	<b>Part IV</b> Non Major Elective – Home Economics	2	2	50	-	50	2

317ES1	Skill Enhancement Course I – Communication Skills for Business	3	3	75	-	75	3
417TA4/ 417MY4/ 417HD4/ 417FR4	<b>Semester IV</b> <b>Part I</b> – Language IV	6	3	25	75	100	4
417EN4	<b>Part II</b> English IV	6	3	25	75	100	4
417E07	<b>Part III</b> Core VII – Macro Economics I	4	3	25	75	100	4
417E08	Core VIII – Economic Doctrines	3	3	25	50	75	3
417AE4	Allied IV – Statistics	6	3	25	75	100	4
417NGA	<b>Part IV</b> General Awareness	-	1	50	-	50	2
417ES2	Skill Enhancement Course II – Tally Accounting Programme- Practical	3	3	75	-	75	3
417GIS	Information Security	2	2	50	-	Grade	Grade
417ALE	<b>ALC I</b> Subject Viva Voce	-	-	-	100	100	4*
517E09	<b>Semester V</b> <b>Part III</b> Core IX –Macro Economics II	6	3	25	75	100	4
517E10	Core X–Monetary Economics	6	3	25	75	100	4
517E11	Core XI – Entrepreneurship Development	5	3	25	75	100	4
517E12	Core XII – Economics of Tourism	5	3	25	75	100	4
517EE1/ 517EE2	Elective I – Principles of Insurance/Tamilnadu Economy	5	3	25	75	100	4
517ES3	<b>Part IV</b> Skill Enhancement Course III – Computer Application Techniques- Practical	3	3	75	-	75	3
617E13	<b>Semester VI</b> <b>Part III</b> Core XIII–Fiscal Economics	6	3	25	75	100	4
617E14	Core XIV – International Economics	5	3	25	75	100	4
617E15	Core XV– Indian Economic Development	5	3	25	75	100	4

617EE3/ 617EE4	Elective II – Modern Banking/Transport Economics	5	3	25	75	100	4
617EE5/ 617EE6	Elective III – Retail Business Management/ Introduction to Research Methodology	6	3	25	75	100	4
617ES4	<b>Part IV</b> Skill Enhancement Course IV – Introduction to Data Analysis using Excel- Practical	3	3	75	-	75	3
617EX1/ 617EX2/  617EX3/ 617EX4/ 617EX5	<b>Part V</b> – Extension Activity	-	-	50	-	50	2
<b>617ALE</b>	<b>ALC II- Subject Viva Voce</b>	-	-	-	<b>100</b>	<b>100</b>	<b>4*</b>
<b>TOTAL</b>						<b>3500</b>	<b>140</b>

Starred Credits are treated as additional credits which are optional.

### B.A. Economics Semester II

#### Part III – Allied II – Principles of Accountancy 217AE2

(For the students admitted from the academic year 2017 - 2018 onwards)

**Credits: 4**

**Hours: 75**

**Course Objectives:**

- ❖ To provide knowledge of accounting concepts and principles
- ❖ To apply principles and concepts of accounting in the preparation of financial statements.

**Unit I: (Theory only)** (15 Hours)

Accounting: Definition – Objectives – Functions – Advantages and Limitations –Basic Terms – Rules of Accounting – Classification of Accounting – Rules of Double Entry System – Concepts and Conventions.

**Unit II: (Problems only)** (15 Hours)

Journal – Ledger - Trial Balance

**Unit III: (Problems only)** (15 Hours)

Preparation of Final Accounts of Sole Trader

**Unit IV: (Problems only)** (15 Hours)

Bills of Exchange (Excluding Accommodation Bills) – Single Entry System – Statement of Affairs method only

**Unit V: (Problems only)** (15 Hours)

Accounts of non-trading concerns – Receipts and Payments Account – Income and Expenditure Account - Balance Sheet.

**Note: Theory carries 25 marks and Problems carry 50 marks.**

**Books for Study:**

1. S.P. Jain and K.L. Narang, Principles of Accountancy, Kalyani Publishers, Ludhiana, 2014

**Books for Reference:**

1. T. S. Grewal, Introduction to Accountancy, S. Chand & Co Ltd, New Delhi, 2016.
2. T.S. Reddy & A. Murthy, Financial Accounting, Margham Publications, New Delhi, 2016.

**Course Outcomes:**

On the successful completion of the course, students will be able to

- CO1 Explain the component parts of major accounting reports.  
 CO2 Use a basic accounting system to create (record, classify, and summarize) the data needed to solve a variety of business problems.  
 CO3 Evaluate the financial performance of an organisation using these reports.  
 CO4 Develop and understand the nature and purpose of financial statements in relationship to decision making.

**Mapping with Programme Outcomes**

PO \ CO	PO1	PO2	PO3	PO4	PO5	PO6	Knowledge Level
CO1	H	H	L	M	L	L	K
CO2	H	H	L	L	M	M	A
CO3	H	H	L	H	M	H	A
CO4	M	H	L	H	L	M	A

**II UG Course**

**Semester III**

**Part IV – Non Major Elective – Home Economics 317NHE**

**(For the students admitted from the academic year 2017-2018 onwards)**

**Credits: 2**

**Hours: 25**

**Course Objectives:**

- ❖ To increase the awareness on the importance of practicing behaviour that will enhance the quality of life.
- ❖ To develop the skills and competencies for future carriers in fields related to food, nutrition, resources and home management.

**Unit I:**

(5 Hours)

Home Economics - Meaning- Management in the Family- the Management process in the Family Living- Values, Goals and Standards.

**Unit II:**

(5 Hours)

Family Resources- Management of Resources- Healthy Food for Healthy Living- Management of Energy- The Home –Maker as a Consumer- Role and Responsibilities of the Home –Maker.

**Unit III:**

(5 Hours)

Management of Family Income- Home Budget Preparation- Savings-Investment- Insurance- Management of Money and Family Finances- Micro Enterprises- Management of Medical Expenses.

**Unit IV:**

(5 Hours)

Family Housing - Kitchen and kitchen garden maintenance - Maintenance and Care of Household Appliances - The Storage and Care of Clothing- Good Health Habits- Mental Hygiene.

**Unit V:**

(5 Hours)

Interior Decoration- The Basic Principles of Interior Decoration- Furniture and Furnishings- Flower Arrangement- Floor Decoration.

**Books for Reference:**

1. The Educational Planning Group: Home Management, Arya Publishing House, New Delhi, 2001
2. M.A Varghese, N.N. Ogale and K. Srinivasan: Home Management, New Age International (P) Limited, Publishers, Mumbai, 2005.

3. <http://www.jstor.org/stable>

### Course Outcomes:

On the successful completion of the course, students will be able to

- CO1 Develop the values and efficient management of family.
- CO2 Have a basic knowledge of nutrients for healthy life.
- CO3 Gain knowledge for preparing family budget.
- CO4 Provides updated information to maintain the healthy household activities and kitchen garden.
- CO5 Inculcates the taste of interior decoration.

### Mapping with Programme Outcomes

PO CO	PO1	PO2	PO3	PO4	PO5	PO6	Knowledge Level
CO1	M	M	L	H	H	H	A
CO2	M	H	H	H	H	H	K
CO3	H	H	M	M	H	H	A
CO4	M	M	H	H	H	H	A
CO5	M	M	H	H	H	H	A

## B.A. Economics

### Semester IV

#### Advanced Learners Course I - Subject Viva Voce 417ALE

(For the students admitted from the academic year 2017-2018 onwards)

**Credits: 3**

### Course Objectives

- To determine the students' understanding and in-depth knowledge of economics.
- To examine what was learned and whether updated information in economics was generated.
- To consider the students ability to communicate her subject and to defend.

A subject viva voce is to be taken up by the candidate covering Core and Allied courses in the current semester. The viva voce is to be conducted by the external and internal examiners for 100 marks.

### Course Outcomes

On the successful completion of the subject viva voce, students will be able to

- CO1 Communicate orally.
- CO2 Prepare the subjects painstakingly.
- CO3 Strong conceptual knowledge of the core courses.
- CO4 Ability to take up competitive exams.
- CO5 Face the interviews with self-confidence.

### Mapping with Programme Outcomes

PO CO	PO1	PO2	PO3	PO4	PO5	PO6	Knowledge Level
CO1	M	H	H	H	M	H	U
CO2	H	H	H	H	H	H	A
CO3	H	H	H	H	M	H	U
CO4	H	H	H	H	H	H	A
CO5	H	H	H	H	H	H	K



## CURRICULUM DESIGN

Sri G.V.G. Visalakshi College for Women (Autonomous), Udumalpet

Affiliated to Bharathiar University

Post Graduate & Research Department of Economics

Scheme of Examination – CBCS Pattern

**Programme: M.A. Economics**

(For the Students admitted from the academic year 2017-2018 onwards)

Course Code	Course Title	Ins. Hrs/ week	Examination				Credits
			Dur Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester I</b>							
17ME01	Core I – Advanced Micro Economics	6	3	25	75	100	4
17ME02	Core II – Mathematical Techniques for Economic Analysis	6	3	25	75	100	4
17ME03	Core III - Research Methodology in Economics	6	3	25	75	100	4
17ME04	Core IV - Human Resource Management	4	3	25	75	100	4
17ME05	Core V - Management of Small Business	4	3	25	75	100	4
17MEE1/ 17MEE2	Elective I- Soft Skills / Industrial Economics	4	3	25	75	100	4
<b>Semester II</b>							
17ME06	Core VI- Advanced Macro Economics	6	3	25	75	100	4
17ME07	Core VII-Public Economics	6	3	25	75	100	4
17ME08	Core VIII- Economics of Human Resources	6	3	25	75	100	4
17ME09	Core IX- Econometrics	6	3	25	75	100	4
17MEE3/ 17MEE4	Elective II- Women in Development / World Prominent Personalities	4	3	25	75	100	4
17MEIS	Internship	-	-	50	-	50	2
17MGCS	Cyber Security - Level I	2	2	50	-	Grade	Grade
17MEA1	Advanced Learners Course I- Subject Viva Voce	-	-	-	100	100	4*
<b>Semester III</b>							
17ME10	Core X- Economics of Money and Financial Institutions	6	3	25	75	100	4
17ME11	Core XI-Operations Research	6	3	25	75	100	4
17ME12	Core XII-Economics of Growth and Development	6	3	25	75	100	4
17ME13	Core XIII – Statistical Techniques for Economic Analysis	6	3	25	75	100	4
17MEE5/ 17MEE6	Elective III- Computer Application Techniques-	6	3	40/25	60/75	100	4

	Practical / Labour Economics						
<b>Semester IV</b>							
17ME14	Core XIV - Export Procedures and Documentation	6	3	25	75	100	4
17ME15	Core XV- Environmental Economics	6	3	25	75	100	4
17ME16	Core XVI – Statistical Packages for Data Analysis - Practical	6	3	40	60	100	4
17MEE7/ 17MEE8	Elective IV- Health Economics /Marketing Management	6	3	25	75	100	4
17MEPV	Project and Viva Voce	6	-	-	200	200	8
<b>17MEA2</b>	<b>Advanced Learners Course –II Subject Viva Voce</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>100</b>	<b>4*</b>
<b>TOTAL</b>						<b>2250</b>	<b>90</b>

Single Starred credits are treated as additional credits which are optional.

**M.A. Economics  
Semester II**

**Advanced Learners Course I – Subject Viva-Voce                      17MEA1  
(For the students admitted from the academic year 2017-2018 onwards)**

**Credits: 4**

**Hours: 75**

A subject viva voce is to be taken up by the candidate covering the core and elective subjects in the current semester. The viva voce is to be conducted by the internal and external examiners for 100 marks.

**M.A. Economics  
Semester IV**

**Advanced Learners Course II - Subject Viva                                      17MEA2  
(For the students admitted from the academic year 2017-2018 onwards)**

**Credits: 4**

A subject viva voce is to be taken up by the candidate covering the core and elective subjects in the current semester. The viva voce is to be conducted by the internal and external examiners for 100 marks.

**Scheme of Examination – CBCS Pattern**  
**Programme - B.A. Economics**  
**(For the Students admitted from the academic year 2016-2017 onwards)**

Course Code	Course Title	Ins. Hrs/ week	Examination				Credits
			Dur Hrs	CIA Marks	ESE Marks	Total Marks	
115TA1/ 115MY1/ 115HD1/ 115FR1/ 115EN1	<b>Semester I</b>						
	<b>Part I – Language I</b>	6	3	25	75	100	4
	<b>Part II – English I</b>	6	3	25	75	100	4
	<b>Part III</b>						
	115E01 Core I - Micro Economics I	5	3	25	75	100	4
	115E02 Core II - Agricultural Economics	5	3	25	75	100	4
	115AE1 Allied I - Principles of Management	6	3	25	75	100	4
115EVS	<b>Part IV – Environmental Studies</b>	2	2	50	-	50	2
215TA2/ 215MY2/ 215HD2/ 215FR2/ 215EN2	<b>Semester II</b>						
	<b>Part I – Language II</b>	6	3	25	75	100	4
	<b>Part II – English II</b>	6	3	25	75	100	4
	<b>Part III</b>						
	215E03 Core III–Micro Economics II	5	3	25	75	100	4
	215E04 Core IV – Demography	5	3	25	75	100	4
	215AE2 Allied II – Statistics	6	3	25	75	100	4
	215VEC	<b>Part IV – Value Education</b>	2	2	50	-	50
315TA3/ 315MY3/ 315HD3/ 315FR3/ 315EN3	<b>Semester III</b>						
	<b>Part I – Language III</b>	6	3	25	75	100	4
	<b>Part II – English III</b>	6	3	25	75	100	4
	<b>Part III</b>						
	315E05 Core V– Economics of Investment Management	4	3	25	75	100	4
	315E06 Core VI – Economics of Marketing	3	3	25	50	75	3
	315AE3 Allied III – Mathematical Methods	6	3	25	75	100	4
	315ES1	<b>Part IV</b> Skill Based Course I – Communication Skills for Business	3	3	75	-	75

315NCM	Non Major Elective Course I – Consumerism	2	2	50	-	50	2
<b>Semester IV</b>							
415TA4/ 415MY4/ 415HD4/ 415FR4 415EN4	<b>Part I</b> – Language III	6	3	25	75	100	4
	<b>Part II</b> – English III	6	3	25	75	100	4
	<b>Part III</b>						
415E07	Core VII – Urban Economics	4	3	25	75	100	4
415E08	Core VIII – Economic Doctrines	3	3	25	50	75	3
415AE4	Allied IV – Services Marketing	6	3	25	75	100	4
415ES2	<b>Part IV</b> Skill Based Course II – Management Information System	3	3	75	-	75	3
415NGA	Non Major Elective Course II General Awareness (Online)	-	1	50	-	50	2
415GIS	Information Security	2	2	50	-	Grade	Grade
415EX1/ 415EX2/ 414EX4/ 414EX5	<b>Part V</b> - Extension	-	-	50	-	50	2
<b>415ALE</b>	<b>ALC I - Subject Viva Voce</b>	-	-	-	100	100	4*
<b>Semester V</b>							
	<b>Part III</b>						
515E09	Core IX –Macro Economics	6	3	25	75	100	4
515E10	Core X–Monetary Economics	6	3	25	75	100	4
515E11	Core XI – Entrepreneurship Development	5	3	25	75	100	4
515E12	Core XII – Economics of Tourism	5	3	25	75	100	4
515EE1	Elective I – Principles of Insurance	5	3	25	75	100	4
515ES3	<b>Part IV</b> Skill Based Course III – Computer Applications in Business - Practical	3	3	75	-	75	3
<b>Semester VI</b>							
	<b>Part III</b>						
615E13	Core XIII–Fiscal Economics	6	3	25	75	100	4
615E14	Core XIV – International Economics	5	3	25	75	100	4
615E15	Core XV– Indian Economic Development	5	3	25	75	100	4
615EE2	Elective II – Banking Practices	5	3	25	75	100	4

615EE3	Elective III – Retail Business Management	6	3	25	75	100	4
615ES4	<b>Part IV</b> Skill Based Course IV – Tally Accounting Programme - Practical	3	3	75	-	75	3
615EX3	<b>Part V - Extension</b>	-	-	50	-	50	2
615ALE	<b>ALC II- Subject Viva Voce</b>	-	-	-	100	100	4*
<b>TOTAL</b>						<b>3500</b>	<b>140</b>

Starred Credits are treated as additional credits which are optional.

**Programme: M.A. Economics**  
(For the Students admitted from the academic year 2016-2017 onwards)

Course Code	Course Title	Ins. Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester I</b>							
15ME01	Core I – Advanced Micro Economics	6	3	25	75	100	4
15ME02	Core II – Mathematical Techniques for Economic Analysis	6	3	25	75	100	4
15ME03	Core III - Research Methodology in Economics	6	3	25	75	100	4
15ME04	Core IV - Human Resource Management	4	3	25	75	100	4
15ME05	Core V - Management of Small Business	4	-	25	75	100	4
15MEE1	Elective I- Soft Skills	4	3	25	75	100	4
<b>Semester II</b>							
15ME06	Core VI- Advanced Macro Economics	6	3	25	75	100	4
15ME07	Core VII-Public Economics	6	3	25	75	100	4
15ME08	Core VIII- Economics of Human Resources	6	-	25	75	100	4
15ME09	Core IX- Econometrics	6	3	25	75	100	4
15MEE2	Elective II – Women in Development						

15MEIS	Internship	6	3	25	75	100	4
15MGCS	Cyber Security - Level I	-	-	50	-	50	2
15MESVI	Advanced Learners Course I- Subject Viva Voce	2	2	50	-	Grade	Grade
		-	-	100	-	100	4*
<b>Semester III</b>							
15ME10	Core X- Economics of Money and Financial Institutions	5	3	25	75	100	4
15ME11	Core XI-Operations Research	6	3	25	75	100	4
15ME12	Core XII-Industrial Economics	5	3	25	75	100	4
15ME13	Core XIII – Marketing Management	4	-	25	75	100	4
15MEE3	Elective III – Statistical Packages for Data Analysis - Practical	6	3	40	60	100	4
<b>Semester IV</b>							
15ME14	Core XIV - Export Procedures and Documentation	6	3	25	75	100	4
15ME15	Core XV- Environmental Economics	6	3	25	75	100	4
15ME16	Core XVI – Health Economics**	6	-	60	40	100	4
15MEE4	Elective IV- Computer Application Techniques- PageMaker & Corel Draw - Practical	6	3	40	60	100	4
15MEPV	Project and Viva Voce	6	-	100	100	200	8
15MESVII	Advanced Learners Course –II Subject Viva Voce	-	-	100	-	100	4*
<b>TOTAL</b>						<b>2250</b>	<b>90</b>

Single Starred credits are treated as additional credits which are optional.

Double Starred Papers are self learning papers.

### **B.A. Economics**

#### **Semester IV**

#### **Advanced Learners Course I - Subject Viva Voce**

**415ALE**

**(For the students admitted from the academic year 2015-2016 onwards)**

#### **Credits: 3**

A subject viva voce is to be taken up by the candidate covering all the subjects in the current semester. The viva voce is to be conducted for 100 marks by three members - HOD, Staff-in-charge for the ALC and one staff.

**B.A. Economics****Semester VI****Advanced Learners Course II - Subject Viva Voce****615ALE****(For the students admitted from the academic year 2015-2016 onwards)****Credit: 3**

A subject viva voce is to be taken up by the candidate covering all the subjects in the current semester. The viva voce is to be conducted for 100 marks by three members - HOD, Staff-in-charge for the ALC and one staff.

**Scheme of Examination – CBCS Pattern****Programme - B.A. Economics****(For the Students admitted from the academic year 2015-2016 onwards)**

Course Code	Course Title	Ins. Hrs/ week	Examination				Credits
			Dur Hrs	CIA Marks	ESE Marks	Total Marks	
	<b>Semester I</b>						
115TA1/ 115MY1/ 115HD1/ 115FR1/ 115EN1	<b>Part I – Language I</b>	6	3	25	75	100	4
	<b>Part II – English I</b>	6	3	25	75	100	4
	<b>Part III</b>						
115E01	Core I - Micro Economics I	5	3	25	75	100	4
115E02	Core II - Agricultural Economics	5	3	25	75	100	4
115AE1	Allied I - Principles of Management	6	3	25	75	100	4
115EVS	<b>Part IV – Environmental Studies</b>	2	2	50	-	50	2
	<b>Semester II</b>						
215TA2/ 215MY2/ 215HD2/ 215FR2/ 215EN2	<b>Part I – Language II</b>	6	3	25	75	100	4
	<b>Part II – English II</b>	6	3	25	75	100	4
	<b>Part III</b>						
215E03	Core III–Micro Economics II	5	3	25	75	100	4
215E04	Core IV – Demography	5	3	25	75	100	4
215AE2	Allied II – Statistics	6	3	25	75	100	4
215VEC	<b>Part IV – Value Education</b>	2	2	50	-	50	2
	<b>Semester III</b>						
315TA3/ 315MY3/	<b>Part I – Language III</b>	6	3	25	75	100	4

315HD3/ 315FR3/ 315EN3	<b>Part II</b> – English III	6	3	25	75	100	4
	<b>Part III</b>						
315E05	Core V– Economics of Investment Management	4	3	25	75	100	4
315E06	Core VI – Economics of Marketing	3	3	25	50	75	3
315AE3	Allied III – Mathematical Methods	6	3	25	75	100	4
<b>315ES1</b>	<b>Part IV</b> Skill Based Course I – Communication Skills for Business	<b>3</b>	<b>3</b>	<b>75</b>	<b>-</b>	<b>75</b>	<b>3</b>
315NCM	Non Major Elective Course I – Consumerism	2	2	50	-	50	2
<b>Semester IV</b>							
415TA4/ 415MY4/ 415HD4/ 415FR4 415EN4	<b>Part I</b> – Language III	6	3	25	75	100	4
	<b>Part II</b> – English III	6	3	25	75	100	4
	<b>Part III</b>						
415E07	Core VII – Urban Economics	4	3	25	75	100	4
415E08	Core VIII – Economic Doctrines	3	3	25	50	75	3
415AE4	Allied IV – Services Marketing	6	3	25	75	100	4
<b>415ES2</b>	<b>Part IV</b> Skill Based Course II – Management Information System	<b>3</b>	<b>3</b>	<b>75</b>	<b>-</b>	<b>75</b>	<b>3</b>
415NGA	Non Major Elective Course II General Awareness (Online)	-	1	50	-	50	2
415GIS	Information Security	2	2	50	-	Grade	Grade
415EX1/ 415EX2/ 414EX4/ 414EX5	<b>Part V</b> - Extension	-	-	50	-	50	2
<b>415ALE</b>	<b>ALC I - Subject Viva Voce</b>	-	-	-	100	100	4*
<b>Semester V</b>							
	<b>Part III</b>						
515E09	Core IX –Macro Economics	6	3	25	75	100	4
515E10	Core X–Monetary Economics	6	3	25	75	100	4
515E11	Core XI – Entrepreneurship Development	5	3	25	75	100	4
515E12	Core XII – Economics of Tourism	5	3	25	75	100	4
515EE1	Elective I – Principles of Insurance	5	3	25	75	100	4



	<b>Part IV</b>						
515ES3	Skill Based Course III – Computer Applications in Business - Practical	3	3	75	-	75	3
	<b>Semester VI</b>						
	<b>Part III</b>						
615E13	Core XIII–Fiscal Economics	6	3	25	75	100	4
615E14	Core XIV – International Economics	5	3	25	75	100	4
615E15	Core XV– Indian Economic Development	5	3	25	75	100	4
615EE2	Elective II – Banking Practices	5	3	25	75	100	4
615EE3	Elective III – Retail Business Management	6	3	25	75	100	4
615ES4	<b>Part IV</b> Skill Based Course IV – Tally Accounting Programme - Practical	3	3	75	-	75	3
615EX3	<b>Part V - Extension</b>	-	-	50	-	50	2
615ALE	<b>ALC II- Subject Viva Voce</b>	-	-	-	100	100	4*
<b>TOTAL</b>						<b>3500</b>	<b>140</b>

Starred Credits are treated as additional credits which are optional.

## B.A. Economics Semester III

### Part IV – Skill Based Course I – Communication Skills for Business 315ES1 (For the students admitted from the academic year 2015-2016 onwards)

**Credits: 3**

**Hours: 38**

**Preamble:**

The objective of the course is

- ❖ To develop self-confidence in managing the business
- ❖ To equip the students with correct and effective Communication Skills for successful entrepreneurship.

**Unit I**

(7 Hours)

Communication - Meaning – Importance - Objectives – Principles of Communication-  
Media of Communication

**Unit II**

(7 Hours)

Oral Communication, Verbal, Non verbal and Audio-Visual Presentation, Telephone  
Skills and Etiquettes

**Unit III**

(8 Hours)

Written Communication –Kinds of Business Letter – Essentials of a Business Letter –  
Enquiries and replies - Orders and their execution- Sales letters - Application letters

**Unit IV**

(8 Hours)

Agency correspondence – Insurance - Bank Correspondence – Correspondence with  
public authorities and other agencies- Letter to the editor of news papers.

**Unit V**

(8 Hours)

Report writing - Importance - Kinds – Characteristics of a good report - Report by  
individuals and committees

**Books for Study:**

1. Reddy, Appannaiah & Nagaraj and Raja Rao, Essentials of Business Communication, Himalaya Publishing House, New Delhi, 2003

**Books for Reference:**

1. Rajendra Pal & J.S. Korlahalli, Essentials of Business Communication, Sultan Chand and Sons, New Delhi, 1997.
2. Krishna Mohan & Meera Banerji, Developing Communication Skills, Macmillan Indian Ltd., Chennai, 1987
3. M.S. Ramesh & C. Pattenshetti, Business Communication, S. Chand &Co, Delhi, 2000.
4. L.A. Woolcott & W.R. Unwin, Mastering Business Communication, Macmillan Education Ltd, Chennai.2002.

**B.A. Economics  
Semester IV****Part IV-Skill Based Course II-Management Information System 415ES2  
(For the students admitted from the academic year 2015-2016 onwards)****Credits: 3****Hours: 38****Preamble:**

The aim of the course is to equip students with

- the knowledge of information systems adopted in office management
- to develop the skill in determining the information requirements and formulation of an information system plan.

**Unit I****(9 Hours)**

Management Information System: Meaning-Definition-Computer Based- User - Machine System-Integrated system- Need for a data base- Utilisation of Database-MIS and Decision Support Systems.

**Unit II****(8 Hours)**

Structure of MIS: Structure: Programmable decisions- Unstructured –Non-Programmable Decisions-Production Subsystem- Logistics Subsystem.

**Unit III****(7 Hours)**

Information Based Support System: Transaction Processing Support System- Operational Control- Management Control- Strategic Planning Support System.

**Unit IV****(7 Hours)**

Information System Requirements: Master Plan-Goals- Objectives- Architecture-Current Capabilities- Forecast of developments affecting the plan- Maintenance of the Master Plan.

**Unit V****(7 Hours)**

Implementation of Management Information System: Meaning- Theories of Organisational change- The Change Agent- Mechanisms for Successful Implementation-Socio-Technical Approach to System Design and Implementation

**Book for Study:**

1. Gordon B. Davis & Margrethe H.Olson , Management Information Systems, Conceptual Foundations, Structure and Development, Tata Mc-Graw Hill Publishing Co., Delhi, 2007

**Books for Reference:**

1. Jawa Dekar (Wamans), Management Information Systems, I Edition, Tata Mc-Graw Hill Publishing Company, New Delhi, 2013.
2. Gagan Varshini & Others, Management Information System, Global Book Publishing Company, Coimbatore, 2011

## B.A. Economics

### Semester V

#### Part IV-Skill Based Course III - Computer Applications in Business 515ES3

(For the students admitted from the academic year 2015-2016 onwards)

Credits: 3

Hours: 38

#### Preamble:

The course covers the essential skills for using all the programs separately and as a team

- it equips the students to develop their own application using Graphical user Interface.
- to learn Power Point Presentation Graphics Program.
- knowledge of Microsoft Access as Database Management System to organizing staggering information about personal and business life.

#### List of Practical:

##### MS Word

(10 Hours)

1. Type a paragraph and perform the following changes:  
Font Size, Font style, Line spacing, Page setup (margin) , Text color, Center heading  
Under line a text, Bullets/numbering, Alignment (Justify, centre, left, right)
2. Type a document and perform the following:  
Insert header, Find and replace, Cut, copy and paste, Change case
3. Prepare an advertisement for a product
4. Send an application to many companies for suitable job using mail merge option

##### MS Excel

(9 Hours)

5. Prepare Payroll for employee
6. Draw a Chart using Excel with the details : Student Name and Marks of 5 subjects

##### MS Power point

(9 Hours)

7. Design a Sports Day Invitation and prepare Slides describing various events in Power Point.
8. Display various departments and courses offered in our college using Power point

##### MS Access

(10 Hours)

9. Create a database for Employee Details and generate a report for Pay Slip using MS Access
10. Create a database for Customer Information and generates a report with the customer name in ascending order.

#### Books for Study:

1. R. Parameswaran, Computer Application in Business, S.Chand & Company Ltd., New Delhi, 2012
2. Sanjay Saxena, MS Office 2007 in a Nutshell, Vikas Publishing House, New Delhi, 2013

#### Book for Reference:

1. Ron Mansfield, Working in Microsoft Office, Tata McGraw Hill Publishing Co. Ltd, Delhi, 2005.

## B.A. Economics

### Semester VI

#### Part IV - Skill Based Course IV– Computerized Tally – Practical 615ES4

(For the students admitted from the academic year 2015-2016 onwards)

Credits: 3

Hours: 38

#### Preamble:

The objective of the course is

- ❖ to familiarize the students with accounting skills using tally software.

#### List of Practical:

1. Company creation, Enabling Accounting Features
2. Pre-defined groups

3. Creation and Alteration of New Groups (Single and Multiple)
4. Creation and Alteration of Ledger (Single and Multiple)
5. Creation and Alteration of Cost categories and Cost centre
6. Accounting Vouchers (Payment, Receipt, Contra, Journal)
7. Altering Inventory Features
8. Creation and Alteration of Stock Group (Single and Multiple)
9. Creation and Alteration of Stock Category (Single and Multiple)
10. Creation and Alteration of Units of Measure
11. Creation and Alteration of Stock Item (Single and Multiple)
12. Creation and Alteration of Godown
13. Display of Stock summary
14. Accounting Voucher (Purchase, Sales)
15. Display of Books, Trial Balance, Profit and Loss Account and Balance Sheet

**Books for Study:**

1. Namrata Agarwal and Sanjay Kumar, Financial Accounting on Computers using Tally, Dreamtech Press, New Delhi, 2010
2. Vishnu Priya Singh, Tally up to 9 Release 3.0 with CD, Computech Publishers, 2009.

**B.A. Economics**

**Semester VI**

**Advanced Learners Course II - Subject Viva Voce 615ALE**

**(For the students admitted from the academic year 2015-2016 onwards)**

**Credit: 3**

A subject viva voce is to be taken up by the candidate covering all the subjects in the current semester. The viva voce is to be conducted for 100 marks by three members - HOD, Staff-in-charge for the ALC and one staff.

**B.A. Economics**

**Semester IV**

**Advanced Learners Course I - Subject Viva Voce 415ALE**

**(For the students admitted from the academic year 2015-2016 onwards)**

**Credits: 3**

A subject viva voce is to be taken up by the candidate covering all the subjects in the current semester. The viva voce is to be conducted for 100 marks by three members - HOD, Staff-in-charge for the ALC and one staff.

## Programme: M.A. Economics

(For the Students admitted from the academic year 2015-2016 onwards)

Course Code	Course Title	Ins. Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester I</b>							
15ME01	Core I – Advanced Micro Economics	6	3	25	75	100	4
15ME02	Core II – Mathematical Techniques for Economic Analysis	6	3	25	75	100	4
15ME03	Core III - Research Methodology in Economics	6	3	25	75	100	4
15ME04	Core IV - Human Resource Management	4	3	25	75	100	4
15ME05	Core V - Management of Small Business	4	-	25	75	100	4
<b>15MEE1</b>	<b>Elective I- Soft Skills</b>	<b>4</b>	<b>3</b>	<b>25</b>	<b>75</b>	<b>100</b>	<b>4</b>
<b>Semester II</b>							
15ME06	Core VI- Advanced Macro Economics	6	3	25	75	100	4
15ME07	Core VII-Public Economics	6	3	25	75	100	4
15ME08	Core VIII- Economics of Human Resources	6	-	25	75	100	4
15ME09	Core IX- Econometrics	6	3	25	75	100	4
15MEE2	Elective II – Women in Development	6	3	25	75	100	4
15MEIS	Internship	-	-	50	-	50	2
15MGCS	Cyber Security - Level I	2	2	50	-	Grade	Grade
<b>15MESVI</b>	<b>Advanced Learners Course I– Subject Viva Voce</b>	-	-	100	-	100	4*
<b>Semester III</b>							
15ME10	Core X- Economics of Money and Financial Institutions	5	3	25	75	100	4
15ME11	Core XI-Operations Research	6	3	25	75	100	4
15ME12	Core XII-Industrial						

15ME13	Economics Core XIII – Marketing Management	5 4	3 -	25 25	75 75	100 100	4 4
15MEE3	Elective III – Statistical Packages for Data Analysis - Practical	6	3	40	60	100	4
<b>Semester IV</b>							
15ME14	Core XIV - Export Procedures and Documentation	6	3	25	75	100	4
15ME15	Core XV- Environmental Economics	6	3	25	75	100	4
15ME16	Core XVI – Health Economics**	6	-	60	40	100	4
15MEE4	Elective IV- Computer Application Techniques- PageMaker & Corel Draw - Practical	6	3	40	60	100	4
15MEPV	Project and Viva Voce	6	-	100	100	200	8
15MESV II	Advanced Learners Course –II Subject Viva Voce	-	-	100	-	100	4*
<b>TOTAL</b>						<b>2250</b>	<b>90</b>

Single Starred credits are treated as additional credits which are optional.

Double Starred Papers are self learning papers.

## M.A. Economics

### Semester I

#### Elective I - Soft Skills

**15MEE1**

(For the students admitted from the academic year 2015-2016 onwards)

**Credits: 4**

**Hours: 52**

#### Preamble:

- ❖ To help the students to learn and improve the art of Group Discussion and preparatory steps for interview.
- ❖ To equip the students to face the competitive examinations and placements.
- ❖ To suggest good business meeting protocol.

#### Unit I: Effective Communication & Resume Writing (12 Hours)

Communication: Definition, Process, Barriers, Non-Verbal Communication, Johari Window, The Art of Listening, Production of Speech, Organisation of Speech, Modes of Delivery, Conversation Techniques, Dialogue, Good Manners and Etiquettes.

Resume: Types- Chronological, Functional and Hybrid- Contents of a Good Resume.

#### Unit II: Group Discussion, Interview Skills and Team Building (12 Hours)

Group Discussion: Process, Purpose, Aspects – Role of GD in Selection Procedure – Do's and Don'ts of GD - GD Topics for Practice.

Interview: Objectives, Importance, Types, Techniques, Appearing for an Interview- Mock Interviews.

**Unit III: Personality Development, Attitude & Motivation** (12 Hours)

Self-Awareness, Assertiveness, Goal Setting, Problem-solving, Conflict and Stress Management, Decision-Making Skills, Positive and Creative Thinking, Lateral Thinking, Time Management.

Attitude: Concept, Significance, Factors affecting attitudes, Positive Attitude-Advantages, Negative Attitude- Disadvantages.

Motivation: Concept, Significance, Internal and External Motives, Importance of Self-motivation, Factors leading to demotivation.

**Unit IV: English for Competitive Examinations** (8 Hours)

- Comprehending Passages
- Sentence Completion
- Voice
- Composition – Paragraph Writing only
- Precis Writing

**Unit V: Test of Reasoning** (8 Hours)

**Verbal Reasoning**

- Series Completion, Analogy
- Data sufficiency
- Logical Deduction – Logic and Theme Detection only

**Non-Verbal Reasoning**

- Series
- Mirror Images, Completion of Incomplete Pattern

**Books for Reference:**

1. Aggarwal, R.S. Quantitative Aptitude, S. Chand & Sons, 20
2. Aggarwal, R.S, A Modern Approach to Non-Verbal Reasoning, S.Chand & Co, Delhi, 2004
3. Hari M.Prasad& Rajnish M, How to prepare for Group Discussion and Interview, Tata McGraw Hill, Delhi, 2005
4. Mandal S.K, How to succeed in Group Discussions and personal Interviews, Jaico Publishing House, Mumbai, 2005
5. Kay DuPont, Business Etiquette and Professionalism, Viva Books Pvt. Ltd., Chennai, 2004
6. Parul Singh, Handbook of Writing Effective Resume for Job Applications, Excel Books, Delhi, 2007

**M.A. Economics  
Semester II**

**Advanced Learners Course – I Subject VivaVoce 15MESVI**

**(For the students admitted from the academic year 2015-2016 onwards)**

**Credits: 4 Hours: 75**

A subject viva voce is to be taken up by the candidate covering all the subjects in the previous semester. The viva voce is to be conducted by two internal examiners for 100 marks.

**M.A. Economics  
Semester IV**

**Elective IV – Computer Application Techniques - PageMaker and Corel Draw-  
Practical 15MEE4**

**(For the students admitted from the academic year 2015-2016 onwards)**

**Credits: 4 Hours: 75**

**Preamble:**

The course helps

- ❖ to understand the fundamentals of PageMaker.

- ❖ to provide a conceptual understanding of the fundamentals of Corel Draw and can create business cards, pamphlets, banners, newspapers, books.

**Unit I** (15 Hours)

What's new in CorelDraw 12? – Interfacing with CorelDraw. Getting Started with CorelDraw12: Measuring and Drawing Helpers - Zooming and Viewing – Essential Objects Commands.

**Unit II** (15 Hours)

Working with object tools: Creating Basic Shapes – Drawing with Line Tools – Cutting, Shaping and Reshaping objects – Arranging and organizing objects.

**Unit III** (15 Hours)

PageMaker Basics – Working with Publications – Drawing tools – Text tools.

**Unit IV** (15 Hours)

Importing Graphics – Transformations - Master Pages – Utilities

**Unit V** (15 Hours)

Working with Text – The Story Editor -Working with Frames – Working with Layers.

**Books for Study:**

1. Steve Bain & Nick Wilkinson, CorelDraw 12, DreamTech Publications, 2004
2. Satish Jain , Training Guide – PageMaker 7, BPB, Publications, 2003

**List of Programs:**

**Corel Draw:**

1. Create a program using Drawing Tools(Scenery, Train, Car, Bus, House, Hut)
2. Create a logo using Corel Draw.
3. Create an invitation for college day/sports day.
4. Create a Greeting card (Birthday, Mother's day, Pongal, Diwali).
5. Create a Visiting Card.

**PageMaker:**

6. Create an advertisement to work with Layers.
7. Create a program using Drawing Tools (Train, Car, Computer, Doll)
8. Create a program Newsletter using Text tools.
9. Create a program to Import Images and align the images.
10. Create a program to work with Frames.(Advertisement, Banners, Flex)
11. Create a program for masking a picture.
12. Create a program for Transformation of an object.
13. Design a certificate. (Functions, state level, national level champions).
14. Create a front page design for books.
15. Create a pamphlet for college prospectus.

**M.A. Economics**

**Semester IV**

**Advanced Learners Course II - Subject Viva**

**15MESVII**

**(For the students admitted from the academic year 2015-2016 onwards)**

**Credits: 4**

A subject viva voce is to be taken up by the candidate covering all the subjects in the previous semester. The viva voce is to be conducted by two internal examiners for 100 marks.



**B.A. Economics**  
**Semester wise Distribution with Scheme of Examination**  
**(For the candidates admitted during the academic year 2014-2015 & onwards)**

Semester	Course	Credits	Duration of Exam Hrs (ESE)	Marks		Total
				CIA	ESE	
I	Part I – Language I	3	3	25	75	100
	Part II – English I	3	3	25	75	100
	Part III – Core I – Micro Economics I	4	3	25	75	100
	Core II – Demography	4	3	25	75	100
	Allied I – Principles of Management	5	3	25	75	100
	Part IV – Environmental Studies	2	3	-	50	50
II	Part I – Language II	3	3	25	75	100
	Part II – English II	3	3	25	75	100
	Part III – Core III – Micro Economics II	4	3	25	75	100
	Core IV – Agricultural Economics	4	3	25	75	100
	Allied II – Statistics	5	3	25	75	100
	Part IV – Value Education	2	3	-	50	50
	Advanced Learners Course I – Business Environment	3*	3	-	100	100
III	Part I – Language III	3	3	25	75	100
	Part II – English III	3	3	25	75	100
	Part III – Core V – Macro Economics	4	3	25	75	100
	Core VI – Economics of Marketing	4	3	25	75	100
	Allied III – Mathematical Methods	5	3	25	75	100
	Skill Based Course I – Introduction to Retailing	3	3	100	-	100
	Part IV – Non Major Elective Course I	2	3	75	-	75
	IV	Part I – Language IV	3	3	25	75
Part II – English IV		3	3	25	75	100
Part III – Core VII – Monetary Economics		4	3	25	75	100
Core VIII – Economic Doctrines		4	3	25	75	100
Allied IV – Tally Accounting Programme		4	3	25	75	100
Part IV – Skill Based Course II – Retail Merchandising Management & Retail Pricing		5	3	40	60	100
Non Major Elective II – General Awareness		3	3	100	-	100
Advanced Learners Course II – Quantitative Techniques		2	3	75	-	75
		3*	3	-	100	100
V		Part III – Core IX – Fiscal Economics	4	3	25	75
	Core X – International Economics	4	3	25	75	100
	Core XI – Economics of Investment Management	4	3	25	75	100
	Core XII – Entrepreneurship Development	4	3	25	75	100
	Elective I – Principles of Insurance	5	3	25	75	100
	Skill Based Course III – Retail Business Management	3	3	100	-	100
	VI	Part III – Core XIII – Indian Economic				

Development	4	3	25	75	100
Core XIV – Economics of Tourism	4	3	25	75	100
Core XV– Urban Economics	4	3	25	75	100
Elective II – Computer Applications in Business – Practical	5	3	40	60	100
Elective III – Banking Practices	5	3	25	75	100
Part IV– Skill Based Course IV – Retail Store Planning & Design Layout	3	3	100	-	100
Extension Activities	1	-	50	-	50
<b>Advanced Learners Course III – Economics of Infrastructure</b>	3*	3	-	100	100

Single Starred Credits are treated as additional credits, which are optional.

## B.A. Economics Semester II

### Advanced Learners Course I - Business Environment

(For the candidates admitted during the academic year 2014-2015 and onwards)

**Credits: 3**

**Preamble:**

The aim of the Course is

- To provide basic knowledge about the complex and intrinsic business environment
- To study the opportunities and constraints of the economic system and its impact on the business

**Module I: Business and Environment**

Meaning of Business- Scope- Characteristics of today's business. Environment: Meaning- Types of Environment- Internal – External.

**Module II: Business Ethics**

Business and social structure- Business Ethics- Social Responsibilities of Business- Consumer Rights- Exploitation of Consumers- Consumer Protection- Utility of Consumerism- Consumerism in India.

**Module III: Public Sector and Privatisation**

Public Sector- Meaning, Features and Importance- Privatisation: Meaning and Methods of Privatization – Conditions for success of Privatization- Benefits of Privatization- Arguments against Privatization.

**Module IV: Globalisation of Business**

Globalisation of Business- Meaning and features of Globalisation- Foreign market entry Strategies- Pros and Cons of Globalisation- Globalisation of Indian Business.

**Module V: Foreign investment**

Significance of Foreign Investment- Foreign Direct Investment- Foreign Institutional Investors (FII) - Government Policy towards Foreign Investments in India- MNC's: Merits and Demerits of MNC's.

**Books for Reference:**

K. Aswathappa : Essentials of Business Environment, Himalaya Publishing House, New Delhi, 2001.

Francis Cherunilam : Business Environment and Policy, Himalaya Publishing Co. Ltd., New Delhi, 2001.

Veena Keshav Pailwar: Business Environment, PHI Learning Pvt. Ltd, Delhi 2014.

## **B. A. Economics**

### **Semester IV**

#### **Advanced Learners Course II – Quantitative Techniques**

**(For the candidates admitted during the academic year 2014-2015 and onwards)**

**Credits: 3**

**Preamble:**

The aim of the course is

- ❖ To analyse and interpret the data relating to current economic events in an intelligent manner
- ❖ By using appropriate quantitative methods

**Module I:**

Sets and Relations- Derivatives and its interpretations- Maxima and Minima- Higher Order Derivatives and Partial Derivatives.

**Module II:**

Optimization with Equality Constraint- Lagrangian Multiplier- Introduction to Matrix Algebra and Determinants

**Module III:**

Methods of Collection and Presentation of Data- Measures of Central Tendency- Mean, Median And Mode.

**Module IV:**

Measures of Dispersion- Range, Mean Deviation, Standard Deviation and Co-Efficient of Variation.

**Module V:**

Correlation and Regression- Method of Least Squares with one independent variable- Index Number- Laspeyre's, Paasche's and Fisher's Ideal Index.

**Books for Reference:**

- Srinath Baruah : Basic Mathematics and its application in Economics, Macmillan India Press, Chennai, 2001
- Mehta & Madnani : Mathematics for Economists, Sultan Chand & Sons, Delhi, 2013
- R.S.N Pillai & : Statistics, S. Chand & Co Ltd, New Delhi, 2007.
- V. Bagavathi
- S.P. Gupta : Statistical Methods, Sultan Chand & Sons, Delhi, 2009.

## **B.A. Economics**

### **Semester VI**

#### **Advanced Learners Course III- Economics of Infrastructure**

**(For the candidates admitted during the academic year 2014-2015 and onwards)**

**Credit: 3**

**Preamble:**

The Course

- Imparts knowledge about India's infrastructure and their importance of development
- Equips the students with information and knowledge to face competitive examinations.

**Module I:**

Introduction: Meaning and Importance of Infrastructure- its role in Economic Development- Social and Physical Infrastructure – Public Utilities- Characteristics-Pricing Policies in Public Utilities.

**Module II:**

Energy: Role of Energy in Economic Development – Major Sources of Energy- Factors determining Demand for Energy- Effects of Shortages in Energy.

**Module III:**

Communication: Postal Services- Characteristics and Coverage- Telecommunications: Network, Telephone, Tariff and Pricing- Basic Services and Cellular Services- Computer-Internet Connectivity and Services.

**Module IV:**

Education: Education and Economic Growth; Education in India- Literacy, Elementary Education, Secondary Education, Higher Education, Technical Education- Educational Policy in India, Problems of India's Education System.

**Module V:**

Health: Health Dimensions of Development- Determinants of Health- Poverty, Malnutrition, Illiteracy and lack of information, inequalities in Health- Class and Gender Perspectives- Rural Health, Environment and Health- Human Development Index.

**Books for Reference:**

Ruddar Datt and Sundaram, K.P.M : Indian Economy, S.Chand & Company Ltd.,  
New Delhi, 2006.

Misra, S.K. and Puri V.K. : Indian Economy- its Development Experience,  
Himalaya Publishing House, Mumbai, 2010.

India Infrastructure: Report by OUP

**This course is a self-study course.**

**M.A. Economics****Semester Wise Distribution with Scheme of Examination**

(For the candidates admitted during the academic year 2014-2015 and onwards)

Semester	Course	Credits	Duration of Exam Hrs(ESE)	Marks		Total
				CIA	ESE	
I	Core I – Advanced Micro Economics	6	3	25	75	100
	Core II – Mathematical Techniques for Economic Analysis	5	3	25	75	100
	Core III- Research Methodology in Economics	5	3	25	75	100
	Elective I - Management of Small Business	3	3	25	75	100
	Diploma I-Introduction to Gender Studies	2	3	25	75	100
II	Core IV - Advanced Macro Economics	5	3	25	75	100
	Core V - Econometrics	6	3	25	75	100
	Core VI - Statistical Techniques for Economic Analysis					

	Statistical Techniques for Economic Analysis - Practical	4	3	25	75	100
	Elective II – Industrial Economics	2	3	40	60	100
	Diploma II - Feminism	3	3	25	75	100
	Advanced Learners Course I – Logistics Management	2	3	25	75	100
		4*	3	-	-	100
III	Core VII - Economics of Money and Financial Institutions	5	3	25	75	100
	Core VIII - Public Economics	5	3	25	75	100
	Core IX - Economics of Growth and Development					
	Core X – Operations Research	5	3	25	75	100
	Elective III - Health Economics	5	3	25	75	100
	Diploma III - Women in Development	3	3	25	75	100
			3	3	25	75
IV	Core XI- Export Procedures and Documentation	5	3	25	75	100
	Core XII – Human Resource Management	5	3	25	75	100
	Core XIII- Environmental Economics	5	3	25	75	100
	Elective IV- Marketing Management	3	3	25	75	100
	Diploma IV- Project	3	-	50	50	100
	Advanced Learners Course II – Communication Skills for Business Management	4*	3	-	-	100

2.

**Starred Credits are treated as additional Credits**

## M. A. Economics

### Semester II

#### Advanced Learners Course I - Logistics Management

(For the candidates admitted during the academic year 2014-2015 and onwards)

**Credits: 4**

**Preamble:**

The aim of the course is to

- Know how a logistic strategy fits into an organization broader decisions.
- Understand the role of logistic providers.
- Realize the meaning of customer service and understand its importance to Logistics management.

**Module I**

Logistics- Definition - History and Evolution- Objectives-Elements-Activities-importance-The Work of logistics-Logistics interface with marketing-Retails Logistics-Emerging concept in Logistics.

**Module II**

Logistics Management-Definition-Achievement of Competitive Advantage through Logistics Framework-Role of Logistics management-Integrated Logistics Management-Evolution of the concept- model - process-activities (in brief).

**Module III**

Outsourcing Logistics-reasons-Third Party Logistics Provider-Fourth party Logistics Providers (4 pl)-Stages-Role of Logistics Providers.

**Module IV**

Logistics Strategy-Strategic role of Logistics-Definition-Role of Logistics managers in strategic decisions-Strategy options, Lean strategy, Agile Strategies & Other strategies-Designing & implementing Logistical Strategy.

**Module V**

Quality Customer Service & Integrated Logistics-Customer Service-Importance-Elements-the order cycle system-Distribution Channels-Functions performed-Types-Designing.

**Books for Reference:**

- |  |  |
|--|--|
| David J. Bloomberg, Stephen LeMay & Joe B. Hanna | :Logistics, Prentice-Hall of India Pvt Ltd., New Delhi, 2003.                          |
| Donald J. Bowersox & David J. Closs              | :Logistical Management, Tata Mc Graw Hill Publishing Co. Ltd, Delhi, 2004              |
| Satish C. Ailawadi & Rakesh Singh                | :Logistics Management, Prentice-Hall of India Pvt. Ltd., New Delhi, 2005               |
| Donald Waters                                    | :Logistics. Palgrave Macmillan, New York, 2004   |
| Krishnaveni Muthiah                              | :Logistics Management & World Sea borne Trade, Himalaya Publishing House, Mumbai, 1999 |

**This Course is a self-study course.**

## M A Economics

### Semester IV

#### Advanced Learners Course II -Communication Skills for Business Management

(For the candidates admitted during the academic year 2014-2015 and onwards)

**Credits: 4**

**Preamble:**

The objective of the Course is

- ❖ To develop self-confidence in managing the business
- ❖ To equip the students with correct and effective Communication Skills for successful entrepreneurship.

**Module I:**

Communication - Meaning – Importance - Objective – Principles of Communication – Media of Communication – Barriers to Communication.

**Module II:**

Oral Communication, Verbal, non verbal and audio- visual Presentation, Telephone. Skills and etiquettes.

**Module III:**

Written communication – functions and kinds of business letter – essentials of a business letter – Language and lay out of business letter – enquiries and replies - orders and their execution- credit and status enquiries – complaints and adjustments – collection letters – sales letters – office memo, circulars - Application letters.

**Module IV:**

Agency correspondence – Insurance - bank correspondence – correspondence with public authorities and other agencies. Drafting a company meeting notice – Resolution and minutes of a company meeting – letter to the editor of news papers.

**Module V:**

Report writing - importance - kinds – Characteristics of a good report - report by individuals and committees.

**Books for Reference:**

- |   |   |
|---|---|
| Rajendra Pal& J.S. Korlahalli             | : Essentials of Business Communication,<br>Sultan Chand and Sons, New Delhi, 1997.        |
| Krishna Mohan & Meera Banerji             | : Developing Communication Skills, Rajiv<br>Beri for Macmillan Indian Ltd., Chennai, 1987 |
| M.S.Ramesh & C. Pattenshetti              | : Business Communication, S.Chand & Co, Delhi, 2000.                                      |
| L.A.Woolcott & W.R Unwin                  | : Mastering Business Communication,<br>Macmillan Education Ltd, Chennai.2002.             |
| Reddy, Appannaiah<br>Nagaraj and Raja Rao | : Essentials of Business Communication,<br>Himalaya Publishing House, New Delhi, 2003     |

**This course is self-study course**

**B.A Economics**  
**Semester wise Distribution with Scheme of Examination**  
**(For the Candidates admitted During the Academic Year 2013-2014 & onwards)**

Semester	Course	Credits	Duration of Exam Hrs (ESE)	Marks		Total
				CIA	ESE	
I	Part I-Tamil Course I	3	3	25	75	100
	Part II-English Course I	3	3	25	75	100
	Part III – Core Course I- Micro Economics I	4	3	25	75	100
	Part III – Core Course II – Demography	4	3	25	75	100
	Part III-Allied Course I- Principles of Management	5	3	25	75	100
		2	3	-	50	50
	Part IV- Environmental Studies					
II	Part I-Tamil Course II	3	3	25	75	100
	Part II- English Course II	3	3	25	75	100
	Part III-Core Course III Micro Economics –II	4	3	25	75	100
	Part III- Core Course IV- Agricultural Economics	4	3	25	75	100
	Part III – Allied Course II Statistics	5	3	25	75	100
	Part IV- Value Education	2	3	-	50	50
	<b>Advanced Learners Course I Business Environment</b>	3*	3	-	100	100
	Part I – Tamil Course III	3	3	25	75	100
	Part II – English Course III	3	3	25	75	100
	Part III – Core Course V Macro Economics	4	3	25	75	100
	Core-VI-Economics of Marketing	4	3	25	75	100
	Allied Course III Mathematical Methods-I	5	3	25	75	100
	Skill Based Subject-I Introduction					



III	to Retailing					
	Part III –Non-Major Elective Course -I	3	3	25	75	100
	Consumerism	2	3	-	75	75
IV	Part I- Tamil Course IV	3	3	25	75	100
	Part II-English Course IV	3	3	25	75	100
	Part III – Core Course VII					
	Monetary Economics	4	3	25	75	100
	Part III – Core Course VIII					
	Economic Doctrines	4	3	25	75	100
	Allied Course IV-					
	Tally Accounting Programme	5	3	40	60	100
	Part IV-Skill Based Course-II-					
	Paper II-Retail Merchandising Management &Retail Pricing	3	3	25	75	100
	Non-Major Elective –II	2	3	-	75	75
General Awareness	3*	3	-	-	100	
	<b>Advanced Learners Course –II Quantitative Techniques</b>					
V	Part III – Core Course IX Fiscal Economics	4	3	25	75	100
	Part III- Core Course X International Economics	4	3	25	75	100
	Part III- Core Course XI- Economics of Investment	4	3	25	75	100
	Part III – Core Course XII – Entrepreneurship Development	4	3	25	75	100
	Elective -I Principles of Insurance	5	3	25	75	100
	Skill Based Subject-III					
	Paper III-Retail Business Management	3	3	25	75	100
	Part III- Core Course XIII Indian Economic Development	4	3	25	75	100
	Core Course XIV –Economics of Tourism	4	3	25	75	100
	Core Course-XV-Urban	4	3	25	75	100

VI	Economics					
	Elective Course II Computer Applications in Business	5	3	25	75	100
	Elective Course III– Banking Practices	5	3	40	60	100
	Part IV-Skill Based Course IV Retail Store Planning & Design	3	3	25	75	100
	Extension Activities	1	-	50	-	50
	Advanced Learners Course-III Economics of Infrastructure	3*	3	-	-	100
Single Starred Credits are treated as additional credits, which are optional						

**B.A. Economics  
Semester II**

**Part IV – Advanced Learners Course I- Business Environment  
(For Student admitted from 2012-2013 and onwards)**

**Credits: 3**

**Preamble:**

The aim of the course is

- To provide basic knowledge about the complex and intrinsic business environment
- To study the opportunities and constraints of the economic system and its impact on the business

**Module I: Business and Environment**

Meaning of business- Scope- Characteristics of today's business. Environment: Meaning- Types of environment- Internal – External

**Module II: Business Ethics**

Business and social structure- Business Ethics- Social Responsibilities of Business- Consumer rights- Exploitation of consumers- Consumer Protection- Utility of Consumerism- Consumerism in India

**Module III: Public Sector and Privatisation**

Public Sector- Meaning, Features and Importance- Privatisation: Meaning and Methods of Privatization – Conditions for success of privatization- Benefits of privatization- Arguments against privatization

**Module IV: Globalisation of Business**

Globalisation of Business- Meaning and features of Globalisation- Foreign market entry Strategies- Pros and Cons of Globalisation- Globalisation of Indian Business

**Module V: Foreign investment**

Significance of Foreign investment- Foreign Direct Investment- Foreign Institutional Investors(FII)- Government policy towards foreign investments in India- MNC's : Merits and Demerits of MNC's.

**Books for Reference:**

- K.Aswathappa :Essentials of Business Environment, Himalaya Publishing House, New Delhi,2001.
- Francis Cherunilam :Business Environment and Policy, Himalaya Publishing Co.Ltd.,New Delhi,2001.

### **B.A. Economics**

#### **Semester IV**

#### **Part III -Advanced Learners Course II- Quantitative Methods (For Student admitted from 2012-2013 and onwards)**

**Credits: 3**

**Preamble:**

The aim of the course is

- ❖ To analyse and interpret the data relating to current economic events in an intelligent manner
- ❖ By using appropriate quantitative methods

**Module I:**

Sets & relations- derivatives and its interpretations- maxima and minima- Higher order derivatives & partial derivatives.

**Module II:**

Optimization with equality constraint- Lagrangian multiplier- Introduction to matrix algebra and determinants

**Module III:**

Methods of collection and presentation of data- measures of central tendency- mean, median and mode.

**Module IV:**

Measures of Dispersion- range, mean deviation, standard deviation & co-efficient of variation.

**Module V:**

Correlation and regression- method of least squares with one independent variable- Index number- Laspeyre's, Paasche's and Fisher's ideal index.

**Books for Reference:**

- Srinath Baruah :Basic Mathematics and its application in Economics, Macmillan India Press, Chennai,2001
- Mehta & Madnani : Mathematics for Economists, Sultan Chand & Sons, New Delhi, 2000.
- R.S.N Pillai & V.Bagavathi : Statistics, S.Chand & Co Ltd,New Delhi,2007.
- S.P.Gupta : Statistical Methods, Sultan Chand & Sons,Delhi,2009.

### **B.A.Economics**

#### **Semester VI**

#### **Advanced Learners Course III- Economics of Infrastructure (For Students admitted onwards from 2012-2013 and onwards)**

**Credit:3**

**Preamble:**

The Course

- Imparts knowledge about India's infrastructure and their importance of development
- Equips the students with information and knowledge to face competitive examinations.

**Module I:**

Introduction: Meaning and importance of Infrastructure- its role in economic development- Social and Physical Infrastructure – Public Utilities- Characteristics-Pricing Policies in Public Utilities.

**Module II:**

Energy: Role of Energy in economic development – Major sources of energy- Factors determining demand for energy- Effects of shortages in energy.

**Module III:**

Communication: Postal Services- Characteristics and Coverage- Telecommunications: Network, Telephone, tariff and pricing- Basic services and Cellular services- Computer-Internet connectivity and services.

**Module IV:**

Education: Education and Economic Growth; Education in India- Literacy, Elementary education, Secondary education, Higher education, technical education- Educational Policy in India, Problems of India's education system.

**Module V:**

Health: Health dimensions of development- Determinants of health- Poverty, malnutrition, illiteracy and lack of information, Inequalities in health- Class and gender perspectives- Rural health, Environment and health- Human Development Index.

**Books for Reference:**

Ruddar Datt and Sundaram, K.P.M : Indian Economy, S.Chand & Company Ltd.,  
New Delhi, 2006.

Misra, S.K. and Puri V.K. : Indian Economy- its Development Experience,  
Himalaya Publishing House, Mumbai, 2010.

India Infrastructure: Report by OUP

**This course is a self-study course.**

M.A Economics

**Semester Wise Distribution with Scheme of Examination**

(For the Candidates admitted during the Academic Year 2013-2014 & onwards)

Semester	Course	Credits	Duration of Exam Hrs(ESE)	Marks		Total
				CIA	ESE	
I	Core Course I – Advanced Micro Economics	5	3	25	75	100
	Core Course II – Mathematical Techniques for Economic Analysis	5	3	25	75	100
	Core Course III- Advanced Macro Economics	4	3	25	75	100
	Elective Course I- Management of Small Business	4	3	25	75	100
	Diploma Course Paper I- Introduction to Gender Studies	2	3	25	75	100
II	Core Course IV- Economics of Money and Financial Institutions	5	3	25	75	100
	Core Course V - Public Economics	5	3	25	75	100
	Core Course VI- Econometrics	4	3	25	75	100
	Core Course VII- Economics of Growth and Development	5	3	25	75	100
	Elective Course II –Health Economics	4	3	25	75	100
	Diploma Course Paper II-Feminism	2	3	25	75	100
	Advanced Learners Course I – Logistics Management	4**	3	-	-	100
III	Core Course VIII- Research Methodology in Economics	5	3	25	75	100
	Core Course IX- Statistical Techniques for Economic Analysis	4	3	25	75	100
	Statistical Techniques for Economic Analysis- Practical	2	3	40	60	100
	Core Course X – Operations Research	5	3	25	75	100
	Elective Course III Industrial Economics	4	3	25	75	100
	Diploma Course Paper III- Women in development	3	3	25	75	100
IV	Core Course XI- Export Procedures	5	3	25	75	100

	and Documentation					
	Core Course XII – Human Resource Management	5	3	25	75	100
	Core Course XIII- Environmental Economics	5	3	25	75	100
	Elective Course IV- Marketing Management	4	3	25	75	100
	Diploma Course Paper IV- Project	3	-	50	50	100
		4**	3	-	-	100
	Advanced Learners Course II –					
	Communication Skills for Business Management					

3.

Starred Credits are treated as additional Credits

### M. A. Economics Semester II

#### Advanced Learners Course I - Logistics Management

(For the candidates admitted during the academic year 2012-2013 and onwards)

**Credits: 4**

**Preamble:**

The aim of the course is to

- Know how a logistic strategy fits into an organization broader decisions.
- Understand the role of logistic providers.
- Realize the meaning of customer service and understand its importance to Logistics management.

**Module I**

Logistics- Definition - History and Evolution- Objectives-Elements-Activities-importance-The Work of logistics-Logistics interface with marketing-Retails Logistics-Emerging concept in Logistics.

**Module II**

Logistics Management-Definition-Achievement of Competitive Advantage through Logistics Framework-Role of Logistics management-Integrated Logistics Management-Evolution of the concept- model - process-activities (in brief).

**Module III**

Outsourcing Logistics-reasons-Third Party Logistics Provider-Fourth party Logistics Providers (4 pl)-Stages-Role of Logistics Providers.

**Module IV**

Logistics Strategy-Strategic role of Logistics-Definition-Role of Logistics managers in strategic decisions-Strategy options, Lean strategy, Agile Strategies & Other strategies-Designing & implementing Logistical Strategy.

**Module V**

Quality Customer Service & Integrated Logistics-Customer Service-Importance-Elements-the order cycle system-Distribution Channels-Functions performed-Types-Designing.

**Books for Reference:**

David J. Bloomberg, Stephen LeMay & Joe B. Hanna :Logistics, Prentice-Hall of India Pvt Ltd., New Delhi, 2003.

Donald J. Bowersox & David J. Closs	:Logistical Management, Tata Mc Graw Hill Publishing Co. Ltd, Delhi, 2004
Satish C. Ailawadi & Rakesh Singh	:Logistics Management, Prentice-Hall of India Pvt. Ltd., New Delhi, 2005
Donald Waters	:Logistics. Palgrave Macmillan, New York, 2004
Krishnaveni Muthiah	:Logistics Management & World Sea borne Trade, Himalaya Publishing House, Mumbai, 1999

**This Course is a self-study course.**

### **M A Economics Semester-IV**

#### **Advanced Learners Course II Communication Skills for Business Management**

(For the Candidates admitted during the academic year 2012-2013 & onwards)

**Credits: 4**

**Preamble:**

The objective of the course is

- ❖ To develop self-confidence in managing the business
- ❖ To equip the students with correct and effective Communication Skills for successful entrepreneurship.

**Module I:**

Communication - Meaning – importance - objective – Principles of communication – media of communication – barriers to communication.

**Module II:**

Oral Communication, Verbal, non verbal and audio- visual Presentation, Telephone. Skills and etiquettes.

**Module III:**

Written communication – functions and kinds of business letter – essentials of a business letter – Language and lay out of business letter – enquiries and replies - orders and their execution- credit and status enquiries – complaints and adjustments – collection letters – sales letters – office memo, circulars - Application letters.

**Module IV:**

Agency correspondence – Insurance - bank correspondence – correspondence with public authorities and other agencies. Drafting a company meeting notice – Resolution and minutes of a company meeting – letter to the editor of news papers.

**Module V:**

Report writing - importance - kinds – Characteristics of a good report - report by individuals and committees.

**Books for Reference:**

Rajendra Pal& J.S.Korlahalli	: Essentials of Business Communication, Sultan Chand and Sons, New Delhi, 1997.
Krishna Mohan & Meera Banerji	: Developing Communication Skills, Rajiv Beri for Macmillan Indian Ltd., Chennai, 1987
M.S.Ramesh&C.Pattenshetti	: Business Communication, S.Chand & Co, Delhi, 2000.
L.A.Woolcott & W.R Unwin	: Mastering Business Communication, Macmillan Education Ltd, Chennai.2002.
Reddy,Appannaiah Nagaraj and Raja Rao	]: Essentials of Business Communication, Himalaya Publishing House, New Delhi, 2003

**This course is self-study course**

**Curriculum Design**  
**SRI GVG VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**  
 Affiliated to Bharathiar University  
 Department of History  
**BA HISTORY**  
 Scheme of Examination – CBCS Pattern  
 (For the students admitted from the academic year 2017-18 onwards)

Course code	Course Title	Inst Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester I</b>							
117TA1/ 117MY1/ 117HD1/ 117FR1	<b>Part I -Tamil I</b>	6	3	25	75	100	4
117EN1	<b>Part II - English I</b>	6	3	25	75	100	4
117H01	<b>Part III</b> Core I- Main Currents in Indian History upto A.D. 647.	5	3	25	75	100	4
117H02	Core II- Main Currents in Indian History A.D. 647 - A.D 1526.	5	3	25	75	100	4
117AH1	Allied I- Introduction to Tourism.	6	3	25	75	100	4
117EVS	<b>Part IV- Environmental Studies.</b>	2	2	50	-	50	2
<b>Semester II</b>							
217TA2/ 217MY2/ 217HD2/ 217FR2	<b>Part I-Language II</b>	6	3	25	75	100	4
217EN2	<b>Part II- English II</b>	6	3	25	75	100	4
217H03	<b>Part III</b> Core III - Main Currents in Indian History A.D. 1526 - A.D.1707	5	3	25	75	100	4
217H04	Core IV- Main Currents in Indian History A.D1707 - A.D1857.	5	3	25	75	100	4
217AH2	Allied II- Learning with the Internet - Practical	6	3	40	60	100	4
217VEC	<b>Part IV-Value Education.</b>	2	2	50	-	50	2



Course code	Course Title	Inst Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester III</b>							
317TA3/ 317MY3/ 317HD3/ 317FR3	<b>Part I</b> -Language III	6	3	25	75	100	4
317EN3	<b>Part II</b> - English III	6	3	25	75	100	4
317H05	<b>Part III</b> Core V-Main Currents in Indian History A.D.1858 - A.D.1919.	3	3	25	50	75	3
317H06	Core VI-Main Currents in Indian History A.D. 1920-A.D.1965.	4	3	25	75	100	4
317AH3	Allied III – Modern Governments	6	3	25	75	100	4
317NHC	<b>Part IV</b> Non-Major Elective - History for Competitive Examination.	2	2	50	-	50	2
317HS1	Skill Enhancement Course -I- Tourism Industry - Travel Management.	3	3	75	-	75	3
<b>Semester IV</b>							
417TA4/ 417MY4/ 417HD4/ 417FR4	<b>Part I</b> – Language IV	6	3	25	75	100	4
417EN4	<b>Part II</b> – English IV	6	3	25	75	100	4
417H07	<b>Part III</b> Core VII - Main Currents in Indian History A.D. 1965 – A.D.2014.	4	3	25	75	100	4
417H08	Core VIII - History of Tamil Nadu upto A.D 1336.	3	3	25	50	75	3
417AH4	Allied IV- Indian Constitution	6	3	25	75	100	4
417NGA	<b>Part IV</b> General Awareness	-	1	50	-	50	2
417HS2	Skill Enhancement Course -II - Tourism Industry – Hospitality Management.	3	3	75	-	75	3
417GIS	Information security.	2	2	50	-	Grade	Grade
417ALH	Advanced Learners Course - I - Subject Viva Voce.	-	-	-	100	100	4*

Course code	Course Title	Inst Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester V</b>							
517H09	<b>Part III</b> Core IX - History of Tamil Nadu A.D 1336 - A.D.1806.	6	3	25	75	100	4
517H10	Core X- World History A.D 1453- A.D 1789.	6	3	25	75	100	4
517H11	Core XI - History of China and Japan A.D.1800- A.D.1970	5	3	25	75	100	4
517H12	Core XII– History of Science and Technology.	5	3	25	75	100	4
517HE1/ 517HE2	Elective I: Tourist Destinations In India. / Panchayt Raj.	5	3	25	75	100	4
517HS3	<b>Part IV - Skill Enhancement Course - III -Tourism Industry - Catering Services.</b>	3	3	75	-	75	3
<b>Semester VI</b>							
617H13	<b>Part III</b> Core XIII- History of Tamil Nadu A.D. 1807 - A.D.2016.	6	3	25	75	100	4
617H14	Core XIV - World History A.D.1789-A.D.2000.	6	3	25	75	100	4
617H15	Core XV –India and Her Neighbours.	5	3	25	75	100	4
617HE3 / 617HE4	Elective II : Tourist Destinations in Tamil Nadu / Sociology	5	3	25	75	100	4
617HE5/ 617HE6	Elective III : Women Studies / Temple Study	5	3	25	75	100	4
617HS4	<b>Part IV -Skill Enhancement Course - IV-Tourism Industry- Health Tourism</b>	3	3	75	-	75	3
617EX1/ 617EX2/ 617EX3/ 617EX4/ 617EX5	<b>Part V -Extension Activity.</b>	-	-	50	-	50	2
617ALH	Advanced Learners Course - II - Subject Viva Voce	-	-	-	100	100	4*
<b>TOTAL</b>						<b>3500</b>	<b>140</b>

- Starred credits are treated as additional credits, which are optional.

## B.A History-Semester II

**Credit: 4 Part III -Allied II - Learning with the Internet- Practical 117AH2**

**(For students admitted from the academic year 2017-18 onwards)**

### Objectives:

**Hours: 75**

- To familiarize the basics of Internet usage.
- To acquire the necessary skills in Information Technology.

### List of Programs

1. Create i) E-Mail-Id and customize it.  
ii) Group Mail-Id
2. Compose and send a mail
  - i) import and export documents / images through mail
  - ii) to a large number of recipients using cc and bcc options.
  - iii) save/retrieve documents in / from Google drive.
3. Upload your resume to a job portal.
4. Search the following using a search engine.
  - i) India Map – Political , Physical, States
  - ii) Boundaries of the various Indian Dynasties / Empires .
  - iii) Hill Stations in Tamilnadu
  - iv) Pilgrim centres of Hinduism/ Islam / Christianity in Tamilnadu.
  - v) Tourist centres in Tamilnadu.
  - vi) Historical Places in Tamilnadu.
5. Open and read newspaper sites, TV program schedule using Internet.
6. To verify a college details by opening their websites.
7. Purchase any product online.
8. Booking of tickets with
  - i) IRCTC(railways) and Travels
  - ii) Star Hotel
  - iii) Airlines
  - iv) Temples (TirupathiDevasthanam for Dharsan)
  - v) Hospital appointments
  - vi) CABs through Mobile App (eg. OLA ,UBER)
9. To Register and study any course in online through Educational website.

### Course Outcome

CO	CO Statement
CO1	Sound knowledge of Internet and its features.
CO2	Ability to navigate the Web and locate the information.
CO3	Ability to work online and establish a consultancy for web based services

### Mapping of CO with PO

CO	PO1	PO2	PO3	PO4	PO5	Knowledge level
CO 1	H	H	H	M	H	K
CO 2	H	H	H	M	H	U
CO 3	H	H	H	M	H	A

H- High  
M – Medium  
L – Low

K – Knowledge  
U - Understand  
A – Apply

Course Designed By :Mrs.S.Shenbagavalli.  
Course Reviewed By :Dr.V.K.Saraswathi.  
Checked By :Dr.R.Meera

**2017 -18 PG**

17MHE2 Elective II -Public administration  
17MHE4 Elective IV- World women Prominent Personality  
17MHE5 Elective III- Office Automation  
17MHE6 Elective VI-Museology  
17MHE8 Elective VIII-Epigraphy

**Curriculum Design**  
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**MA HISTORY**  
 Scheme of Examination – CBCS Pattern  
 (For the students admitted from the academic year 2017-18 onwards)

Course code	Course Title	Inst Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester I</b>							
17MH01	Core I – Social and Economic History of Tamilnadu upto A.D1800.	6	3	25	75	100	4
17MH02	Core II- History of the Freedom Struggle since A.D.1857.	6	3	25	75	100	4
17MH03	Core III- Constitutional History of India from A.D1773 - A.D 1947	6	3	25	75	100	4
17MH04	Core IV- Socio- Religious Reform Movements in India during 19 <sup>th</sup> & 20 <sup>th</sup> Century.	6	3	25	75	100	4
17MHE1/ 17MHE2	<b>Elective I: Journalism / Public Administration</b>	6	3	25	75	100	4
<b>Semester II</b>							
17MH05	Core V – Social and Economic History of Tamilnadu A.D 1800 to A.D 1996.	5	3	25	75	100	4
17MH06	Core VI – History of USA upto A.D 1865	5	3	25	75	100	4
17MH07	Core VII – Constitutional History of India from A.D.1947 - A.D.2015.	5	3	25	75	100	4
17MH08	Core VIII- History of Kongu Country.	5	3	25	75	100	4
17MH09	Core IX- Intellectual History of Tamilnadu.	4	3	25	75	100	4
17MHE3/ 17MHE4	<b>Elective II - Women in Development / World Women Prominent Personalities</b>	4	3	25	75	100	4
17MHIS	Internship.	-	-	50	-	50	2
17MGCS	Cyber security.	2	2	50	-	Grade	Grade
17MHA1	Advanced Learners Course -I- Subject Viva Voce.	-	-	-	100	100	4*

Course code	Course Title	Inst Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester III</b>							
17MH10	Core X- Historiography.	5	3	25	75	100	4
17MH11	Core XI- History of USA from A.D1865 to A.D.1989.	5	3	25	75	100	4
17MH12	Core XII – Archaeology.	5	3	25	75	100	4
17MH13	Core XIII- Contemporary history of India.	5	3	25	75	100	4
17MH14	Core XIV- International Relations I	5	3	25	75	100	4
17MHE5/ 17MHE6	Elective III: Office Automation / Museology	5	3	40/25	60/75	100	4
<b>Semester IV</b>							
17MH15	Core XV – Archives Keeping.	6	3	25	75	100	4
17MH16	Core XVI- International Relations II.	6	3	25	75	100	4
17MHE7/ 17MHE8	Elective IV - Human Rights / Epigraphy	6	3	25	75	100	4
17MHPV	Project.	-	-	-	200	200	8
17MHA2	Advanced Learners Course – II-Subject Viva Voce.	-	-	-	100	100	4*
<b>TOTAL</b>						<b>2250</b>	<b>90</b>

\*Starred credits are treated as additional credits, which are optional.

## M.A. History

### Semester - I

**Credit :4**

**Elective I- Public Administration**

**17MHE2**

**(For students admitted from the academic year 2017-18 onwards)**

**Objectives:**

**Hours: 75**

- To impart the basic knowledge on Public Administration
- To know various aspects of administrative work.
- To appear for civil Service Examinations.

**Unit I:** Nature and Scope of Public Administration- Importance of Public Administration – Central Secretariat -Role of Chief Secretary. (15 Hrs)

**Unit II :** Staff Agencies : P.M. Office – Role of NIT’s- Planning Commission. Line Agencies: UGC-Election Commission-Electoral reforms. (15 Hrs)

**Unit III :** Personnel Administration : Civil Services – Recruitment Methods – Recruiting Agencies – Power and Functions of UPSC – Staff selection Commission – State Public Service Commission. (15 Hrs)

**Unit IV :** Financial Administration: Concept of Budget, Preparation and enactment- Important Items in financial administration. (15 Hrs)

**Unit V :** Accounting & Auditing in India : Powers and Functions of the Comptroller & Auditor General of India – Estimate Committee – Public Accounts Committee. (15 Hrs)

### **Book for Study:**

H.R.Mukhi - Public Administration,SBD Publishers, New Delhi – 11006,2004.

### **Books for Reference:**

- 1.Vishnoo Bhagawan & Vidya Bhushan - Public Administration,S.Chand & Com Ltd, New Delhi ,2005.
- 2.Rumki Basu - Public Administratio - Concepts & Theories, Sterling Publishers Pvt.Ltd, New Delhi,2005.
- 3.Radhey Sheyam & Dr.R.S.Chaurasia - Public Administration, King Books Educational Publishers Delhi.
- 4.M.Lakmikanth - Public Administration for the UPSC Civil services Preliminary Examination”,Tata Mcgraw Hill Publishing Com.Ltd, New Delhi,2007.

Course Designed by : Dr.P.Siranjeevi.  
Course Reviewed by : Dr.S.Renuka Devi  
Checked by : Dr.V.K.Saraswathi.

## M.A. Economics

### Semester II

#### Elective II – World Women Prominent Personalities

17MHE4

(For the Students admitted from the academic year 2017-2018 onwards)

Credits: 4

Hours: 52

#### Course objectives:

The aim of the course is

- to develop the leadership qualities among the students community
- to enlighten the students how to lead their life excelled with courage, fortitude in public services

#### Unit I

(11 Hours)

Annie Besant: Childhood and Early Life- Entry into Public Life- Achievements. Aruna Asaf Ali: Contribution before and after Independence. Mother Teresa: Historical perspective- The renunciation – societal dedication. Sarada Devi- birth history – participation in private and public life.

#### Unit II

(10 Hours)

Vijayalakshmi Pandit: Childhood and adolescence- Her role in politics. Sarojini Naidu: Birth history and her poetic genius – association with great leaders. Rani Laxmi Bai: revolutionary ideas towards British forces. Indira Gandhi: Early history-contribution in Indian Administration.

#### Unit III

(10 Hours)

Meera Bai: Parentage and birth- her dedication in devotional life. M.S.Subbulakshmi – Participation in social, economic and religious life. Amirthanandhamayee - contribution towards education and culture. Marie Curie-contribution to science and technology.

#### Unit IV

(10 Hours)

Role and Participation of Margret Thatcher in British dynasty- Benazir Butto - Early life history- her contribution to politics. Life history of Chandrika Bandaranaike Kumaratunga. Winne Mandela in South Africa -active participation in world peace.

#### Unit V

(11 Hours)

21<sup>st</sup> century women leaders in India and their contribution - Indira Nooyi - Kiran Bedi- Medha Patkar- Kalpana Chawla- Irom Chanu Sharmila.

#### Books for Reference:

1. Dr.Gagan Jain D.Lit., Globe's Famous Women Personalities, Three Ess Publications, New Delhi, 2014.
2. Dr. Sudarshan Pruthi, Women Leaders in India, Raj Publications, New Delhi, 2012
3. Sharma A. 20 Great Women of India, Prashant Publications, Maharashtra, 2012.

Course Designed by : Dr.M.Meharbanu

Course Reviewed by : Dr.R.Radhika

Checked by : Dr.S.Sundaribai



**M.A. History**

**Semester - III**

**Credit :4 Elective III- Practicals – Office Automation**

**17MHE5**

**(For students admitted from the academic year 2017-18 onwards)**

**Objectives:**

**Hours: 75**

- To equip with computer skills
- To inculcate in-depth programming knowledge in MS Office.

**List of Programs**

**Word Processor**

1. Text creation and Manipulation
  - i. Paragraph and Tab setting
  - ii. Text Selection
  - iii. Cut, Copy and Paste
  - iv. Font and Size selection
  - v. Bold, Italic and Underline
  - vi. Alignment of Text: Center , left , right and Justify
2. Formatting the Text
  - 1.Changing Font, Size and Colour
  - 2.Paragraph Indenting
  - 3.Bullets and Numbering
  - 4.Use of Tab and Tab Setting
  5. Changing Case
3. Table Manipulation
  1. Creation of Rows, columns and Cells
  2. Draw table
  3. Changing Cell width and height
  4. Alignment of text in Cell
  5. Copying of Cell
  6. Delete / insertion of rows and Columns
4. Prepare a Timetable.
5. Prepare a Resume.
6. Using the concept of Mail Merge
  - i) Blood donation Camp
  - ii) Seminar Organisation

## **Spreadsheet**

7. Prepare a mark list of a class for 5 subjects and consolidate by using the formula:  
Sum, Average, Max, Min, Count.
8. Create Employee details using Sort and Filter.
9. Prepare Student Information.

## **Presentation**

10. Prepare Power point slides regarding Sports Day (Use Hyperlink).
11. Prepare slides using Custom Animation.
12. Prepare slides using animation effects.

## **Internet**

13. Create a Group Mail-Id and Send a mail by attaching files.
14. Store and Surf the documents in Google drive.
15. Check Plagiarism using tools.
16. Search the tourist/ pilgrim centres of a particular country.

Course Designed by :Mrs.S.Shenbagavalli.  
Course Reviewed by :Dr.V.K.Saraswathi.  
Checked by :Dr.R.Meera.

## **M.A. History**

### **Semester - III**

### **Elective III - Museology**

**Credit :4**

**17MHE6**

**(For students admitted from the academic year 2017-18 onwards)**

#### **Objectives:**

**Hours: 75**

- To expose the students to the preservation and Conservation of Museum objects.
- To Motivate the students to choose the interesting profession of Museum organization and Management

**Unit I:** Museology: Origin – Definition - Aim and Scope – Importance. History of Museum Movement in India: Early phase – British period – after the independence. (15 Hrs)

**Unit II** Different kinds of Museums - Archaeological, Natural History – Ethnological Museum; important museums in India : Nalanda archaeological Museum – National gallery of Modern art, New Delhi - Sri Meenakshi Sundereswarar Museum, Madurai – Jalar Jung Museum, Hyderabad. (15 Hrs)

**Unit III** Indian Legislative Measures relating to Museum Objects – Treasure trove Act, ancient monuments and sites preservation Act, Antiquities export control Act, Antiquities registration Act. (15 Hrs)

**Unit IV** Acquisition and display of objects – Preparation of Cards, Registers and other documents. (15 Hrs)

**Unit V** Museum Organization and Management – Curator - Security Measures and Upkeeps - Preservation and Conservation of Museum Objects. (15 Hrs)

**Books for Reference:**

1. G. Sethuraman - Museum And Its Technique, Sastha Publications, Madurai, 1996.
2. O.P. Agarwal - Preservation of Art Objects and Library Materials, National Book Trust, New Delhi, 1993.
3. Jitendra Nath Basu - Indian Museums Movement, Benson's Publisher, the University of Virginia, 1965.
4. Benjamin Ives Gilman - Museum Ideals, Purpose and Method, Biblio Bazaar Publisher, South Carolina, 2014
5. N. Harinarayana & V. Jeyaraj - Care of Museum Objects, Government Museum, Madras, 1995.
6. C. Sivarama Murthi - Directory of Museums in India, (Tamil), Government of Tamilnadu, Madras, 1963.

Course Designed by :Dr.S.Renukadevi.  
Course Reviewed by :Dr.V.K.Saraswathi.  
Checked by :Dr.R.Meera.

**M.A. History  
Semester - IV**

**Credit : 4 Elective IV – Epigraphy 17MHE8  
(For students admitted from the academic year 2017-18 onwards)**

**Objectives: Hours:75**

- To create an interest among the students on ancient History.
- To make the study of History in scientific way on the basis of Epigraphy.
- To get job opportunities in Archaeological Departments, Museums, Art Gallery etc.

**Unit I:** Meaning and Classification – Inscriptions as Historical source material – Writing materials: Metals – other Substances than Metal. (15 Hours)

**Unit II:** Inscriptions of Asoka: Rock Edicts – Pillar Edicts – Cave inscriptions – Historical importance of Asokan edicts. (15 Hours)

**Unit III:** Scripts: Evolution of Brahmi Script – James Prinsep – Tamil Brahmi Cave Inscription in Tamilnadu – Grantha and Vatteluttu Script – Techniques of Estampages. (15 Hours)

**Unit IV:** Inscription of South India: Uttaramerur Inscription- Pallava Copper Plates- The Pandiyan , Copper Plates - Copper Plates of the Imperial Cholas. (15 Hours)

**Unit V:** Post Asokan Inscriptions: Allahabad Pillar Inscriptions and its Historical significance – Girnar Rock Inscription of Rudradaman. (15 Hours)

**Books for Reference:**

1. Vincent A. Smith - India its Epigraphy, Antiquities Archaeology, Numismatics and Architecture, ESS ESS Publications, Delhi, 1975.
2. N. Subramanian & R. Venkatraman - Tamil Epigraphy A survey, ENNES Publications, Madurai 1980 .
3. R. Venkatraman - Indian Archaeology- A Survey, ENNES Publications, Udumalpet, 1999.

Course Designed By : Dr. V. K. Saraswathi.  
Course Reviewed By : Mrs. S. Shenbagavalli.  
Checked By : Dr. R. Meera

**2015-16**

15MH02

Core I - Social economic History of Tamilnadu Upto 1800

15MH04

Core IV- Socio religious reform movement in India during 19th and 20th cen

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 Affiliated to Bharathiar University  
 Department of History  
**BA HISTORY**  
 Scheme of Examination – CBCS Pattern  
 (For the students admitted from the academic year 2015 – 16 onwards)

Course code	Course Title	Inst Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester I</b>							
115TA1/ 115MY1/ 115HD1/ 115FR1	<b>Part I -Tamil I</b>	6	3	25	75	100	4
115EN1	<b>Part II - English I</b>	6	3	25	75	100	4
115H01	<b>Part III</b> Core I- Main Currents in Indian History upto A.D. 647.	5	3	25	75	100	4
115H02	Core II- Main Currents in Indian History A.D. 647 - A.D 1526.	5	3	25	75	100	4
115AH1	Allied I- Introduction to Tourism.	6	3	25	75	100	4
115EVS	<b>Part IV- Environmental Studies.</b>	2	2	50	-	50	2
<b>Semester II</b>							
215TA2/ 215MY2/ 215HD2/ 215FR2	<b>Part I-Language II</b>	6	3	25	75	100	4
215EN2	<b>Part II- English II</b>	6	3	25	75	100	4
215H03	<b>Part III</b> Core III - Main Currents in Indian History A.D. 1526 - A.D.1707	5	3	25	75	100	4
215H04	Core IV- Main Currents in Indian History A.D1707 - A.D1857.	5	3	25	75	100	4
215AH2	Allied II - Cultural Tourism in India.	6	3	25	75	100	4
215VEC	<b>Part IV-Value Education.</b>	2	2	50	-	50	2

Course code	Course Title	Inst Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester III</b>							
315TA3/ 315MY3/ 315HD3/ 315FR3	<b>Part I</b> -Language III	6	3	25	75	100	4
315EN3	<b>Part II</b> - English III	6	3	25	75	100	4
315H05	<b>Part III</b> Core V-Main Currents in Indian History A.D.1858 - A.D.1919.	3	3	25	50	75	3
315H06	Core VI-Main Currents in Indian History A.D. 1920-A.D.1966.	4	3	25	75	100	4
315AH3	Allied III – Modern Governments	6	3	25	75	100	4
315HS1	<b>Part IV</b> Skill Based Course -I-Tourism Industry - Travel Management.	3	3	75	-	75	3
315NHC	Non-Major Elective Course I - History for Competitive Examination.	2	2	50	-	50	2
<b>Semester IV</b>							
415TA4/ 415MY4/ 415HD4/ 415FR4	<b>Part I</b> – Language IV	6	3	25	75	100	4
415EN4	<b>Part II</b> – English IV	6	3	25	75	100	4
415H07	<b>Part III</b> Core VII - Main Currents in Indian History A.D. 1966 – A.D.2004.	4	3	25	75	100	4
415H08	Core VIII - History of Tamil Nadu upto A.D 1336.	3	3	25	50	75	3
415AH4	Allied IV- Indian Constitution	6	3	25	75	100	4
415HS2	<b>Part IV</b> Skill Based Course -II - Tourism Industry - Hotel Management.	3	3	75	-	75	3
415NGA	Non-Major Elective Course -II General Awareness (Online).	-	1	50	-	50	2
415GIS	Information security.	2	2	50	-	Grade	Grade
415ALH	Advanced Learners Course - I -Subject Viva Voce.	-	-	-	100	100	4*

Course code	Course Title	Inst Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester V</b>							
515H09	<b>Part III</b> Core IX - History of Tamil Nadu from A.D 1336 to A.D.1806.	6	3	25	75	100	4
515H10	Core X- World History A.D 1453- A.D 1789.	6	3	25	75	100	4
515H11	Core XI - History of China and Japan A.D.1800- A.D.1970	5	3	25	75	100	4
515H12	Core XII– History of Science and Technology.	5	3	25	75	100	4
515HE1	Elective I - Tourist Destinations In India.	5	3	25	75	100	4
515HS3	<b>Part IV - Skill Based Course - III -Tourism Industry - Catering Services.</b>	3	3	75	-	75	3
<b>Semester VI</b>							
615H13	<b>Part III</b> Core XIII- History of Tamil Nadu A.D. 1807 - A.D.1996.	6	3	25	75	100	4
615H14	Core XIV- World History A.D.1789-A.D.2000.	6	3	25	75	100	4
615H15	Core XV –India and Her Neighbours.	5	3	25	75	100	4
615HE2	Elective II – Tourist Destinations in Tamil Nadu.	5	3	25	75	100	4
615HE3	Elective III – Women Studies	5	3	25	75	100	4
615HS4	<b>Part IV -Skill Based Course - IV-Tourism Industry- Health Tourism</b>	3	3	75	-	75	3
615EX1/ 615EX2/ 615EX3/ 615EX4/ 615EX5	<b>Part V</b> -Extension Activities.	-	-	50	-	50	2
615ALH	Advanced Learners Course - II - Subject Viva Voce	-	-	-	100	100	4*
<b>TOTAL</b>						<b>3500</b>	<b>140</b>

Starred credits are treated as additional credits, which are optional.

## B.A History

### Semester I

**Credit: 4**      **Part III - Core I- Main Currents in Indian History upto A.D. 647**      **115H01**  
**(For students admitted from the academic year 2015-16 onwards)**

**Preamble:**      **Hours: 75**

- To impart basic knowledge in geographical features and ancient civilization of India.
- To know the political and social history of ancient India

**Unit I:** The Effect of Geography on Indian History- The Indus Valley Civilization-The Vedic Age - The Aryans- Society - The Caste system. (15 Hrs)

**Unit II:** Alexander's Invasion - Impact –The Rise of the Mauryan Empire - Asoka - Buddhism – Administration. (15Hrs)

**Unit III:** Kanishka – Gandhara Art - The Age of the Gupta: Chandra Gupta I -Samudra Gupta- Chandra Gupta II –Administration. (15Hrs)

**Unit IV:** Golden Age - Society -Economy – Culture – literary Activities –Art and Architecture - Decline of the Guptas. (15Hrs)

**Unit V:** Harshavardhana – Conquest – Buddhism- Society - Economy – Literature - The Satavahanas- Society and Culture. (15Hrs)

**Map Study: 1.** The Physical features of India      **2.** Gupta Empire

#### Book for Study:

1. R.K.Majumdar & A.L.Srivastva - An Easy Approach to Indian History (From Earliest times to 1526 A.D)BD Publishers,New Delhi,2009.

#### Books for Reference:

1. J.C. Aggarwal - The Ancient Indian History,S.Chand &Co,New Delhi,2009.
- 2 A.L.Bhasham - The Wonder that was India ,Rupa &Co., New Delhi, 2000.
3. Dr.Hans Raj - Advanced History of India, SurjeetPublications, New Delhi, 2013.
4. John Clark Makshman - History of India,Akansha Publishers,Delhi,2005
5. S.C.Raychaudry - Social Cultural and Economic History of India: (Ancient Times to 1526),Surjeet Publications,New Delhi,2013.

Course Designed By : Mrs.P.Karpagavalli.  
Course Reviewed By : Dr.S.Renuka Devi.  
Checked By : Mrs.S.Shenbagavalli



## B.A History

### Semester I

**Credit: 4 Part III - Core II- Main Currents in Indian History A.D. 647- A.D. 1526. 115H02**  
**(For students admitted from the academic year 2015-16 onwards)**

**Preamble:**

**Hours: 75**

- To provide the background for understanding about the enrichment of Indian spirit through the ages.
- To make them imbibe the value of heroic qualities, selfless services and marvelous leadership.

**Unit I:** Rajputs: Origin –Society and Economy–Arab conquest of Sind–Mahamud of Ghazni-  
Mahamud of Ghor. (15Hrs)

**Unit II:** The Sultanate of Delhi: Qutb-ud-din-Aibak- Iltumish - Razia- Balban. (15Hrs)

**Unit III:** Alauddin khilji - Malik Kafur's invasion - Muhammad Bin Tughlaq -Firuz Tughlaq.  
(15Hrs)

**Unit IV:** Timur's invasion - Sikandar Lodi - Ibrahim Lodi - First Battle of Panipat-  
Decline of the Delhi Sultanate. (15Hrs)

**Unit V:** Delhi Sultanate: Administration - Social and Economic Condition –  
Architecture - Bhakti Movement - Vijayanagar and Bhamani Kingdom. (15Hrs)

**Map study:** 1. Empire of Balban. 2. Empire of Muhammad Bin Tughlaq.

### Book for study

1.R.K.Majumdar &A.L.Srivastva - An Easy Approach to Indian History,SBD Publishers,  
New Delhi, 2009.

### Books for Reference:

1. Dr.Hans Raj - Advanced History of India,Surjeet Publications,New Delhi,2013.
2. John Clark Makshman - History of India,Akansha Publishers, Delhi, 2005.
3. S.C.Ray Choudhri - Social Cultural and Economic History of India: (Ancient Times to  
1526),Surjeet Publications,New Delhi,2013.

Course Designed By :Mrs.P.Karpagavalli.

Course Reviewed By :Dr.S.RenukaDevi.

Checked By :Mrs.S.Shenbagavalli.

## B.A History

### Semester I

**Credit: 4 Part III -Allied I- Introduction to Tourism 115AH1**  
**(For students admitted from the academic year 2015-16 onwards)**

**Preamble:**

**Hours: 75**

- To impart the basic facts about Tourism.
- To provide a simple and comprehensive outline of various dimensions of tourism.

**Unit I:** Definition: Tourism - Tourist Motivations - Forms of Tourism - Basic Components - Elements. (15Hrs)

**Unit II:** History of Tourism: The Romans-Medieval Times - Industrial Revolution - Origin of Modern Travel Agency. (15Hrs)

**Unit III:** Travel Through the Ages: Accounts of Famous Travelers - Pleasure Travel – Religious purpose - The Grand Tour - Annual Holiday - Paid Holidays - Mass Tourism. (15Hrs)

**Unit IV:** Socio-Economic importance of Tourism: Economic Impact – Positive Social Impact - Adverse Effects - India as a Tourist Paradise. (15Hrs)

**Unit V:** Tourism Administration of India: Ministry of Tourism - ITDC - State Tourism Departments- TTDC. (15Hrs)

**Book for Study:**

1.M.A.Khan - Introduction To Tourism ,Anmol Publications, New Delhi,2005.

**Books for References:**

1. R.Abbas - Tourism and Travel Management, Izad Publications, Madurai, 2006.
2. A.K.Bhatia - International Tourism Management, Sterling Publishers New Delhi, 2003.
3. Manohar Bhardwaj - Cultural and Traditional History of India , Cyber Tech Publications, New Delhi, 2008.
4. Manohar Bhardwaj - A Modern Book on Art and Culture, Cyber Tech Publications, New Delhi, 2009.
5. A.Vijay Kumar - Indian Tourism Industry ,Sonali Publications,Delhi,2009.

Course Designed By :Dr.S.RenukaDevi.

Course Reviewed By :Mrs.S.Shenbagavalli.

Checked By :Dr.S.Renuka Devi

**B.A. History**

**Semester II**

**Credit: 4 Part III - Core III - Main Currents in Indian History A.D. 1526 - A.D. 1707 215H03**

**(For students admitted from the academic year 2015-16 onwards)**

**Preamble**

**Hours: 75**

- To know the significant phases of the Mughal India
- To derive inspiration for the present and guidance for the future.

**Unit I:** India on the Eve of Babur's Invasion – Babur – Humayun – Sher Shah: Administration. (15Hrs)

**Unit II:** Akbar: Rajput Policy - Conquest- Din-I-Ilahi- Mansabdari System – Jahangir – Nurjahan. (15Hrs)

**Unit III:** ShahJahan- Golden Period - Aurangzeb: Conquest - Religious policy – Rajput policy. (15Hrs)

**Unit IV:** Rise of the Marathas: Shivaji – Conquest – Coronation - Carnatic Expedition - Administration. (15Hrs)



Course Designed By :Mrs.S.Shenbagavalli.  
Course Reviewed By :Mrs.P.Karpagavalli  
Checked By : Dr.V.K.Saraswathi.

**B.A. History**  
**Semester II**

**Credit:4 Part III – Allied II - Cultural Tourism in India 215AH2**  
**(For students admitted from the academic year 2015-16 onwards)**

**Preamble: Hours: 75**

- To know the various components of cultural Heritage.
- To inculcate the responsibility of a citizen in preserving the unique culture of India.

**Unit I:** Indian Dances: Kuchipudi-Bharatanatyam –Kathak – Kathakali – Manipuri – Mohiniattam. (15Hrs)

**Unit II:** Indian Dance Festivals: Khajuraho – Konark – Mamallapuram Utsav – Natyanjali – Nishagandhi – Elephanta. (15Hrs)

**Unit III:** Indian Music: Hindustani - Carnatic - Indian Musical Instrument – Music Festivals. (15Hrs)

**Unit IV:** Indian Fairs: Kumbhamella-Sonepur Cattle Fair – Rajasthan Camel Fair- Indian Festivals: Holi- Ganesh Chaturthi – Dussehra - Diwali - Pongal. (15Hrs)

**Unit V:** Indian Painting: Ajantha - Sittanavasal – Tanjore - The Mughal School of Painting – Rajput School of Painting. (15Hrs)

**Book for Study:**

1. Lavkush Mishra - Cultural Tourism in India, Mohit Publications, New Delhi, 2005.

**Books for Reference:**

1. Ashok Singh - Cultural Tourism in India, Raj Book Enterprises, Jaipur, 2002.
2. Manohar Bhardwaj - Cultural and Traditional History of India -, Cyber Tech Publications, New Delhi, 2008.
3. Manohar Bhardwaj - A Modern Book on Art and Culture ,Cyber Tech Publications, New Delhi, 2009.

Course Designed by :Dr.S.RenukaDevi.  
Course Reviewed by :Mrs.P.Karpagavalli.  
Checked by :Dr.V.K.Saraswathi.

**B.A. History**  
**Semester III**

**Credit:3 PartIII- Core V-Main Currents in Indian History A.D.1858–AD.1919 315H05**  
**(For students admitted from the academic year 2015-16 onwards)**

**Preamble: Hours: 38**

- This paper deals with the moral and material progress of the British rule in India.
- To enlighten the students on National Movement.



**Unit IV:** Integration of Princely States: Role of Sardar Vallabhai Patel- Kashmir - Junagath - Hyderabad-The Linguistic Reorganization of the States – Dar Commission – Formation of Andhra – States Reorganisation Commission. (10 Hrs)

**Unit V:** Nehru’s Administration-Five year Plans-Foreign Policy-Lal Bahadur Sastri-Indo-Pak War 1965-Tashkant Declaration 1966. (10 Hrs)

**Map Study:**

1.Centres of National Movement.( Lahore, Amristar, Dandi, Calcutta, Bombay, Chennai, Surat, Poona, Lucknow, Delhi, Allahabad, Porbandar, Gujarat, Dacca, Chauri Chaura, Nagpur)

2. Integration of Princely States.

**Book for Study:**

G.Venkatesan -History of Contemporary India 1947- 2004, V.C Publications, Rajapalayam, 2005.

**Books for Reference:**

1. J.C. Agarwal -The Modern Indian History, S.Chand & Co, New Delhi 2009.
2. Four Authors - Simple History of India (Since 1526), SBD Publishers, New Delhi, 2008.
3. S.C.Raychoudhary -History of India (1526 to Present Times), Surjeet Publications, New Delhi, 2013.

Course Designed by : Mrs. P.Karpagavalli

Course reviewed by : Dr.V.K.Saraswathi

Checked by : Dr.R.Meera

**B.A. History  
Semester III**

**Credit: 4                      Part III - Allied III- Modern Governments                      315AH3**  
**(For students admitted from the academic year 2015-16 onwards)**

**Preamble:** **Hours: 75**

- The paper focuses on the political process and the actual functioning of the political system.
- It imparts knowledge on the major constitutions of the world by adopting a comparative approach.

**Unit I:** Constitution-Types – Written and Unwritten – Rigid and Flexible – Unitary and Federal – Presidential and Parliamentary. (15 Hrs)

**Unit II:** Constitution of England – Salient Features – Executive: The Crown: Position and Powers – The Cabinet – Functions – Prime Minister and his Powers. (15 Hrs)

**Unit III:** Legislature: House of Lords – House of Commons – Structure and Functions- Speaker and his Powers – Judiciary: Organisation. (15 Hrs)

**Unit IV:** Constitution of USA: Salient Features – President: Powers and Functions. Vice-President: Powers. Legislature: Senate – House of Representatives. (15Hrs)

**Unit V:** Constitution of Switzerland: Salient Features – The Federal Council – Federal Assembly: The National Council – The Council of States – Federal Tribunal. (15 Hrs)

**Book for Study:**

Dr.P.Gomathynayagam & D.Ebi James - Modern Governments, Tensy Publications, Sivakasi, 2013.

**Books for References:**

1. Dr.J.Kasthuri - Modern Governments, ENNS Publications, Udumalpet, 1998.
2. K.K.Ghai - Comparative Governments, Kalyani Publishers, Delhi, 2010.
3. Vishnuo Bhagwan & Vidya Bhusan - World Constitution, Sterling Publishers, 2002.

Course Designed by :Dr.R.Meera  
Course Reviewed by :Dr.S.RenukaDevi  
Checked by :Dr.V.K.Saraswathi

**II UG Course  
Semester III****Part IV - Non-Major Elective Course - I - History for Competitive Examination**

**Credit: 2** **315NHC**

**(For students admitted from the academic year 2015-16 onwards)**

**Preamble:** **Hours: 26**

- To appear for Competitive Examinations
- To get basic Knowledge in Indian History

**Unit I:** Sources - Indus Valley Civilization - Vedic Civilization – Alexander’s Invasion- Mauryas – Guptas- Harshavardhana – Pallavas – Cholas. (6 Hrs)

**Unit II:** Delhi Sultanate – Vijayanagar – Bahmini - Bhakthi Movement. (5 Hrs)

**Unit III:** Babur – Sher Shah – Akbar – Shahjahan – Aurangzeb. (5 Hrs)

**Unit IV:** Robert Clive –Warren Hastings – Cornwallis – Wellesley – Bentinck – Dalhousie – Sepoy Mutiny. (5 Hrs)

**Unit V:** Nationalism-Moderates - Extremists - Gandhian Era -Indian Constitution. (5 Hrs)

**Book for Study:**

J.C. Aggarwal - The Ancient, Medieval & Modern Indian History, S.Chand &Co, New Delhi, 2009.

**Books for Reference:**

1. Shailesh Chandra - Medieval India (1200 – 1800), Alfa Publicatios, NewDelhi, 2009.
2. J.Thiagarajan & Gandhidasan -History of Contemporary India upto 2006 , Prabha Publications, Madurai.
3. Pramod Singh Parashar -Trueman’s Indian History, Kanishka Publications, New Delhi.
4. Chakravarthy - Freedom Fighters of India, Crest Publishing House, Delhi, 1999.

Course Designed By :Mrs.S.Shenbagavalli.  
Course Reviewed By :Dr.S.RenukaDevi  
Checked By : Dr.R.Meera

## B.A. History

### Semester IV

**Credit:4 Part III - Core VII- Main Currents in Indian History - A.D. 1966 – A.D. 2004 415H07**  
(For students admitted from the academic year 2015-16 onwards)

#### Preamble:

**Hours: 52**

- To know the political history of Independent India.
- To know the development of free India.

**Unit I:** Mrs.Indira Gandhi's Administration: Kitchen Cabinet - Bank Nationalisation– Abolition of Privy Purses- Indo-Pak War of 1971 – The Emergency. (11 Hrs)

**Unit II:** - Janata Party Rule : Moraji Desai –Indira Gandhi and Punjab Crisis- Rajiv Gandhi :Bhopal gas Tragedy -New Educational Policy - Panchayat Raj - Scandals. (11 Hrs)

**Unit III:**V.P. Singh: The Mandal Commission - Chandra Shekar - P.V.Narasimha Rao - Cauvery Water Dispute - Demolition of Babri Masjid - Panchayat Raj: 73rd Constitutional Act. (10 Hrs)

**IV** United Front Government: H.D. Deve Gowda – I.K Gujaral- NDA: BJP led Government: Atal Behari Vajpayee -I Term: Pokhran II Test –ICHR Controversy- Kargil War. (10 Hrs)

**Unit V:** Vajpayee- II Term: Times of Troubles – Gujarath Pogrom - POTA - Reforms:Interlinking of Rivers – Golden Quadrilateral. (10 Hrs)

**Map Study: 1.** Indo- Pak War. **2.** Kargil War.

#### Book for Study:

G.Venkatesan -History of Contemporary India 1947- 2004, V.C Publications, Rajapalayam, 2005.

#### Books for Reference:

1. J.C. Agarwal - The Modern Indian History,S.Chand &Co, New Delhi2009.
2. Four Authors - Simple History of India (Since 1526) ,SBD Publishers, NewDelhi, 2008.
3. S.C.Raychoudhary - History of India (1526 to Present Times)-, Surjeet Publications, New Delhi,2013.

Course Designed by : Mrs. P.Karpagavalli

Course reviewed by : Dr.V.K.Saraswathi

Checked by : Dr.R.Meera

## B.A. History

### Semester IV

**Credit: 3 Part III - Core VIII–History of TamilNadu Upto A.D.1336 415H08**  
(For students admitted from the academic year 2015-16 onwards)

#### Preamble:

**Hours: 38**

- To enlighten on the history of early Tamilnadu.
- To emphasize the social and economic conditions of early Tamil Nadu.

**Unit I:** Geography of Tamil Country– Sources– Sangam Age: Political- Social- Economic and Religious Condition. (8Hrs)



**Unit II:** Kalabhras– Origin of the Pallavas – Early pallavas - Mahendravarman I – Narasimhavarman I-relations with Chalukyas. (8Hrs)

**Unit III:** Administration of Pallavas- Social &Economic Condition – Bhakti Movement- Art & Architecture – Education Literature. (7Hrs)

**Unit IV:** Imperial Cholas- Vijayalaya - - Rajaraja I – Rajendra I - Kulotunga I – Local Administration – Saivism – Society - Literature- Art and Architecture. (8Hrs)

**Unit V:** Second Pandya Empire: Maravarman Sundarapandya I – Jatavarman Sundarapandya I – Maravarman Kulasekara Pandya I – Social and Economic Condition – Accounts of Marco Polo - The Muslim Conquest: Invasion of Malikkafur –Impact of Muslim Rule. (8Hrs)

**Map Study:** 1.Geography of Tamil Nadu                      2.Chola Empire

**Book for Study:**

Dr.A.Devanesan                      -                      History of Tamilnadu, Renu Publications, Marthandam, 2000.

**Books for Reference:**

- 1.K.Rajayyan                      - Tamil Nadu:A Real History,Ratna Publications,Trivandrum,2005.
2. K.A. NilakantaSastri                      - History of South India (From PrehistoricTimes to the fall of Vijayanagar), Oxford University Press, 2009.
3. N. Subrahmanian                      - Social and Cultural History of Tamil Nadu upto 1336 A.D., Ennes Publications, Udumalpet, 1991.
4. A. Swaminathan                      - History of Tamil Nadu,DeepaPathippagam, Madras, 1993.
- 5.K.K.Pillai                      - Historical Heritage of the Tamils,MJP Publishers,Chennai,2008.

Course Designed by                      :Dr.V.K.Saraswathi.

Course Reviewed by                      :Dr.S.Renuka Devi

Checked by                      :Mrs. S.Shenbagavalli.

**B.A. History  
Semester – IV**

**Credit: 4                      Part III - Allied IV- Indian Constitution                      415AH4  
(For students admitted from the academic year 2015-16 onwards)**

**Preamble:                      Hours: 75**

- To study in detail the political structure in India- both constitutional and administrative.
- To sketch the features of the constitution and groom the students as responsible citizens.

**Unit I:** The Constituent Assembly – Salient Features of the Indian Constitution - Fundamental Rights – Fundamental Duties – Directive Principles of State Policy. (15Hrs)

**Unit II:** Executive: The President: Qualification – Election –Powers and Functions – Vice-President – Prime Minister: Position and Powers – The Council of Ministers. (15Hrs)

**Unit III:** Indian Parliament: Lok Sabha: Composition and Powers – Speaker – Position and powers. Rajya Sabha: Composition and Powers –Chairman. (15Hrs)

**Unit IV:** Judiciary: Supreme Court: Organisation – Powers – High Court - Organisation – Powers – Lok Adalat- Family Courts. (15Hrs)

**Unit V:** Government of the State: Governor – Chief Minister – Council of Ministers – State Legislatures: Legislative Assembly – Legislative Council. (15Hrs)

**Book for Study:**

Dr.P.Gomathynayagam - Modern Governments, Tensy Publications, Sivakasi, 2013.  
& D. Ebi James

**Books for References:**

1. Biswaranjan Mohanty - Constitution Government and Politics in India, New Century Publications, New Delhi, 2009.
2. Durga Das Basu - Introduction of the Constitution of India, Publication of Lexis Nexis, Gurgaon, 2013, New Delhi, 1995.
3. Dr.S.K.Goel - An Introduction to the Constitution of India, Arise Publishers, New Delhi, 2012.
4. B.S.Raman - Indian Constitution, United Publishers, Mangalore, 2010.

Course Designed by :Mrs.S.Shenbagavalli

Course Reviewed by :Dr.S.RenukaDevi

Checked by : Mrs.P.Karpagavalli

**B.A. History  
Semester – IV**

**Part III – Advanced Learners Course I- Subject Viva Voce 415ALH**

**Preamble:**

- To enable the students develop communicative Skills.
- To acquire thorough knowledge in the subjects helping them to excel in teaching profession.

A Subject viva voce is to be taken by the candidate covering the Core and Allied Subjects of Fourth Semester. The viva voce is to be conducted by the external and internal examiners for 100 marks.

**B.A. History  
Semester V**

**Credit: 4 Part III - Core IX – History of Tamil Nadu from A.D 1336 to A.D.1806 515H10  
(For students admitted from the academic year 2015-16 onwards)**

**Preamble:**

**Hours: 75**

- The paper presents the political and cultural history of Tamil Nadu from A.D.1336 to 1806.
- To know the rise of nationalism in Tamilnadu.

**Unit I:** Tamilnadu under Vijayanagar – Kumara Kampana – Conquest of Madurai and Tanjore- Battle of Talaikota–Social and Economic condition - Administration. (15Hrs)

**Unit II:** Nayaks of Madurai: Viswanatha – Thirumalai – Chokkanatha –Rani Mangammal – Meenakashi. Nayaks of Tanjore: RagunathaNayak. Nayaks of Senji :KrishnappaNayak II – Nayak Administration – Art and Architecture. (15Hrs)

**Unit III:** Nawab of Arcot : Administration- Sethupathis of Ramnad: KilavanSethupathi–RagunathaSethupathi - KilavanSethupathi - Marathas of Tanjore- Education – Culture. (15Hrs)

**Unit IV:** Europeans on the Coromandal: Portuguese – Dutch – Danes – French- English- Hyder Ali - Tipu sultan. (15Hrs)

**Unit V:** Rise of Polygars : : Kattabomman – Maruthu Brothers – South Indian Rebellion – Vellore Mutiny. (15Hrs)

**Map Study:** 1. Centres of South Indian Rebellion 2. Important centers of Nayaks of Madurai.

**Book for Study:**

1. Dr.A.Devanesn - History of Tamilnadu,Renu Publications,Marthandam,2000.

**Books for Reference:**

1. K.Rajayyan -“Tamil Nadu:A Real History”,Ratna Publications,Trivandrum,2005.
2. Dr.P.Rajaraman - Chennai Through the Ages, Poompozil publishers,Chennai,1997.
3. R.EdinRajan& D.Gunasekar - History of Tamil Nadu ,ChandarPublications,Madurai, 1978
- 4.N. Subrahmanian -History of Tamilnadu (1336-1984),Ennes Publications, Udumalpet ,2007.
5. A. Swaminathan - History of Tamil Nadu, DeepaPathippagam, Madras, 1991.

Course Designed by :Dr.V.K.Saraswathi.

Course Reviewed by :Dr.S.Renuka Devi

Checked by :Mrs. S.Shenbagavalli.

**B.A History  
Semester-V**

**Credit:4 Part III - Core X – World History A.D 1453 - A.D1789 515H09**

**(For students admitted from the academic year 2015-16 onwards)**

**Preamble:**

**Hours: 75**

- To know the features of the ancient and medieval World.
- To relate the age of reason and its importance to the present day life.

**Unit I:** Fall of Constantinople – Geographical Discoveries – Fall of Feudalism – Rise of National Monarchies. (13Hrs)

**Unit II:** Renaissance - Scientific Inventions- Reformation in Germany – Reformation in other parts of Europe – Counter Reformations. (13Hrs)

**Unit III:** Louis XIV of France - Peter the Great – Catherine II – Frederick the Great – Characteristic features of the Age of Absolutism. (13Hrs)

**Unit IV:** Coming of Europeans – Establishment of Colonies: China – Japan – America – Africa. (13Hrs)

**Unit V:** Glorious Revolution 1688: Causes and Results – American war of Independence: Causes and Results-Circumstances leading to the French Revolution. (13Hrs)

**Book for Study:**

Arun Battacharjee - History of Europe (1453-1789), Sterling Publications, New Delhi, 2001.

**Books for Reference:**

1. B.V.Rao - World History, Sterling Publications, New Delhi, 1991.
2. K.L.Khurana - World History A.D.1453 – 1966 A.D, Lakshmi Narain Agarwal Educational Publishers, Agra, 2005.
3. K.L.Khurana - A Simple History of the World (A.D.1871-1966), Lakshmi Narain Agarwal Educational Publishers, Agra, 2005.

Course Designed by :Mrs.S.Shenbagavalli  
Course Reviewed by :Dr.V.K.Saraswathi.  
Checked by :Dr.R.Meera

**B.A History  
Semester V**

**Credit:4 Part III - Core XI – History of China and Japan A.D.1800 - A.D.1970 515H11  
(For students admitted from the academic year 2015-16 onwards)**

**Preamble:**

**Hours: 65**

- To trace the changes in the political history of China and Japan.
- To have complete and perfect ideas with the development of the countries.

**Unit I:** Early relations with West – Opium Wars – The Taiping Rebellion – Sino Japanese War. (13Hrs)

**Unit II:** The Boxer Movement – Hundred Days Reforms – Rebellion of 1911 – Dr.Sun Yat Sen. (13Hrs)

**Unit III:** Chiang Kai Shiek – The Manchurian Crisis – The Communist Revolution – Mao Tse Tung. (13Hrs)

**Unit IV:** The Meiji Restoration – The Russo Japanese war – Japan and First World War – Rise of the Militarism. (13Hrs)

**Unit V:** The Expansion in Asia – Japan and Second World War – The Period of Occupation – Contemporary Japan. (13Hrs)

**Book for Study:**

Dr.A. Swaminathan - History of China and Japan, Chi-Chu Publications, Chennai, 2010.

**Books for Reference:**

1. History of China - Ahamed, Sai Publications, New Delhi, 2001.
2. History of China 1800 to Present Day - Shivakumar & Jain, Nayak Publication, New Delhi, 1999.
3. History of Japan 1800 to Present Day - Shivakumar & Jain, Nayak Publication, New Delhi, 1999.
4. Modern Asia - Dr. A. Swaminathan, Deepa Pathipagam, Chennai, 2001
5. History of Far East - Majumdar & A.L. Srivatsava, Surjeet Book Depot, Delhi, 1998,

Course Designed by : Dr. S. Renuka Devi  
 Course Reviewed by : Mrs. P. Karpagavalli.  
 Checked by : Dr. R. Meera.

### **B.A History Semester-V**

**Credit: 4 Part III - Core XII - History of Science and Technology 515H12  
 (For students admitted from the academic year 2015-16 onwards)**

**Preamble:**

**Hours: 65**

- To highlight the major scientific discoveries and the personalities associated with the scientific development
- To impart the rudimentary knowledge of science

**Unit I:** Science in the Ancient World: Egypt-Mesopotamia-Greek science: Hippocrates-Rome: Galan- India : Aryabhata I- Sushruta. (13 Hrs)

**Unit II:** Science and Technology of Arabs & Europeans: Avicenna-Rogar Bacon-Nicholas Copernicus-Galileo-Leonardo-da-vinci. (13 Hrs)

**Unit III:** Royal Society in London-French Royal Academy of Science-William Harvey-Simon Laplace-John Hunter-Edward Jenner. (13 Hrs)

**Unit IV:** Louis Pasteur - Thomas Alva Edison - Communication by wire-Telephones and Telegraphs - Marie Curie - Television-Computers-Space research- Wright Brothers – Chandrayan. (13 Hrs)

**Unit V:** Srinivasa Ramanujam - P.C.Roy - Sir C.V. Raman-M.S.Swaminathan-Homi Jehangir Bhaba - Abdul kalam - Sivathanu Pillai. (13 Hrs)

**Book for study:**

Dr.S.Varghese Jeyaraj - History of Science and Technology, Anns Publications, Uthamapalayam, 2004.

**Books for Reference:**

1. Dr.R.Venkatraman -History of Sience and Technology,Ennes Publications, Madurai, 2007.
2. J.Dharmaraj - History of Science and Technology, Tensy Publication, Sivakasi, 1998.

Course Designed by : Dr.V.K.Saraswathi.  
Course Reviewed by : Dr.R.Meera.  
Checked by : Mrs.S.Shenbagavalli.

**B.A History  
Semester-V**

**Credit:4 Part III - Elective - I - Tourist Destinations in India 515HE1**  
**(For students admitted from the academic year 2015-16 onwards)**

**Preamble: Hours: 65**

- To Expose the Students to be familiar with the important tourist places in India.
- To understand the value of India as a tourist Destination

**Unit I:** North India: Jammu & Kashmir- Punjab- Himachal Pradesh – Uttar Khand-Uttar Pradesh.

(13Hrs)

**Unit II:** East: Bihar – Jharkhand – West Bengal – Orissa.

(13Hrs)

**Unit III:** West: Maharashtra- Madhya Pradesh – Gujarat - Rajasthan –Goa.

(13Hrs)

**Unit IV:** North East States: Sikkim – Assam – Arunachal Pradesh – Manipur.

(13Hrs)

**Unit V:** South: Andhra Pradesh – Pondicherry – Kerala – Karnataka.

(13Hrs)

**Book for study:**

1. Tourist Guide to India - Sura, Sura Books Pvt.Ltd, Chennai, 2006.

**Books for Reference:**

1. G.k.Puri - Travel & Tourism for All,IMS publications,New Delhi,1986.
2. A.V.Shankaranarayana Rao - North India a Guide,Vasan Publications,Bangalore,2003.
3. Ratandeeep Singh - Tourism Today, Vol III, kanishka Publications New Delhi.1994.
4. T.R.Sareen - IndiaThrough Ages, Anmol Publications,New Delhi,1992.

Course Designed by :Dr.R.Meera.  
Course Reviewed by :Dr.S.Renuka Devi  
Checked by :Mrs.S.Shenbagavalli.

**B.A. History  
Semester VI**

**Credit:4 Part III - Core XIII- History of Tamil Nadu from A.D 1807 to A.D 1996 615H14**  
**(For students admitted from the academic year 2015-16 onwards)**

**Preamble: Hours: 75**

- To know the history of Tamilnadu in colonial period.
- To know the role of Tamilnadu in freedom struggle.

**Unit I:** -British Administration in Tamilnadu: Land Revenue Administration – Growth of Education – Evolution of Judiciary – Local Self-Government - Madras Native Association 1852- Madras Mahajana Sabha 1854. (15 Hrs)

**Unit II:** Tamilnadu in Freedom Movement: Swadeshi Movement – SubramaniyaBharathi- Salt Sathyagraha – Civil Disobedience Movement - Justice Party. (15 Hrs)

**Unit III:** Freedom Fighters in Tamilnadu: V.O.C- Vanchinathan - Subramaniya Siva – Annie Besant -Home Rule Movement - Self Respect Movement –EVR. (15 Hrs)

**Unit IV:** Tamilnadu in 18th, 19th and 20th Centuries: Social Condition – Religious Condition – Social Reform Movements – Dr.Muthulakshmi Reddy –Miss.Amy Carmichael – Awakening of Nadar Community. (15 Hrs)

**Unit V:** Reorganisation of Madras presidency - Tamil Nadu under C.Rajagopalachari – Kamaraj – C.N.Annadurai - M.Karunanidhi- M.G.Ramachandran- J.Jayalalithaa. (15 Hrs)

**Book for study:**

1. Dr.A.Devanesn - History of Tamilnadu,Renu Publications,Marthandam,2000

**Books for Reference:**

1. K.Rajayyan -“Tamil Nadu:A Real History”,Ratna Publications,Trivandrum,2005.
2. Dr.P.Rajaraman - Chennai Through the Ages, Poompozhil publishers,Chennai,1997.
3. R.EdinRajan& D.Gunasekar - History of Tamil Nadu ,ChandarPublications,Madurai, 1978
- 4.N. Subrahmanian -History of Tamilnadu (1336-1984),Ennes Publications, Udumalpet ,2007.
5. A. Swaminathan - History of Tamil Nadu, DeepaPathippagam, Madras, 1991.

Course Designed by :Dr.V.K.Saraswathi.

Course Reviewed by :Dr.S.Renuka Devi

Checked by :Dr.R.Meera.

**B.A History  
Semester-VI**

**Credit: 4 Part III - Core XIV – World History A.D. 1789- A.D.2000 615H13  
(For students admitted from the academic year 2015-16 onwards)**

**Preamble: Hours: 75**

- To know the features of the modern World.
- To construct the history of the modern World in its real perspectives.

**Unit I:** French Revolution: Causes and Consequences – Rise and fall of Napoleon – The Congress of Vienna- The Concert of Europe. (15 Hrs)

**Unit II:** American Civil war – Causes- Results- Unification of Italy – Unification of Germany. (15 Hrs)

**Unit III:** First World War - Treaty of Versailles-Russian Revolution-League of Nations. (15 Hrs)

**Unit IV:** - Fascist Italy – Nazist Germany – II World War: Causes & Results. (15 Hrs)

**Unit V:** U.N.O: Structure –Achievements -Cold war - European Economic Union – Gulf War: Iran-Iraq war. (15 Hrs)

**Book for study:**

K.L.Khurana - A Simple History of the World (A.D.1871-1966),Lakshmi Narain Agarwal Educational Publishers, Agra, 2005.

**Books for Reference:**

1. K.S. Patil - History of Modern World, Cyber Tech Publications,New Delhi, 2009.
2. H.K.Chhabra - History of Modern World Since 1945, Surjeet Publications,Delhi,2013.
3. P.S.Jhosi & Kolkar - History of Modern World,S.Chand & Co.,New Delhi,1983.

Course Designed by :Dr.S.Renuka Devi

Course Reviewed by :Dr.R.Meera.

Checked by :Dr.V.K.Saraswathi

**III B.A History****Semester-VI**

**Credit:4 Part III - Core XV - India and Her Neighbours 615H15**  
**(For students admitted from the academic year 2015-16 onwards)**

**Preamble:****Hours: 65**

- To know the neighbouring countries of India.
- To offer insight into India's effort to cultivate good neighbourly relations.

**Unit I:** India and Pakistan: Indo- Pak war 1945, 1965 and 1971- Kargil War. (13Hrs)

**Unit II:** India and China: Border Issue – Indo-Chinese War- Present Position. (13 Hrs)

**Unit III:** India and Srilanka: Ethnic Problem - Nehru – Indira Gandhi – Rajiv Gandhi – IPKF – Problems of Refugees - Present Position. (13Hrs)

**Unit IV:** India and the East: Nepal – Bhutan - Burma – Bangladesh. (13 Hrs)

**Unit V:** India and Maldives – Non Alignment Movement – South Asian Association for Regional Co -Operation. (13Hrs)

**Book for Study:**

G.Venkatesan - History of Contemporary India 1947- 2004, V.C Publications, Rajapalayam, 2005.

**Books for Reference:**

1. Shailesh Chandra – Post Independence History of India,Alfa Publications,New Delhi, 2001.
2. Sudhir Manav – Indian Foreign Policy, kunal Books, New Delhi ,2012.
3. Rao Arif Ali Khan – SAARC Nations New Role and Challenges a Head , Mutal Publications, New Delhi, 2012.
4. S.V.D Gamini Samernayake -Political Violence in Srilanka,Gyan PublishingHouse,Delhi,2008
5. Vijay Kumar Tiwary – Indo – Nepal Relations,Gyan Publishing House, New Delhi, 2013.



Course Designed by : Mrs.S.Shenbagavalli.  
Course Reviewed by : Dr.S.Renuka Devi  
Checked by : Dr.V.K.Saraswathi.

### **III B.A History Semester-VI**

**Credit:4 Part III - Elective II- Tourist Destinations in Tamilnadu 615HE2**  
**(For students admitted from the academic year 2015-16 onwards)**

**Preamble: Hours: 65**

- To know the important tourist centers in Tamilnadu.
- To know the cultural heritage in Tamilnadu.

**Unit I:** North Tamilnadu: Chennai – Kancheepuram – Vellore - Tiruvannamalai. (13 Hrs)

**Unit II:** South Tamilnadu: Madurai – Ramanathapuram – Tirunelveli – Tuticorin - Kanyakumari. (13Hrs)

**Unit III:** Western Tamilnadu: Salem – Dharmapuri – Krishnagiri – Coimbatore –Tirupur -Erode. (13Hrs)

**Unit IV:** Eastern Tamilnadu: Trichy – Tanjore – Nagore – Velankani – Pudukottai .(13 Hrs)

**Unit V:**Hill Stations – Ooty – Kodaikanal – Yerkad – Valparai – Yelalgiri (13 Hrs)

#### **Book for study:**

V.Narayanasamy - Splendour of Tamilnad,Sura booksPvt.Ltd,Madras,1991.

#### **Books for Reference:**

1. Sura - Tourist Guide to Tamilnadu,Sura BooksPvt.Ltd,Madras,2005.
2. Sura - Tourist Guide to South India, Sura Books Pvt.Ltd, Madras, 2006.
- 3 G.K.Puri - Travel & Tourism for All,IIMS Publications,New Delhi,1986.

**Course Designed by : Dr.V.K.Saraswathi.**  
Course Reviewed by :Dr.S.Renuka Devi.  
Checked by :Mrs.S.Shenbagavalli.

### **B.A History Semester-VI**

**Credit: 4 Part III - Elective III - Women Studies 615HE3**  
**(For students admitted from the academic year 2015-16 onwards)**

**Preamble: Hours: 65**

- To understand the Status of women from Vedic to Modern period.
- To be aware of the Rights of Women and how to face the challenges through legal procedure.

**Unit I:** Status of Women in Vedic age-Later Vedic Age-Sangam period-Medieval Women - Modern Period. (13 Hrs)

**Unit II:** Movement for Women: United Kingdom – USA – India - Impact of the Movement-Achievement. (13 Hrs)

**Unit III:** Role of Social Reformers in emancipation of women: Rajaram Mohan Roy-Annie Besant - Muthulakshmi Reddi - Mother Theresa. (13 Hrs)

**Unit IV:** Social Legislations on women in Pre and Post independent period: Hindu Women's Rights to Property 1937-Hindu Marriage Act,1955- The Immoral Traffic (Prevention) Act, 1956 - Dowry Prohibition Act 1961- Dowry Prohibition (Amendment)Act 1986 - Indecent Representation of Women (Prohibition) Act, 1986 - Protection of Women from Domestic Violence Act 2005 – The Sexual Harassment of Women at Work Place( Prevention, Prohibition and Redressal) Act 2013. (13Hrs)

**Unit V:** Introduction of Western Education: Role of Missionaries in imparting Female Education-Changing role of women in India-Challenges facing women-Violence against women-Women and media. (13Hrs)

**Book for study:**

N.Jayabalan - Women's Studies, M.S.Publications, Madras, 1998.

**Books for Reference:**

1. Jyotimitra - Women & Society,equality and Empowerment'Kanishka Publishers, New Delhi,1997.
2. Ram Mehta - SocioLegal status of women in India , Mittal publicationsNew Delhi,1994.
3. R.K.Arun - Women's Education,Centrum Press,New Delhi, 2009.

Course Designed by :Dr.R.Meera  
Course Reviewed by :Dr.V.K Saraswathi.  
Checked by :Dr.S.Renuka Devi.

**B.A. History  
Semester –VI**

**Part III – Advanced Learners Course I- Subject Viva Voce 415ALH**

**Preamble:**

- To enable the students develop communicative Skills.
- To acquire thorough knowledge in the subjects helping them to excel in teaching profession.

A Subject viva voce is to be taken by the candidate covering the Core and Elective Subjects of Sixth Semester. The viva voce is to be conducted by the external and internal examiners for 100 marks.

**B.A History**

**Part IV-Skill Based Course - Tourism Industry**

**(For students admitted from the academic year 2015-16 onwards)**

**Preamble:** Tourism is a highly Labour –Intensive Industry offering employment to both semi – skilled and unskilled.

The content of the course is designed

- To open new avenues of Knowledge and career advancement in Travel Agency and Hotel industry.
- To instill confidence in securing jobs.
- To train the students on self-employment.

**B.A History  
Semester III**

**Part IV-Skill Based Course -I - Tourism Industry- Travel Management**

**Credit:3** (For students admitted from the academic year 2015-16 onwards) **315HS1**

**Hours: 38**

**Unit I:** Meaning of Travel Agencies –Forms: Proprietorship –Partnership –Corporate: Public-Private –Government -Multi –national Companies. (8Hrs)

**Unit II:** Organizations –Travel Booking –International & Domestic –Tour Operators –Travel Agents in India and Abroad. (8Hrs)

**Unit III: Types** Retail –Wholesale –Functions of Modern Travel Agency. (7Hrs)

**Unit IV:** Travel Documents: Passport –Visa –Health –Custom and Migration –Immigration rules. (8Hrs)

**Unit V:** Approval and Recognition-Ministry of Tourism and IATA –Local bodies (7Hrs)

**Book for study:**

Mohinder Chand -Travel Agency Management –An Introductory Text.

**Books for Reference:**

1. Dr. Jagmohan Negi - Travel Agency & Tour Operation – Concepts & Principles, Kanishka Publishers, New Delhi, 1997.
2. A.K. Bhatia - Tourism Development, Sterling Publications, New Delhi, 2003.
3. Romila Chawla - Tourism Services and Operation, Arise Publishers, New Delhi, 2003.

Course Designed by : Mrs. S. Shenbagavalli.

Course Reviewed by : Dr. V. K. Saraswathi.

Checked by : Dr. R. Meera.

**B.A History  
Semester IV**

**Part IV - Skill Based Course -II - Tourism Industry- Hotel Management**

**Credit:3** (For students admitted from the academic year 2015-16 onwards) **415HS2**

**Hours: 38**

**Unit I:** Hotel –Types – Main Accommodation: International –Resort –Commercial -Residential – Floatel. (8Hrs)

**Unit II:** Supplementary Accommodation: Youth Hostel-Caravan and Camping sites –Pension – Bed and Breakfast Establishment –Tourist Holiday Villages. (8Hrs)

**Unit III:** Organization Categories: Sole Proprietorship –Partnership –Chain Hotels –Hotel Manager: Role and Functions. (7Hrs)

**Unit IV:** Front Office Management: Front Office Staff-General Procedure of Hotel Reservation Registration –Mode of Receiving payment –Communication Skills. (8Hrs)

**Unit V:** Personnel Management in Hotel: Human Resource in Hotel Industry-Wages and Types in Hotel –Hotel Workers. (7Hrs)

**Books for study:**

- 1.Pushpinder S.Gill – Tourism and Hotel Management,Anmol Publications, New Delhi
- 2.J.David - Textbook Of Hotel Management,Anmol Publications,NewDelhi,2004.

**Books for reference:**

- 1.J.Mathews -Hotel Management, Pointer Publishers,Jaipur-2008.
- 2.R.N.Kaul - Dynamics of Tourism:A Trilogy,Vol-II,Accomodation,Streling,Publications,1985.
- 3.A.K.Bhatia -Tourism Development - Principles and Practices, Sterling Publications NewDelhi,2003.
- 4.Sudhir Andrew- Front Office - A TrainingManual, Tata Mc Graw Hill Publications, New Delhi.

Course Designed by : Mrs.S.Shenbagavalli.

Course Reviewed by :Dr.V.K Saraswathi.

Checked by : Dr.R.Meera.

**B.A History  
Semester V**

**Part IV-Skill Based Course - III -Tourism Industry- Catering Services**

**Credit:3 (For students admitted from the academic year 2015-16 onwards) 515HS3**

**Hours: 38**

**Unit I :** Food Service - Types - Guidelines - Guest reception - Service table - Planning of Menu Dining . (9Hrs)

**Unit II:** Food – Types of Food :South Indian –North Indian –Chinese –European –Continental. (9Hrs)

**Unit III:** Safety measures - Dining –Bars –Rooms –Fire service equipments –Emergency exit – Cleaning and Sanitation. (9Hrs)

**Unit IV:** Customer care: Communication Skills - Tariff and Concessions. (8Hrs)

**Unit V:** Visiting a nearby Hotel (3Hrs)

**Books for study:**

1. J.David - Textbook of Hotel Management,Anmol publication,New Delhi,2004.
2. J.Mathews - Hotel Management,Pointer Publishers,Jaipur -2008.

**Books for Reference:**

1. Pushpinder S.Gill -Tourism and Hotel Management, Anmol Publications,NewDelhi,2004.
2. R.N.Kaul - Dynamics of Tourism: A Trilogy,Vol III,Accomodation,Sterling Publications,1985.
3. A.K. Bhatia - Tourism development –Principles and Practices, Sterling Publications, NewDelhi,2003.
4. Sudhir Andrew - Food & Beverage Service, Tata Mc Graw Hill Publications, New Delhi.

Course Designed by : Dr.S.Renuka Devi.

Course Reviewed by :Dr.V.K Saraswathi.

Checked by : Dr.R.Meera.

## B.A History

### Semester VI

#### Part IV - Skill Based Course - IV -Tourism Industry- Health Tourism

**Credit:3 (For students admitted from the academic year 2015-16 onwards) 615HS4**

**Hours: 38**

**Module I:** Nature & Scope of Medical Tourism - History of Medical Tourism-Recent Trends – The World Tourist Organisation.

(8 Hrs)

**Module II:** Medical Tourism in India - AYUSH: Ayurveda-Yoga-Unani-Siddha - Homoeopathy-Health-care services.

(7 Hrs)

**Module III:** Regulatory Laws-Ethical Issues for Medical Tourism.

(8 Hrs)

**Module IV:** Government Policies - Economic Impacts (Forex & Employment)

(7Hrs)

**Module V:** New Packages & Making of Medical Tourism.

(8 Hrs)

#### Books for study:

1. Dr.R.Kumar - Medical Tourism in India, Deep & Deep Publications Pvt.Ltd.New Delhi-2008.
2. R.L.Parekh - Medical Tourism, Alfa publications, New Delhi-2009.

#### Books for Reference:

3. G.Radha Krishna - Tourism Promotional Perspectives and Issues, The Icfai University Press, Hyderabad, 2010.
4. Ratandeep Singh - Tourism Today, Vol III, Kanishka Publications New Delhi. 1994.

Course Designed by : Dr.S.Renuka Devi.

Course Reviewed by : Dr.V.K Saraswathi.

Checked by : Dr.R.Meera.

#### For students admitted from the academic year 2015-16 onwards Continuous Internal Assessment components

Sem	Title of the Course	CIA	Asg	DC / Quiz	On. Line	Att.	Total 25
I	Core I Main Currents in Indian History upto A.D. 647	15	4	4	-	2	25
	Core II Main Currents in Indian History A.D 647 - A.D. 1526.	15	4	4	-	2	25
	Allied I- Introduction to Tourism	15	4	4	-	2	25
II	Core III – Main Currents in Indian History A.D. 1526 -A.D.1707	15	4	4	-	2	25
	Core IV– Main Currents in Indian History A.D.1707 - 1857 .A.D.	15	4	4	-	2	25
	Allied II – Cultural Tourism In India	15	4	4	-	2	25
	Core V-Main Currents in Indian History A.D.1858- A.D.1919	15	4	-	4	2	25

III	Core VI - Main Currents in Indian History A.D. 1920 -A.D. 1966.	15	4	4	-	2	25
	Allied III – Modern Governments	15	4	4	-	2	25
IV	CoreVII - Main Currents in Indian History A.D. 1966 -A.D. 2004.	15	4	-	4	2	25
	CoreVIII- History of TamilNadu upto A.D 1336.	15	4	4	-	2	25
	Allied IV – Indian Constitution	15	4	4	-	2	25
V	Core – IX History of TamilNadu A.D.1336 to A.D 1806.	15	4	4	-	2	25
	Core X- World History A.D .1453-A.D .1789	15	4	4	-	2	25
	Core XI – History of China and Japan A.D.1800- A.D1970	15	4	-	4	2	25
	Core XII– History of Science &Technology	15	4	4	-	2	25
	Elective – I – Tourist Destinations In India	10	4	4	-	2	25
VI	Core XIII – History of TamilNadu A.D.1807 to A.D 1996.	15	4	-	4	2	25
	Core XIV - World History A.D 1789- A.D 2000	15	4	4	-	2	25
	Core XV –India and Her Neighbours	15	4	4	-	2	25
	Elective II – Tourist Destinations in TamilNadu	15	4	4	-	2	25
	Elective III – Women Studies	15	4	4	-	2	25

#### Part IV

Course	I CIA	II CIA	Activity	Total
EVS	20	20	10	50
Value Education	20	20	10	50
NMEC	25	25	--	50
Skill Based Course	75	75	--	Average For 75
Information Security	25	25	--	50

#### Question Paper Pattern for Continuous Internal Assessment:

#### Part III

Maximum Marks :75		
Section A	Multiple Choice Questions with 4 options	10 x 1 = 10 Marks
Section B	Short answer question of either / or type (Like 11 a or 11 b) to (15 a or 15 b)	5 x 4 = 20 Marks
Section C	Essay type questions - open choice Five out of Eight ( from 16 to 23)	5 x 9 = 45 Marks

<b>Maximum Marks: 50</b>		
Section A	Short answer question of either / or type (Like 1 a or 1 b) to (5 a or 5 b)	5 x 4 = 20 Marks
Section B	Essay type questions - open choice Three out of Five ( From 6 to 10)	3 x 10 = 30 Marks

**Part IV Skill Based Course**

<b>Maximum Marks :75</b>		
Section A	Short answer question - open choice Five out of Eight	5 x 5 = 25
Section B	Essay type questions - open choice Five out of Eight	5 x 10 = 50

**EVS/ Value Education / NMEC / Information Security**

<b>Maximum Marks:50</b>	
Open Choice 5 out of 10 Questions ( from 1 to 10)	5 x 10 = 50

**Question Paper Pattern for End Semester Examination**

**Part III**

<b>Maximum Marks :75</b>			
Section A	Multiple Choice Questions with 4 options	10 x 1 = 10	10 Questions – 2 from each Unit
Section B	Short answer question of either / or type (Like 1 a or 1 b) to (15 a or 15 b)	5 x 4 = 20	5 Questions – 1 from each Unit
Section C	Essay type questions -open choice Five out of Eight ( From 16 to 23)	5 x 9 = 45	Questions must be from all the Units

**Blue Print**

Unit	Section A (10 x 1 = 10)										Section B (5 x 4 = 20)					Section C (5 x 9 = 45)							
	MCQ										11	12	13	14	15	16	17	18	19	20	21	22	23
	1	2	3	4	5	6	7	8	9	10	a	b	a	b	a	b	a	b	a	b			
I	✓	✓									T	T											
II			✓	✓									T	T									
III					✓	✓								T	T								
IV							✓	✓							T	T							
V								✓	✓								T	T					

Questions must be from all the units

Maximum Marks :50		
Short answer question of either / or type (Like 1 a or 1 b) to (1 a or 5 b)	5 x 4 = 20	5 Questions -1 from each Unit
Essay type questions – open choice Three out of Five (From 16 to 20)	3 x 10 = 30	1 from each Unit.

**Blue Print**

Unit	Section A (5 x 4 = 20)					Section B (3 x 10 = 30)																													
	11		12		13		14		15		16	17	18	19	20																				
	a	b	a	b	a	b	a	b	a	b	Questions must be from all the Units																								
I	T	T														Questions must be from all the Units																			
II			T	T																	Questions must be from all the Units														
III					T	T																				Questions must be from all the Units									
IV							T	T																							Questions must be from all the Units				
V									T	T																									



**Curriculum Design**  
**SRI GVG VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**  
 Affiliated to Bharathiar University  
 Department of History  
**MA HISTORY**  
 Scheme of Examination – CBCS Pattern  
 (For the students admitted from the academic year 2015 – 16 onwards)

Course code	Course Title	Inst Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester I</b>							
15MH01	Core I – Social and Economic History of Tamilnadu upto A.D1800.	6	3	25	75	100	4
15MH02	Core II- History of the Freedom Struggle since A.D.1857.	6	3	25	75	100	4
15MH03	Core III- Constitutional History of India from A.D1773 - A.D 1919.	6	3	25	75	100	4
15MH04	Core IV- Socio- Religious Reform Movements in India during 19 <sup>th</sup> & 20 <sup>th</sup> Century.	6	-	25	75	100	4
15MHE1	Elective I- Journalism.	6	3	25	75	100	4
<b>Semester II</b>							
15MH05	Core V – Social and Economic History of Tamilnadu A.D 1800 to A.D 1996.	5	3	25	75	100	4
15MH06	Core VI – History of USA upto A.D 1865	5	3	25	75	100	4
15MH07	Core VII – Constitutional History of India from A.D.1935 - A.D.2000.	5	3	25	75	100	4
15MH08	Core VIII- History of Kongu Country.	5	3	25	75	100	4
15MH09	Core IX- Intellectual History of Tamilnadu.	4	-	25	75	100	4
15MHE2	Elective II-Women in Development.	4	3	25	75	100	4
15MHIS	Internship.	-	-	50	-	50	2
15MGCS	Cyber security.	2	2	50	-	Grade	Grade
15MHSV	Advanced Learners Course -I- Subject Viva Voce.	-	-	-	100	100	4*

Course code	Course Title	Inst Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester III</b>							
15MH10	Core X- Historiography.	5	3	25	75	100	4
15MH11	Core XI- History of USA from A.D1865 to A.D.1989.	5	3	25	75	100	4
15MH12	Core XII – Archaeology.	5	3	25	75	100	4
15MH13	Core XIII- India of our Times.	5	3	25	75	100	4
15MH14	Core XIV- International Relations I	5	-	25	75	100	4
15MHE3	Elective III – Computer Applications.	5	3	40	60	100	4
<b>Semester IV</b>							
15MH15	Core XV – Archives Keeping.	6	3	25	75	100	4
15MH16	Core XVI- International Relations II.	6	3	25	75	100	4
15MHE4	Elective IV- Human Rights.	6	3	25	75	100	4
15MHPV	Project.		-	-	200	200	8
15MHSV	Advanced Learners Course – II-Subject Viva Voce.	-	-	-	100	100	4*
<b>TOTAL</b>						<b>2250</b>	<b>90</b>

\*Starred credits are treated as additional credits, which are optional.

### M.A. History Semester - I

**Credit: 4    Core I-Social and Economic History of Tamil Nadu upto A.D 1800    15MH01**  
(For students admitted from the academic year 2015-16 onwards)

**Preamble:** **Hours: 75**

- To study the political and cultural history of Tamil Nadu from the beginning to 1800 A.D.
- To emphasize the social and economic conditions of Tamil Nadu.

**Unit I :** Pre Historic Period- Sangam Period : Literature – Society-Religion - Culture – Economic Life – Foreign Trade – Aryanisation- Spread of Jainism and Buddhism – Saivism – Vaishnavism. (15Hrs)

**Unit II:** Bhakthi Movement in Tamilnadu- Pallavas: Society–Literature - Religious – Economic Condition. (15Hrs)

**Unit III:** Cholas: Society – Growth of Saivism– Art and Architecture - Literature. (15Hrs)

**\*Unit IV:** Second Pandyan Empire: Social and Economic condition- Art and Architecture – Literature. (15Hrs)

**Unit V:** Nayaks: Social and Economic Condition – Literature –Religious Condition: Hinduism-Islam - Christianity –Marathas: Society-Education and Literature. (15Hrs)

\*Starred Unit is Self Study.

### **Books for Reference:**

1. Prof. K.A.N. Sastri : The Cholas, History of South India ,The Pandiyan Kingdom.
2. Dr.C. Meenakshi : Administration & Society under Pallavas
3. Dr. R. Rajalakshmi : Tamil Polity
4. Dr. N. Subramanian :Sangam Policy
5. Dr. Burton Stein : Peasants State and Society in Medieval South India

Course Designed by : Dr.V.K.Saraswathi.

Course Reviewed by :Mrs.S.Shenbagavalli

Checked by : Dr.R.Meera.

## **M.A. History Semester - I**

### **Core IV- Socio- Religious Reform Movements in India during 19th & 20th Century. (For students admitted from the academic year 2015-16 onwards)**

**Credit: 4** **15MH04**

**Preamble:** **Hours: 75**

- To know the social and religious systems of India and the reform movements which profoundly influenced the society
- To provide a knowledge on the social evils.

**Unit I :**Religions of India in the 19th Century ; Hinduism-Sikhism-Islam- Christianity-Hindu Society-Caste system –Position of women. (15Hrs)

**Unit II :**Social evils in the Hindu Society; Child marriage-Position of Widow – Sati-Female Infanticide- Dowry System-Devadasi System- Muslim Society: Purdah system-Polygamy. (15Hrs)

**Unit III :** Social Reforms introduced by Governor Generals and Viceroys:Lord William Bentinck – Lord Dalhousie-Reform Movement – Brahma samaj – Aryasamaj – Prathanasamaj – Theosophical Society – Rama Krishna Mission-St.Ramalinga Mission and Christian Mission. (15Hrs)

**\*Unit IV :** Life and works of important Reformers in the 19th Century –Rajaram Mohan Roy-Devandranath Tagore-Keshab Chandrasen-DayanandaSaraswathi – Iswar Chandra Vidyasagar – Ramakrishna Paramahansa – Vivekanandar. (15Hrs)

**Unit V :** Reformers in the 20th Century- Anne Besant – Mahatma Gandhi- Ambedkar-Narayana Guru-Durgabai Deshmuk – Pandit Ramabai – Muthulakshi Reddi- E.V.Ramasamy Naicker – Muthu Ramalinga Tevar- Mother Teresa. (15Hrs)

\*Starred Unit is Self Study.

**Books for Reference:**

1. Dr.Ramnath Sharma – Society and Culture in India,Rajhan Prakhn Mandir Educational Publishers, Meerut -1975.
2. V.A.Narain – Social History of Modern India in the 19th century, Meenakshi Prakasan Publications,Delhi-1972.
3. Dr.C.Paramarthalingam – Social Reform Movements in Tamilagam, Rajakumari Publications, Madurai- 1995.
4. Dr.S.N.Busi - Mahatma Gandhi and Baba Sabeb,Ambedkar,Saroja Publication,Andhra Pradesh-1997

Course Designed by : Mrs.S.Shenbagavalli.  
Course Reviewed by : Dr.V.K.Saraswathi.  
Checked by : Dr.R.Meera.

**M.A.History**  
**Semester wise Distribution with the Scheme of Examination**  
**(For students admitted during the academic year 2014-15 & onwards)**

Semester	Course	Credit	Duration of Exam	Marks		Total
				CIA	ESE	
<b>I</b>	Core I – Social and Economic History of Tamilnadu A.D1800 to A.D1996	4	3	25	75	100
	Core II- History of the Freedom Struggle since A.D.1857.	5	3	25	75	100
	Core III- Constitutional History of India from A.D1773 - A.D 1919	4	3	25	75	100
	Elective I- Journalism	3	3	25	75	100
	Diploma Course:Paper I- Tourism Business Environment	3	-	100	-	100
<b>II</b>	Core IV – India of our Times.	5	3	25	75	100
	Core V- Intellectual History of Tamilnadu	4	3	25	75	100
	Core VI – Constitutional History of India from A.D.1935 - A.D.2000.	4	3	25	75	100
	Core VII- History of Kongu Country	5	3	25	75	100
	Elective II-Civics	3	3	25	75	100
	Diploma Course : Paper II-Hospitality Management	3	-	100	-	100
<b>III</b>	ALC I-Temple Study	4*	3	-	100	100
	Core VIII-History of the U.S.A upto A.D.1865	5	3	25	75	100
	Core IX- Historiography	5	3	25	75	100
	Core X- Archaeology	5	3	25	75	100
	Core XI- International Relations I	5	3	25	75	100
	Elective III – Computer Applications	3	3	40	60	100
<b>IV</b>	Diploma Course: Paper III- Medical Tourism	3	-	100	-	100
	Core XII – History of the U.S.A. A.D.1865- A.D.1989.	5	3	25	75	100
	Core XIII – International Relations II	5	3	25	75	100
	Core XIV – Archives Keeping	5	3	25	75	100
	Elective IV- Human Rights	3	3	25	75	100
	Diploma Course :Paper IV- Project	3	-	100	-	100
<b>IV</b>	ALC II- Sociology	4*	3	-	100	100

Total Credits : 90

Starred Credits are treated as Additional Credits, Which are Optional.

**M.A. History - Semester – II** **14MH05**  
**Credit:4** **Core V- Intellectual History of Tamilnadu**  
**(For students admitted during the academic year 2014-15 & onwards)**

**Preamble:**

**Hours: 65**

- To know the life and work of several intellectuals from various fields.
- To focus the great role played by Intellectuals in the development of Tamil Society.

**Module I:** Nature and Scope of Intellectual History – Thiruvalluvar – Life and Teachings of St.Ramalinga – Bharathidasan: Contribution to Tamil Literature – Subramaniya Bharathi: Literary achievements. *(13Hrs)*

**Module II:** Thiru V.Kalyanasundaranar writings – Literary works of Maraimalai Adigal – Dr.Muthu Lakshmi Reddy – Political Awareness - Her role in the Madras Legislative Council – Subramaniya Siva. *(13Hrs)*

**Module III:** Intellectuals of Justice Party – Dr. T.M. Nair – Panneer Selvam : Non –Brahmin Movement – Swami Sahaja Nanda – His services to the down trodden – U.V.Swaminathe Aiyer : His achievements in the Tamil Classics . *(13Hrs)*

**Module IV:** Kamarajar : Educational Reforms – C.N.Annadurai – Jeeva – C.Subramaniyam – Dr.Radha Krishnan.: His contribution to Education- M.S.Subbulakshmi. *(13Hrs)*

**Module V:** Role of Universities to the cause of Education - Madras University : Lakshmanaswami Mudaliar – Annamalai University: Dr. Raja Sri Annamalai Chettiar – Madurai Kamaraj University – Mother Teresa University – Development in Technical Education. *(13Hrs)*

**Book for Reference:**

- |                          |  |
|--------------------------|--|
| 1. Dr.A.Devanesn         | - History of Tamilnadu,Renu Publications,Marthandam,2000   |
| 2. Jayshree              | - The Great Personalities (Brief life sketch of famous peple)Vohra Publishers and Distribution,2003. |
| 3. R.Kannan              | - Anna- The Life and Times of C.N.Annadurai,Penguin Group,2010.                                      |
| 4. Dr.C.Paramarthalingam | - Social Reform Movement in Tamilnadu,Rajakumari Publications,1995.                                  |
| 5. Ramamurthi            | - The Freedom struggle and the Dravidian movement, Orient Longman, 1987.                             |

Course Designed by :Dr.S.Renuka Devi  
Course Reviewed by :Mrs.V.K.Saraswathy.  
Checked by :Dr.R.Meera.

**2013-14**

<b>214ALH</b>	ALC I- Social History of India Upto A.D.1206
414ALH	ALCII- Social History of India A.D.1206 - A.D 1950
614ALH	ALC III - Eminent South India

## BA HISTORY

### Semester wise Distribution with Scheme of Examination

(For students admitted during the academic year 2013-14 & onwards)

Semester	Course	Credit	Duration of Exam Hrs(ESE)	Marks		Total
				CIA	ESE	
I	Part I -Language I	3	3	25	75	100
	Part II - English I	3	3	25	75	100
	Part III					
	Core I – Main Currents in Indian History upto A.D. 647	4	3	25	75	100
	Core II Main Currents in Indian History A.D. 647 - A.D 1526.	4	3	25	75	100
	Allied I- Introduction to Tourism	5	3	25	75	100
	Part IV -Environmental Studies	2	-	50	-	50
II	Part I-Language II	3	3	25	75	100
	Part II- English II	3	3	25	75	100
	Part III					
	Core III – Main Currents in Indian History A.D. 1526 - A.D.1707	4	3	25	75	100
	Core IV– Main Currents in Indian History A.D1707 - A.D1857	4	3	25	75	100
	Allied II – Cultural Tourism In India	5	3	25	75	100
	Part IV-Value Education	2	-	50	-	50
	<b>ALC I – Social History of India upto A.D. 1206</b>	3*	3	-	100	100
III	Part I – Language III	3	3	25	75	100
	Part II- English III	3	3	25	75	100
	Part III					
	Core V-Main Currents in Indian History A.D.1858 - A.D.1947	4	3	25	75	100
	Core VI - Main Currents in Indian History A.D. 1947-A.D. 2004	4	3	25	75	100
	Allied III – Modern Governments	5	3	25	75	100
	Skill Based Course -Tourism Management- Paper I-Travel Management	3	-	100	-	100
	Non-Major Elective - Course I	2	-	75	-	75

Semester	Course	Credit	Duration of Exam Hrs(ESE)	Marks		Total
				CIA	ESE	
IV	Part I – Language IV	3	3	25	75	100
	Part II – English IV	3	3	25	75	100
	Part III					
	Core VII -History of TamilNadu Upto A.D. 1799	4	3	25	75	100
	Core VIII- History of TamilNadu A.D. 1800 – A.D.1996.	4	3	25	75	100
	Allied IV – Indian Constitution	5	3	25	75	100
	Skill Based Course - Tourism Management - Paper II- Hotel Management	3	-	100	-	100
	Non-Major Elective - Course II	2	-	75	-	75
	General Awareness					
ALC II- Social History of India A.D.1206 - A.D.1950	3*	3	-	100	100	
Extension Activities	1	-	50	-	50	
V	Part III					
	Core – IX World History A.D 1453-A.D 1789	4	3	25	75	100
	Core X- History of England A.D. 1485-A.D.1714	4	3	25	75	100
	Core XI – History of China and Japan A.D.1800- A.D.1970	4	3	25	75	100
	Core XII– History of Science and Technology	4	3	25	75	100
	Elective I – Tourist Destinations In India	5	3	25	75	100
	Skill Based Course - Tourism Management - Paper III- Catering Management	3	-	100	-	100
VI	Part III					
	Core XIII – World History A.D.1789- A.D.2000	4	3	25	75	100
	Core XIV - History of England A.D. 1714 – A.D. 1990	4	3	25	75	100
	Core XV –India and Her Neighbours	4	3	25	75	100
	Elective II – Tourist Destinations in TamilNadu	5	3	25	75	100
	Elective III – Women Studies	5	3	25	75	100
	Skill Based Course - Tourism Management- Paper IV – Report Writing	3	-	100	-	100
	ALC –III Eminent South Indians	3*	3	-	100	100

Total Credits: 140

Starred Credits are treated as Additional Credits, Which are Optional.

Non Major Course offered by the Department-History for Competitive Examination



**B.A History – Semester II**

**214ALH**

**Credit:3      Advanced Learners Course I- Social History of India upto A.D.1206**  
**(For students admitted during the academic year 2013-14 & onwards)**

**Preamble:**

- To learn the Social Condition of the early period.
- To impart the Social Values.

**Module I:** Indus society –Social life of the Aryans –Position of women in the Epic age.

**Module II:** Caste system and its impact –The Mauryan Society –Social condition during the Gupta period.

**Module III:** Society during the period of Harsha –Social life in Rajput period –Society under Satavahanas.

**Module IV:** Sangam Society: Cheras – Cholas – Pandya & Pallava Society.

**Module V:** Social condition under the Imperial Cholas – Social life of the people during the Pandya period –Impact of Arab conquest on Indian Society.

**Book for study:**

1. N.Jayabalan & S.Joseph - History of India upto 1306 , Mohan Pathipagam,Madras,1990.

**Books for Reference:**

1. R.Abbas - History of India,Izad Publications,Madurai,2006.
2. B.N.Luniya - Evolution of Indian Culture ,Lakshmi Narain Agarwal, Agra,1978 .
3. S.C.Ray Chaudry - Social Cultural and Economic History of India: (Ancient Times to 1526) ,Surjeet Publications,New Delhi,2013.
4. N.Subramaniam - Social and Cultural History of TamilNadu ,Asian Printers,Coimbatore,2007.
5. Vidyotma Singh- Indian Society,Vista International Publishing House, Delhi, 2006.

Course Designed by : Mrs.V.K.Saraswathi.

Course Reviewed by : Mrs.S.Shenbagavalli

Checked by : Dr.R.Meera

**B.A. History – Semester IV**

**414ALH**

**Credit:3      Advanced Learners Course II- Social History of India A.D1206 - A.D1950.**  
**(For students admitted during the academic year 2013-14 & onwards)**

**Preamble:**

- To trace the changes in Medieval Indian Society.
- To impart the social Values.

**Module I:** Society under Delhi Sultanate – Islamic social order.

**Module II:** Valangai,Idangai Groups – Society under Vijayanagar - Status of Women - Segments of Caste.

**Module III:** Social Life under the Mughals - Status of Women.

**Module IV:**Brahma Samaj - Arya Samaj – Prarthana Samaj- Ramakrishna Mission – Theosophical Society.

**Module V:** Impact of British rule on Indian Society, Education, Press and Agriculture. Self - Respect Movement.

**Book for Study:**

J.Thiyagarajan – Social and Cultural History of India, Prabha Publications, Madurai-19, 2003.

**Books for Reference:**

1. Evolution of Indian Culture - B.N Luniya, Lakshmi Narain Agarwal, Agra, 1978.
2. Social Reforms Movements in Tamilnadu - C.Paramarthalingam, Rajakumar Publications, Madurai, 1995.
3. Society and Culture of Tamilnadu - K.Rajayyan, Ratna Publications, Madurai, 2002.

Course Designed by : Mrs.V.K.Saraswathi

Course Reviewed by : Mrs.P.Karpagavalli.

Checked by : Dr.R.Meera.

**B.A History - Semester-VI**

**614ALH**

**Credit:3 Advanced Learner's course III - Eminent South Indians**

**(For students admitted during the academic year 2013-14 & onwards)**

**Preamble:**

- To know the achievements of eminent leaders of South India
- To inculcate patriotic spirit among the students.

**Module I:** V.O.Chidambaram Pillai: Early life - Swadeshi Steam Navigation Company - participation in freedom struggle - Harassment in jail - Bharathi: Early life –His contribution to the rise of nationalism -Contribution to Tamil literature –Women liberation.

**Module II:** Visvesvaraya: Early life and difficulties-Service in Hyderabad and Mysore State - Work in other States - Provinces and Municipalities – Publications. Dr.Muthulakshmi Reddi : Early career-political awareness-As a Legislator-Social Acts-Variou Status.

**Module III:** Rajagopalachari: Early Career - Chief Ministership - Administrative Reforms. Kamaraj: Life Story - A Model Chief Minister - Social legislations - Educational Reforms-Industrial Progress - Electrification and Irrigation.

**Module IV:** E.V. Ramaswamy Naicker: Life story –Periyar in congress-Agitation-Self Respect Movement - Dravida Khazagam. M.S.Subbulakshmi: Career and Achievements.

**Module V:** Abdul Kalam: Early Career - Contribution to Science and Technology-Presidentship-Dr.Radhakrishnan: Early life and Education - Philosopher - Educationist- His work for universities – Ambassador - Presidentship.

**Book for study:**

Argus –Eminent South Indians, Affiliated East –West Press Pvt.Ltd.Madras, 1982.

**Books for Reference:**

1. R.A.Padmanabhan -V.O Chidambarampilla”,National Book Trust, Delhi, 1977.
2. Mrs.Shakuntala Krishnamoorthy -Dr.Visvesvaraya, Bangalore Press, Bangalore.
- 3.JohnGilbe - ContemporaryHistoryofIndia, (RajajiKamaraj),Anmol Publications.

Course Designed by : Dr. R.Meera.

Course Reviewed by : Mrs. S.Shenbagavalli.

Checked by : Mrs.V.K.Saraswathi

**Curriculum Design**  
**SRI GVG VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**  
 Affiliated to Bharathiar University  
 Department of Mathematics  
**B.Sc. Mathematics**  
 Scheme of Examination–CBCS Pattern  
 [For students admitted from the academic year 2017–2018 and onwards]

Course Code	Course Title	Ins. Hrs/week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
117TA1/ 117MY1/ 117HD1/ 117FR1	<b>Semester I</b> Part I: Language I	6	3	25	75	100	4
117EN1	Part II: English I	6	3	25	75	100	4
117M01	Part III: Core I: Algebra and Calculus	5	3	25	75	100	4
117M02	Core II: Differential Equations and Laplace Transforms	5	3	25	75	100	4
117AM1	Allied I : Physics I	6	3	25	50	75	3
117EVS	Part IV: Environmental Studies	2	2	50	–	50	2
217TA2/ 217MY2/ 217HD2/ 217FR2	<b>Semester II</b> Part I: Language II	6	3	25	75	100	4
217EN2	Part II: English II	6	3	25	75	100	4
217M03	Part III: Core III: Analytical Geometry	5	3	25	75	100	4
217M04	Core IV: Numerical Methods	5	3	25	75	100	4
217AM2	Allied II: Physics II	4	3	25	50	75	3
217AMP	Allied Physics Practical	2	3	20	30	50	2
217VEC	Part IV: Value Education	2	2	50	–	50	2

Course Code	Course Title	Ins. Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
317TA3/ 317MY3/ 317HD3/ 317FR3	<b>Semester III</b> Part I: Language III	6	3	25	75	100	4
317EN3	Part II: English III	6	3	25	75	100	4
317M05	Part III: Core V: Vector Calculus and Fourier Series	3	3	25	50	75	3
317M06	Core VI: Statics	4	3	25	75	100	4
317AM3/ 317AM1	<b>Allied III: Principles of</b> Accountancy/ <b>Chemistry I</b>	6	3	25	75/50	100/75	4/3
317NMC	Part IV: NME – Basic Mathematics for Competitive Examinations	2	2	50	–	50	2
317MS1	Skill Enhancement Course I: Graph Theory-I	3	3	75	–	75	3
417TA4/ 417MY4/ 417HD4/ 417FR4	<b>Semester IV</b> Part I: Language IV	6	3	25	75	100	4
417EN4	Part II: English IV	6	3	25	75	100	4
417M07	Part III: Core VII: Discrete Mathematics	3	3	25	50	75	3
417M08	Core VIII: Dynamics	4	3	25	75	100	4
417AM4/ 417AM2	<b>Allied IV: Mathematical</b> Statistics/ <b>Chemistry II</b>	6/4	3	25	75/50	100/75	4/3
417AMP 417NGA	<b>Allied Chemistry Practical</b> Part IV: General Awareness	2	3	20	30	50	2
417MS2	Skill Enhancement Course II: Graph Theory-II	–	1	50	–	50	2
417GIS	Information Security	3	3	75	–	75	3
417MA1/ 417MA2	<b>Advanced Learners Course I</b> <b>Combinatorics / Statistical</b> <b>Quality Control</b>	2	2	50	–	Grade	Grade
		–	3	–	100	100	4*

Course Code	Course Title	Ins. Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
	<b>Semester V</b>						
	Part III:						
517M09	Core IX: Real Analysis I	6	3	25	75	100	4
517M10	Core X: Complex Analysis I	5	3	25	75	100	4
517M11	Core XI: Abstract Algebra	5	3	25	75	100	4
517M12	Core XII: Group Project	5	–	–	100	100	4
517ME1/ 517ME2	Elective I: Programming in C (Theory)/Number Theory	4/6	3	15/25	35/75	50/100	2/4
517MP1	Programming in C Practicals	2	3	15	35	50	2
517MS3	Part IV: Skill Enhancement Course III : Scilab	3	3	75	–	75	3
	<b>Semester VI</b>						
	Part III:						
617M13	Core XIII: Real Analysis II	5	3	25	75	100	4
617M14	Core XIV: Complex Analysis II	5	3	25	75	100	4
617M15	Core XV: Linear Algebra	5	3	25	75	100	4
617ME3/ 617ME4	Elective II : Operations Research / Mathematical Cryptography	6	3	25	75	100	4
617ME5/ 617ME6	Elective III : Fuzzy and Intuitionistic fuzzy sets /Astronomy	6	3	25	75	100	4
617MS4	Part IV: Skill Enhancement Course IV: Internship	3	–	75	–	75	3
617EX1/ 617EX2/ 617EX3/ 617EX4/ 617EX5	Part V : Extension Activity	–	–	50	–	50	2
617MA3/ 617MA4	Advanced Learners Course II: Mathematics in Insurance/ Introduction to Wavelet theory	–	3	–	100	100	4*
Total						3500	140

Starred credits are treated as additional credits which are optional.

**B.Sc. Mathematics**  
**Semester IV**

**Advanced Learners Course I – COMBINATORICS 417MA1**  
**[For students admitted from the academic year 2017 – 2018 onwards]**

The objectives of this course are

- to introduce the inclusion-exclusion, pigeon-hole principles.
- to explore several methods of solutions in generating functions and recurrence relations.

**Unit I**

The Principles of Inclusion-Exclusion: The Principle of Inclusion-Exclusion – Generalization of the Principle of Inclusion-Exclusion – The Pigeon Hole Principle – The Generalized Pigeon Hole Principle.

Chapter 2: Sections 2.1 - 2.4

**Unit II**

The Principles of Inclusion-Exclusion: Derangements: Nothing is in its Right Place – Rook Polynomials and Arrangements with Forbidden Positions – Hit Polynomial. Generating Functions: Generating Function – Introductory Examples – Partitions of Integers – The Exponential Generating Function.

Chapter 2: Sections 2.5 - 2.7, Chapter 3: Sections 3.1 - 3.4

**Unit III**

Generating Functions: The Summation Operator – Calculational Techniques – Geometric Series.

Chapter 3: Sections 3.5, 3.6, 3.6.1

**Unit IV**

Recurrence Relations: The First-Order Linear Recurrence Relation – Back Tracking Method – Forward Chaining Method – Summation Method – The second-order Linear Homogeneous Recurrence Relation with Constant Coefficients.

Chapter 4: Sections 4.1 - 4.2

**Unit V**

Recurrence Relations: The Non-Homogeneous Recurrence Relations – Characteristic Equation Method – The Method of Generating Functions.

Chapter 4: Sections 4.3 - 4.4

**Book for Study:**

Theory and Problems of Combinatorics, C.Vasudev, New Age International (P) Limited, Publishers, First Edition, 2005.

**Books for Reference:**

1. A first course in combinatorial mathematics, Ian Anderson, Oxford applied mathematics and computing science series, Second Edition, 1989.
2. A Course in Enumeration, Martin Aigner, Springer Verlag Berlin, Heidelberg, 2007.

**Course Outcomes**

Upon successful completion of this course, students will be able to

**CO1:** understand the concepts of the Principle of Inclusion-Exclusion and their applications.

**CO2:** analyze the concepts of Pigeonhole Principle and its applications.  
**CO3:** understand the method of Generating Functions and Recurrence Relations.

Course Designed by : N.RAJESWARI  
 Course Reviewed by : N.JEYANTHI  
 Course Checked by : S.KALAISELVI

PO \ CO	PO1	PO 2	PO3	PO 4	PO 5	Knowledge level
CO1	H	H	M	H	H	K
CO2	H	H	H	H	H	K
CO3	H	H	M	H	H	A

B.Sc. Mathematics  
**Semester IV**

**Advanced Learners Course II – STATISTICAL QUALITY CONTROL 417MA2**  
 [For students admitted from the academic year 2017 – 2018 onwards]

The objectives of this course are

- to equip the students with various statistical techniques used in the industries for quality control.
- to enable the students to take decisions on matters related to quality in manufacturing.

**Unit I**

Directions for simple  $\bar{X}$  and R charts: Setting up and operating control charts for  $\bar{X}$  and R– checklist of necessary steps in using  $\bar{X}$  and R charts. The control chart for fraction rejected: Some practical limitations of control charts for variables – control charts for attributes – the control chart for fraction rejected – the binomial as a probability law that determines the fluctuations of fraction rejected – control limits for the p chart.

Chapter 2: Sections 2.1, 2.2 Chapter 6: Sections 6.1 - 6.5

## **Unit II**

The Control Chart for Fraction Rejected: Problems introduced by variable subgroup size – checklist of necessary steps in connection with control chart for fraction rejected – sensitivity of the p chart – non product applications of p and np charts – p charts are not suitable for all data on fraction rejected – problems.

Chapter 6: Sections 6.6 - 6.10

## **Unit III**

The Control Chart for Nonconformities: The place of the c chart in statistical process control – distinction between a nonconforming article and a nonconformity – limits for the c charts are based on the Poisson distribution – the combination of Poisson distribution – conditions favorable to the economic use of the control chart for nonconformities – adaptations of the c chart to variations in the area of opportunity for a nonconformity – probability limits for c and u charts – the u chart for nonconformities per multiple units – listing individual nonconformities on the form containing a c or u chart – the introduction of a control chart may motivate quality improvement – classification of nonconformities and their weighting – q charts for quality scores and d charts for demerit classifications – use of  $3\sqrt{c}$  for approximate calculation of control limits in situations involving the Binomial Distribution.

Chapter 7: Sections 7.1 - 7.13

## **Unit IV**

Some Fundamental Concepts in Scientific Sampling: Lot-by-Lot Acceptance Using Single Sampling by Attributes – OC Curve of an Ideal Sampling Plan – The Indexing of Acceptance Plans by a Single Point on the OC Curve – Average Outgoing Quality and AOQL – Double Sampling – Choosing a Sampling Plan to Minimize Average Total Inspection – Multiple and Sequential Sampling – Randomness in Acceptance Sampling – Problems.

Chapter 11: Sections 11.4 - 11.11

## **Unit V**

An AQL System for Lot-by-Lot Acceptance Sampling by Attributes: some decisions made in the original establishment of the AQL as a quality standard – some aspects of the master tables reproduced from the ABC standard – determining the sample size code letter – OC curves under normal, tightened, and reduced inspection – single, double and multiple sampling plans in AQL systems – classification of defects – the formation of inspection lots – acceptance based on numbers of defects – a systematic record of quality history is an important aspect of statistical acceptance procedures – selecting an acceptance plan for an isolated lot – importance of AOQL values in sampling plans based on the AQL – problems.

Chapter 12: Sections 12.3 - 12.13



**Book for Study:**

Eugene L.Grant, Richard S.Leavenworth, Statistical Quality Control, McGraw–Hill Company, Seventh Edition, 1996.

**Books for Reference:**

1. S.C.Gupta, V.K.Kapoor, Fundamentals of Applied Statistics, Sultan Chand & Sons, Reprint 2003.
2. Robert V.Hogg & Allen T. Craig, Introduction to Mathematical statistics, Fifth Edition, Pearson Education.

**Course Outcomes:**

After successfully completing the course, students should be able to

**CO1:** understand the context of using control charts and their limitations.

**CO2:** possess clarity about nonconformities and methods to deal with them.

**CO3:** apply various types of sampling appropriately.

**CO4:** carry out sampling inspection in an efficient manner.

	PO 1	PO 2	PO 3	PO 4	PO 5	Knowledge Level
CO1	H	H	H	H	H	U
CO2	H	H	H	H	H	A
CO3	H	M	H	H	H	A
CO4	H	M	H	H	H	A

Course Designed by : N.RAJESWARI  
 Course Reviewed by : N.JEYANTHI  
 Course Checked by : S.KALAISELVI



Course Code	Course Title	Ins. Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
315TA3/ 315MY3/ 315HD3 /315FR3	<b>Semester III</b> Part I: Language III	6	3	25	75	100	4
315EN3	Part II: English III	6	3	25	75	100	4
315M05	Part III: Core V: Vector Calculus and Fourier Series	3	3	25	50	75	3
315M06	Core VI: Statics	4	3	25	75	100	4
315AM3	Allied III: Principles of Accountancy	6	3	25	75	100	4
315NMC	Part IV: NME - Basic Mathematics for Competitive Examinations	2	2	50	-	50	2
315MS1	Skill Based Course I: Graph Theory-I: Introductory Concepts	3	3	75	-	75	3
415TA4/ 415MY4/ 415HD4/4 15FR4	<b>Semester IV</b> Part I: Language IV	6	3	25	75	100	4
415EN4	Part II: English IV	6	3	25	75	100	4
415M07	Part III: Core VII: Discrete Mathematics	3	3	25	50	75	3
415M08	Core VIII: Dynamics	4	3	25	75	100	4
415AM4	Allied IV: Mathematical Statistics	6	3	25	75	100	4
415NGA	Part IV: General Awareness (Online)	-	1	50	-	50	2
415MS2	Skill Based Course II: Graph Theory- II: Paths and Trees	3	3	75	-	75	3
415GIS	Information Security	2	2	50	-	Grade	Grade
415MA1/ 415MA2	Advanced Learners Course I : Combinatorics / Statistical Quality Control	-	3	-	100	100	4*

Course Code	Course Title	Ins. Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester V</b>							
Part III:							
515M09	Core IX: Real Analysis I	6	3	25	75	100	4
515M10	Core X: Complex Analysis I	5	3	25	75	100	4
515M11	Core XI: Abstract Algebra	5	3	25	75	100	4
515M12	Core XII: Group Project	5	-	-	100	100	4
515ME1	Elective I: Programming in C (Theory)	6	3	25	75	100	4
515MS3	Part IV: Skill Based Course III : Graph Theory- III: Planar Graphs and Colouring of Graphs	3	3	75	-	75	3
<b>Semester VI</b>							
Part III:							
615M13	Core XIII: Real Analysis II	5	3	25	75	100	4
615M14	Core XIV: Complex Analysis II	5	3	25	75	100	4
615M15	Core XV: Linear Algebra	5	3	25	75	100	4
615ME2	Elective II: Operations Research	6	3	25	75	100	4
615ME3	Elective III: Computational Mathematics Laboratory (Scilab and C Practical)	6	3	40	60	100	4
615MS4	Part IV: Skill Based Course IV: Internship	3	-	75	-	75	3
615EX1/ 615EX2/ 615EX3/ 615EX4/ 615EX5	Part V : Extension Activity	-	-	50	-	50	2
615MA3/ 615MA4	Advanced Learners Course II : Mathematics in Insurance / Introduction to wavelet theory	-	-	-	100	100	4*
Total						3500	140

\*Starred credits are treated as additional credits.

## **B.Sc. Mathematics**

### **Semester V**

#### **Part III – Core XII – GROUP PROJECT**

**515M12**

**[For students admitted during the academic year 2015-2016 and 2016-2017 only]**

**65 Hours**

A project work has to be carried out in an emerging area which is not covered in the syllabus and a report prepared by a group of students must be submitted. Viva-voce examination will be conducted.

The objectives of this course are to

- create awareness of applications of Mathematics in physical, chemical and social sciences.
- develop, practice, and improve group communication skills.
- apply effective research and organizational skills in preparing information.
- plan and manage time.
- refine understanding through discussion and explanation.
- tackle more complex problems than they could on their own.
- pool knowledge and skills.

## **B.Sc. Mathematics**

### **Semester V**

#### **Part III – Elective I – PROGRAMMING IN C**

**(Theory)**

**515ME1**

**[For students admitted during the academic year 2015-2016 and 2016-2017 only]**

**75 Hours**

The objectives of this course are

- to introduce the basics of programming.
- to improve the logical thinking.
- to imbibe confidence to develop programs for solving problems in mathematical and physical sciences.

#### **Unit I**

**(15 Hours)**

Constants, Variables and Data types: Introduction – Character set – C tokens – Keywords and Identifiers – Constants – Variables – Data types – Declaration of variables – Declaration of storage class – Assigning values to variables – Defining symbolic constants – Declaring a variable as constant – Declaring a variable as Volatile. Operators and Expressions: Introduction – Arithmetic operators – Relational operators – Logical operators – Assignment operators– Increment and decrement operators – Conditional operator – Bitwise operators – Special operators – Arithmetic expressions – Evaluation of expressions – Precedence of Arithmetic operators – Some computational problems – Type conversions in expressions – Operator precedence and associativity – Mathematical functions.

Chapter 2: Sections 2.1 - 2.13, Chapter 3

**Unit II** (15 Hours)

Managing Input and Output operations: Introduction – Reading a Character – Writing a Character – Formatted Input – Formatted Output. Decision making and Branching: Introduction – Decision making with IF statement – Simple IF statement – The IF...ELSE statement – Nesting of IF...ELSE statements – The ELSE IF ladder – The Switch statement – The ?: operator – The GOTO statement.

Chapter 4 and Chapter 5

**Unit III** (15 Hours)

Decision making and looping: Introduction – The WHILE statement – The DO statement – The FOR statement – Jumps in loops. Arrays: Introduction – One-dimensional arrays – Declaration of One-dimensional arrays – Initialization of One-dimensional arrays – Two-dimensional arrays – Initializing Two-dimensional arrays – Multi-dimensional arrays.

Chapter 6: Sections 6.1- 6.5, Chapter 7: Sections 7.1 - 7.7

**Unit IV** (15 Hours)

Character arrays and strings: Introduction – Declaring and initializing string variables – Reading strings from terminal – Writing strings to screen – Arithmetic operations on characters – Putting strings together – Comparison of two strings – String handling functions. User-Defined functions : Introduction – Need for user defined functions – A multi- function program – Elements of user defined functions – Definition of functions – Return values and their types – Function calls – Function declaration – Category of functions – No arguments and no return values – Arguments but no return values – Arguments with return values – No arguments but returns a value – Functions that return multiple values.

Chapter 8: Sections 8.1 - 8.8, Chapter 9: Sections 9.1 - 9.14

**Unit V** (15 Hours)

User - Defined functions: Nesting of functions – Recursion – Passing arrays to functions – Passing strings to functions – The scope, visibility and lifetime of variables. Structures and Unions: Introduction – Defining a Structure – Declaring Structure variables – Accessing Structure members – Structure Initialization – Copying and Comparing Structure variables – Operations on Individual members – Arrays of Structures – Arrays within Structures – Structures within Structures – Structures and Functions – Unions.

Chapter 9: Sections 9.15 - 9.19, Chapter 10: Sections 10.1 - 10.12

**Book for Study:**

E.Balagurusamy, Programming in ANSI 'C', McGraw Hill Education Private Limited, Sixth Edition, Fifth reprint 2013.

**Books for Reference:**

1. Henry Mullish and Herbert L. Cooper, The Spirit of 'C' – An Introduction to modern Programming, Jaico publishing house 2006.
2. Harvey Deitel & Paul J.Deitel,C: How to program, Pearson Education Inc, 6<sup>th</sup> Edition 2010.

## **E - resource**

Spoken Tutorial Project (Programming with C) as e-Resource for Learning – IIT, Mumbai under National Mission on Education through ICT, MHRD, Govt. of India.

Course Designed by : N.RAJESWARI

Course Reviewed by : P.PADMAVATHI

Course Checked by : S.KALAISELVI

### **B.Sc. Mathematics**

#### **Semester VI**

### **Part III – Elective III – COMPUTATIONAL MATHEMATICS LABORATORY**

**(Scilab and C Practical)**

**615ME5**

**[For students admitted during the academic year 2015-2016 and 2016-2017 only]**

**75 Hours**

The objective of this course is to

- develop the logical and programming skills.
- provide hands on training in executing programs.

#### **Programming in C – List of Programs**

1. Finding sum, average, standard deviation for a given set of numbers.
2. Printing Fibonacci series.
3. Prime number checking.
4. Finding roots of a Quadratic Equation.
5. Finding the product of two matrices.
6. Finding the factorial of a number using recursion.
7. Finding whether a string is PALINDROME or not.
8. Arranging strings in alphabetical order.
9. Counting tabs, number of lines, characters and blank spaces in a given text.
10. Reading and Printing personal information using structures.

#### **Scilab – List of Programs**

1. Solving a system of linear Equations.
2. Arithmetic operations on arrays.
3. Drawing 2D and 3D plots.
4. Finding derivatives and integrals of polynomials
5. Creating a structure for an employee data base containing employee code, name, designation and salary.
6. A function subprogram to calculate the compound interest, given the initial amount, time period of deposit, rate of interest and time of compounding.
7. Program to process the applications for admission to an engineering college and to list the candidates eligible for admission based on the following conditions:

(a) Marks in Maths  $\geq 60$

- (b) Marks in Physics  $\geq 55$   
 (c) Marks in Chemistry  $\geq 55$   
 (d) Total marks  $\geq 180$
8. Program to reverse the digits of a number having minimum three digits.
  9. Program to solve first order Ordinary Differential Equations.
  10. Solving Linear Programming Problem.

Course Designed by : N.RAJESWARI  
 Course Reviewed by : S.KALAISELVI  
 Course Checked by : S.KALAISELVI

**B.Sc. Mathematics**  
**Semester VI**

**Part IV – Skill Enhancement Course IV: INTERNSHIP 615MS4**

**[For students admitted during the academic year 2015-2016 and 2016-2017 only]**

**35 Hours**

The students have to select a concern/industry and take up practical training in any area related to the courses they have studied for a period of 10 days and a report has to be submitted and viva voce examination will be conducted

The objectives of internship are

- to open up a pathway to enter into a job.
- to provides awareness about the applications on Mathematics in real life.
- to instill confidence to meet people and interact with them.
- to establishes a proactive industry institute relationships.
- 

**B.Sc. Mathematics**  
**Semester VI**

**Advanced Learners Course III – MATHEMATICS IN INSURANCE**

**615MA3**

**[For students admitted during the academic year 2017 – 2018 and onwards]**

The objectives of this course are

- to equip the students with the knowledge of applications of mathematics in insurance.
- to provide opportunity for knowing the importance of mathematics in the calculation of present value of annuities, mortality tables, life assurance premiums, assurance benefits, life annuities, conversion of premiums, policy values etc., which widens the scope of employability of the learners.

**Unit I**

Annuities Certain, Present Values, Amounts, Deferred Annuities, Perpetuities, Redemption of Loans: Present Value of an Immediate Annuity Certain– Accumulated Value of Annuity –



Relation between  $s_n$  and  $a_n$  – Present Value of a Deferred Annuity Certain – Accumulated Value of a Deferred Annuity Certain – Present Value of an Annuity due of 1 p.a for a term of n years Certain – The Accumulated Value of an Annuity due of 1 p.a for a term of n years Certain at the end of n years – The Present Value of a Deferred Annuity due of 1 p.a for a term of n years Certain, the deferment period being m Years – The Accumulated Value of a Deferred Annuity due of 1 p.a for a term of n years Certain as at the end of n years; the Deferment period being m years – Perpetuity – Present Value of an Immediate Perpetuity of 1 p.a – Present Value of a Perpetuity Due of 1 p.a – Deferred Perpetuity with deferment period of m years.

Chapter II: 1 - 27

### **Unit II**

Mortality Table. Life Assurance Premiums: General Considerations.

Chapters V and VIII

### **Unit III**

Assurance Benefits. Life Annuities and Temporary Annuities.

Chapters IX and X

### **Unit IV**

Net Premiums for Assurance Plans. Net Premiums for Annuity Plans.

Chapters XI and XII

### **Unit V**

Premium Conversion Tables. Policy Values.

Chapters XIII and XV

### **Book for Study:**

Mathematical Basis of Life Assurance, Insurance Institute of India ( IC – 81), Mumbai, Reprint July 2002.

### **Books for Reference:**

1. Mark.S.Dorfman, Introduction to Risk Management and Insurance, Prentice Hall of India, New Delhi, 2005.
2. Dr.P.K.Gupta, Insurance and Risk Management, Himalaya Publishing House, 1<sup>st</sup> Education, 2004.

Course Designed by : R.ANGEL JOY  
Course Reviewed by : M.THAMILSELVI  
Course Checked by : S.KALAISELVI

## **B.Sc. Mathematics**

### **Semester VI**

### **Advanced Learner's Course IV – INTRODUCTION TO WAVELET**

#### **THEORY**

**615MA4**

**[For students admitted during the academic year 2015-2016 and 2016-2017 only]**

The objectives of this course are

- to lay a foundation of wavelet theory.

- to orient the students to look at the physical situations related to fourier transforms from a geometrical point of view.

### Unit I

Fourier Series and Geometry: Vector Space: Introduction – Bases – Orthonormality – Projection. Functions and Function Spaces: Orthogonal Functions – Orthonormal Functions – Function Spaces – Orthogonal Basis Functions – Orthonormality and the Method of Finding the Coefficients – Complex Fourier Series – Orthogonality of Complex Exponential Bases.

Chapter 2: Sections 2.1 and 2.2

### Unit II

Continuous Wavelet and Short Time Fourier Transform: Introduction – Wavelet Transform – A First Level Introduction – Mathematical Preliminaries – Fourier Transform: Continuous Time – Frequency Representation of Signals – The Windowed Fourier Transform (Short Time Fourier Transform) – The Uncertainty Principle and Time Frequency Tiling. Properties of Wavelets Used in Continuous Wavelet Transform – Continuous versus Discrete Wavelet Transform.

Chapter 3: Sections 3.1 - 3.4

### Unit III

Discrete Wavelet Transform: Introduction – Haar Scaling functions and Function Spaces: Translation and Scaling of  $\varphi(t)$  – Orthogonality of Translates of  $\varphi(t)$  – Function Space  $V_o$  – Finer Haar Scaling Functions – Nested Spaces – Haar Wavelet Functions: Scaled Haar Wavelet Functions.

Chapter 4: Sections 4.1 - 4.3

### Unit IV

Discrete Wavelet Transform: Orthogonality of  $\varphi(t)$  and  $\psi(t)$  – Normalization of Haar Bases at Different Scales – Standardizing the Notations – Refinement Relation with Respect to Normalized Bases – Support of a Wavelet System: Triangle Scaling Function – Daubechies Wavelets.

Chapter 4: Sections 4.4 - 4.9

### Unit V

Designing Orthogonal Wavelet Systems – A Direct Approach: Introduction – Refinement Relation For Orthogonal Wavelet Systems – Restrictions on Filter Coefficients: Condition1: Unit Area under Scaling Function – Condition2: Orthonormality of Translates of Scaling Functions – Condition3: Orthonormality of Scaling and Wavelet Functions – Condition4: Approximation Conditions (Smoothness Conditions) – Condition5: (Redundant) Orthonormality of Translates of Wavelet Functions – Condition6: (Redundant) Orthonormality of  $\varphi(t)$  and Translates of  $\psi(t)$ .

Chapter 5: Sections 5.1 and 5.2

### Book for Study:

K.P. Soman and K.I. Ramachandran, Insight into Wavelets from theory to practice, 2<sup>nd</sup> Edition, Prentice Hall of India Pvt. Ltd, New Delhi, 2008.

**Book for Reference:**

1. David F. Walnut, An Introduction to Wavelet Analysis, First Indian reprint 2008, Birkhauser.
2. Wavelets A Primer, Christian Blatter, Universities Press Pvt. Ltd 2003.
3. Wavelets Made Easy, Yves Nievergelt, Birkhauser 1999.
4. A friendly Guide to Wavelets, Gerald Kaiser, Second Indian Reprint 2008, Springer.

Course Designed by : S.KALAISELVI

Course Reviewed by : N.JEYANTHI

Course Checked by : S.KALAISELVI

**Curriculum Design**  
**SRI GVG VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**  
 Affiliated to Bharathiar University  
 Department of Mathematics  
**B.Sc. Mathematics**  
 Scheme of Examination-CBCS Pattern

**[For students admitted from the academic year 2015-2016 onwards]**

Course Code	Course Title	Ins. Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
115TA1/ 115MY1/ 115HD1/ 115FR1	<b>Semester I</b> Part I: Language I	6	3	25	75	100	4
115EN1	Part II: English I Part III:	6	3	25	75	100	4
115M01	Core I: Algebra and Calculus	5	3	25	75	100	4
115M02	Core II: Differential Equations and Laplace Transforms	5	3	25	75	100	4
115AM1	Allied I : Physics I	6	3	25	50	75	3
115EVS	Part IV: Environmental Studies	2	2	50	-	50	2
215TA2/ 215MY2/ 215HD2/ 215FR2	<b>Semester II</b> Part I: Language II	6	3	25	75	100	4
215EN2	Part II: English II Part III:	6	3	25	75	100	4
215M03	Core III: Analytical Geometry	5	3	25	75	100	4
215M04	Core IV: Numerical Methods	5	3	25	75	100	4
215AM2	Allied II: Physics II	4	3	25	50	75	3
215AMP	Allied Physics Practical	2	3	20	30	50	2
215VEC	Part IV: Value Education	2	2	50	-	50	2

Course Code	Course Title	Ins. Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
315TA3/ 315MY3/ 315HD3/ 315FR3	<b>Semester III</b> Part I: Language III	6	3	25	75	100	4
315EN3	Part II: English III	6	3	25	75	100	4
315M05	Part III: Core V: Vector Calculus and Fourier Series	3	3	25	50	75	3
315M06	Core VI: Statics	4	3	25	75	100	4
315AM3	Allied III: Principles of Accountancy	6	3	25	75	100	4
315NMC	Part IV: NMEC I- Basic Mathematics for Competitive Examinations	2	2	50	-	50	2
315MS1	Skill Based Course I: Graph Theory-I: Introductory Concepts	3	3	75	-	75	3
415TA4/ 415MY4/ 415HD4/ 415FR4	<b>Semester IV</b> Part I: Language IV	6	3	25	75	100	4
415EN4	Part II: English IV	6	3	25	75	100	4
415M07	Part III: Core VII: Discrete Mathematics	3	3	25	50	75	3
415M08	Core VIII: Dynamics	4	3	25	75	100	4
415AM4	Allied IV: Mathematical Statistics	6	3	25	75	100	4
415NGA	Part IV: NMEC II -General Awareness (Online)	-	1	50	-	50	2
415MS2	Skill Based Course II: Graph Theory- II: Paths and Trees	3	3	75	-	75	3
415GIS	Information Security	2	2	50	-	Grade	Grade
415ALM	Advanced Learners Course I: Combinatorics / Statistical Quality Control	-	3	-	100	100	4*

Course Code	Course Title	Ins. Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester V</b>							
Part III:							
515M09	Core IX: Real Analysis I	6	3	25	75	100	4
515M10	Core X: Complex Analysis I	5	3	25	75	100	4
515M11	Core XI: Abstract Algebra	5	3	25	75	100	4
515M12	Core XII: Fuzzy Logic and Intuitionistic fuzzy sets	5	3	25	75	100	4
515ME1	Elective I: Programming in C (Theory & Practical)	6	3	40	60	100	4
515MS3	Part IV: Skill Based Course III : Graph Theory- III: Planar Graphs and Colouring of Graphs	3	3	75	-	75	3
<b>Semester VI</b>							
Part III:							
615M13	Core XIII: Real Analysis II	5	3	25	75	100	4
615M14	Core XIV: Complex Analysis II	5	3	25	75	100	4
615M15	Core XV: Linear Algebra	5	3	25	75	100	4
615ME2	Elective II: Operations Research	6	3	25	75	100	4
615ME3	Elective III: Computational Mathematics Laboratory (Theory & Practical)	6	3	40	60	100	4
615MS4	Part IV: Skill Based Course IV: Model Presentation (Group Project)	3	-	75	-	75	3
615EX1/ 615EX2/ 615EX3/ 615EX4/ 615EX5	Part V : Extension Activity	-	-	50	-	50	2
615ALM	Advanced Learners Course II : Mathematics in Insurance / Mathematical Cryptography	-	-	-	100	100	4*
Total						3500	140

Starred credits are treated as additional credits which are optional.

**B.Sc. Mathematics**  
**Semester IV**  
**Advanced Learners Course I - COMBINATORICS      415ALM**  
**[For students admitted from the academic year 2015-2016 onwards]**

**Preamble**

Combinatorial mathematics is concerned with counting the number of ways of arranging given objects in a prescribed way. Aim of this course is to introduce a working knowledge of the basic ideas and techniques of the subject. The study begins with a specific problem, and enables to discover several methods for its solution thus motivating the student to enhance the problem solving skills.

**Unit I**

The Principles of Inclusion-Exclusion: The Principle of Inclusion-Exclusion - Generalization of the Principle of Inclusion-Exclusion - The Pigeon Hole Principle – The Generalized Pigeon Hole Principle.

Chapter 2(Sections 2.1 - 2.4)

**Unit II**

The Principles of Inclusion-Exclusion: Derangements: Nothing is in its Right Place – Rook Polynomials and Arrangements with Forbidden Positions – Hit Polynomial. Generating Functions: Generating Function – Introductory Examples – Partitions of Integers – The Exponential Generating Function.

Chapter 2(Sections 2.5 - 2.7), Chapter 3(Sections 3.1 – 3.4)

**Unit III**

Generating Functions: The Summation Operator - Calculational Techniques- Geometric Series.

Chapter 3(Sections 3.5, 3.6, 3.6.1)

**Unit IV**

Recurrence Relations: The First- Order Linear Recurrence Relation – Back Tracking Method – Forward Chaining Method – Summation Method – The second-order Linear Homogeneous Recurrence Relation with Constant Coefficients.

Chapter 4(Sections 4.1 – 4.2)

**Unit V**

Recurrence Relations: The Non-Homogeneous Recurrence Relations – Characteristic Equation Method – The Method of Generating Functions.

Chapter 4(Sections 4.3 – 4.4)

**Book for Study**

Theory and Problems of Combinatorics, C.Vasudev, New Age International (P) Limited, Publishers, First Edition, 2005.

**Books for Reference**

1. A first course in combinatorial mathematics, Ian Anderson, Oxford applied mathematics and computing science series, Second Edition, 1989.
2. A Course in enumeration, Martin Aigner, Springer Verlag Berlin, Heidelberg, 2007.

Course Designed by : N.RAJESWARI

Course Reviewed by : N.JEYANTHI

Course Checked by : A.R.THILAGAVATHI

**B.Sc. Mathematics**  
**Semester IV**  
**Advanced Learners Course I – STATISTICAL QUALITY**  
**CONTROL** **415ALM**

**[For students admitted from the academic year 2015-2016 onwards]**

**Preamble**

Many decisions on matters related to quality are called for in manufacturing. In making such decisions it is desirable to examine the relative economy of the alternatives under consideration. The techniques of statistical quality control give a useful contribution to such economy studies.

**Unit I**

Directions for simple  $\bar{X}$  and R charts: Setting up and operating control charts for  $\bar{X}$  and R-checklist of necessary steps in using  $\bar{X}$  and R charts. The control chart for fraction rejected: Some practical limitations of control charts for variables- control charts for attributes – the control chart for fraction rejected-the binomial as a probability law that determines the fluctuations of fraction rejected-control limits for the p chart.

Chapter 2 (Sections 2.1, 2.2)

Chapter 6 (Sections 6.1 – 6.5)

**Unit II**

The Control Chart for Fraction Rejected: Problems introduced by variable subgroup size-checklist of necessary steps in connection with control chart for fraction rejected – sensitivity of the p chart – non product applications of p and np charts – p charts are not suitable for all data on fraction rejected – problems.

Chapter 6 (Sections 6.6- 6.10)

**Unit III**

The Control Chart for Nonconformities :The place of the c chart in statistical process control – distinction between a nonconforming article and a nonconformity – limits for the c charts are based on the Poisson distribution – the combination of Poisson distribution – conditions favorable to the economic use of the control chart for nonconformities – adaptations of the c chart to variations in the area of opportunity for a nonconformity – probability limits for c and u charts

– the u chart for nonconformities per multiple units – listing individual nonconformities on the form containing a c or u chart – the introduction of a control chart may motivate quality improvement – classification of nonconformities and their weighting - q charts for quality scores and d charts for demerit classifications – use of  $3\sqrt{c}$  for approximate calculation of control limits in situations involving the Binomial Distribution.

Chapter 7 (Sections 7.1 – 7.13)

**Unit IV**

Some Fundamental Concepts in Scientific Sampling: Lot-by-Lot Acceptance Using Single Sampling by Attributes – OC Curve of an Ideal Sampling Plan – The Indexing of Acceptance Plans by a Single Point on the OC Curve – Average Outgoing Quality and AOQL – Double Sampling –Choosing a Sampling Plan to Minimize Average Total Inspection – Multiple and Sequential Sampling – Randomness in Acceptance Sampling – Problems.

Chapter 11 (Sections 11.4 – 11.11)



## **Unit V**

An AQL System for Lot-by-Lot Acceptance Sampling by Attributes: some decisions made in the original establishment of the AQL as a quality standard – some aspects of the master tables reproduced from the ABC standard – determining the sample size code letter – OC curves under normal, tightened, and reduced inspection – single, double and multiple sampling plans in AQL systems – classification of defects – the formation of inspection lots – acceptance based on numbers of defects – a systematic record of quality history is an important aspect of statistical acceptance procedures – selecting an acceptance plan for an isolated lot – importance of AOQL values in sampling plans based on the AQL – problems.  
Chapter 12 (Sections 12.3 – 12.13)

### **Book for study**

Eugene L.Grant, Richard S.Leavenworth, Statistical Quality Control, McGraw-Hill Company, Seventh Edition, 1996.

### **Book for Reference**

S.C.Gupta, V.K.Kapoor, Fundamentals of Applied Statistics, Sultan Chand & Sons, Reprint 2003.

Course Designed by : N.RAJESWARI

Course Reviewed by : R.ANGELJOY

Course Checked by : A.R.THILAGAVATHI

## B.Sc. Mathematics

### Semester wise Distribution with Scheme of Examination

[For the students admitted during the academic year 2014-2015 & onwards]

Sem	Course	Credits	Duration of Exam(ESE) (Hrs)	Marks		Total
				CIA	ESE	
I	Part I: Language I	3	3	25	75	100
	Part II: English I	3	3	25	75	100
	Part III: Core I: Algebra and Calculus	4	3	25	75	100
	Core II: Differential Equations and Laplace Transforms	4	3	25	75	100
	Allied I : Physics I	4	3	15	60	75
	Allied Physics Practical	-	-	-	-	-
	Part IV: Environmental Studies	2	-	50	-	50
II	Part I: Language II	3	3	25	75	100
	Part II: English II	3	3	25	75	100
	Part III: Core III: Analytical Geometry	4	3	25	75	100
	Core IV: Numerical Methods	4	3	25	75	100
	Allied II: Physics II	4	3	15	60	75
	Allied Physics Practical	2	3	20	30	50
	Part IV: Value Education	2	-	50	-	50
	Advanced Learner's Course I (ALC I): Combinatorics	3*	3	-	100	100
III	Part I: Language III	3	3	25	75	100
	Part II: English III	3	3	25	75	100
	Part III: Core V: Trigonometry, Vector Calculus and Fourier Series	4	3	25	75	100
	Core VI: Statics	4	3	25	75	100
	Allied III: Principles of Accountancy	5	3	25	75	100
	Part IV: Non Major Elective	2	-	75	-	75
	Skill Based Course: Graph Theory- I	3	-	100	-	100

Sem	Course	Credits	Duration of Exam(ESE) Hrs	Marks		Total
				CIA	ESE	
IV	Part I: Language IV	3	3	25	75	100
	Part II: English IV	3	3	25	75	100
	Part III:					
	Core VII: Operations Research	4	3	25	75	100
	Core VIII: Dynamics	4	3	25	75	100
	Allied IV: Mathematical Statistics	5	3	25	75	100
	Part IV: General Awareness	2	-	75	-	75
	Skill Based Course: Graph Theory- II	3	-	100	-	100
	<b>ALC II: Statistical Quality Control</b>	3*	3	-	100	100
Part V: Extension Activity	1	-	50	-	50	
V	Part III:					
	Core IX: Real Analysis I	4	3	25	75	100
	Core X: Abstract Algebra	4	3	25	75	100
	Core XI: Discrete Mathematics	4	3	25	75	100
	<b>Core XII: Fuzzy Logic and Intuitionistic fuzzy sets</b>	4	3	25	75	100
	Elective I: Programming in C	3	3	25	75	100
	Elective I : Programming in C- Practical	2	3	20	30	50
Part IV: Skill Based Course : Graph Theory- III	3	-	100	-	100	
VI	Part III:					
	Core XIII: Real Analysis II	4	3	25	75	100
	Core XIV: Complex Analysis	4	3	25	75	100
	Core XV: Linear Algebra	4	3	25	75	100
	Elective II- Mathematical Cryptography	5	3	25	75	100
	Elective III: Computational Mathematics Laboratory	3	3	25	75	100
	Elective III: Computational Mathematics Laboratory - Practical	2	3	20	30	50
	Part IV: Skill Based Course IV: Model Presentation (Group Project)	3	-	100	-	100
<b>ALC III: Mathematics in Insurance</b>	3*	3	-	100	100	

**Total Credits**

**140**

## B.Sc. Mathematics

### Semester II

## Advanced Learner's Course I - COMBINATORICS 214ALM

(For students admitted during the academic year 2014-15 and onwards)

### Preamble

Combinatorial mathematics is concerned with counting the number of ways of arranging given objects in a prescribed way. Aim of this course is to introduce a working knowledge of the basic ideas and techniques of the subject. The study begins with a specific problem, and enables to discover several methods for its solution thus motivating the student to enhance the problem solving skills.

### Module I

The Principles of Inclusion-Exclusion: The Principle of Inclusion-Exclusion - Generalization of the Principle of Inclusion-Exclusion - The Pigeon Hole Principle – The Generalized Pigeon Hole Principle.

Chapter 2(Sections 2.1 - 2.4)

### Module II

The Principles of Inclusion-Exclusion: Derangements: Nothing is in its Right Place – Rook Polynomials and Arrangements with Forbidden Positions – Hit Polynomial. Generating Functions: Generating Function – Introductory Examples – Partitions of Integers – The Exponential Generating Function.

Chapter 2(Sections 2.5 - 2.7), Chapter 3(Sections 3.1 – 3.4)

### Module III

Generating Functions: The Summation Operator - Calculational Techniques- Geometric Series.

Chapter 3(Sections 3.5, 3.6, 3.6.1)

### Module IV

Recurrence Relations: The First- Order Linear Recurrence Relation – Back Tracking Method – Forward Chaining Method – Summation Method – The second-order Linear Homogeneous Recurrence Relation with Constant Coefficients.

Chapter 4(Sections 4.1 – 4.2)

### Module V

Recurrence Relations: The Non-Homogeneous Recurrence Relations – Characteristic Equation Method – The Method of Generating Functions.

Chapter 4(Sections 4.3 – 4.4)

### Book for Study

Theory and Problems of Combinatorics, C.Vasudev, New Age International (P) Limited, Publishers, First Edition, 2005.

### Books for Reference

1. A first course in combinatorial mathematics, Ian Anderson, Oxford applied mathematics and computing science series, Second Edition, 1989.
2. A Course in enumeration, Martin Aigner, Springer Verlag Berlin, Heidelberg, 2007.

Course Designed by : N.RAJESWARI

Course Reviewed by : N.JEYANTHI

Course Checked by : A.R.THILAGAVATHI

*B.Sc. Mathematics*  
*Semester IV*  
*Advanced Learner's Course II – STATISTICAL QUALITY CONTROL*  
*414ALM*

**[For students admitted during the academic year 2014-2015 and onwards]**

**Preamble**

Many decisions on matters related to quality are called for in manufacturing. In making such decisions it is desirable to examine the relative economy of the alternatives under consideration. The techniques of statistical quality control give a useful contribution to such economy studies.

**Module I**

Directions for simple  $\bar{X}$  and R charts: Setting up and operating control charts for  $\bar{X}$  and R-checklist of necessary steps in using  $\bar{X}$  and R charts. The control chart for fraction rejected: Some practical limitations of control charts for variables- control charts for attributes – the control chart for fraction rejected-the binomial as a probability law that determines the fluctuations of fraction rejected-control limits for the p chart.

Chapter 2 (Sections 2.1, 2.2)

Chapter 6 (Sections 6.1 – 6.5)

**Module II**

The Control Chart for Fraction Rejected: Problems introduced by variable subgroup size-checklist of necessary steps in connection with control chart for fraction rejected – sensitivity of the p chart – non product applications of p and np charts – p charts are not suitable for all data on fraction rejected – problems.

Chapter 6 (Sections 6.6- 6.10)

**Module III**

The Control Chart for Nonconformities :The place of the c chart in statistical process control – distinction between a nonconforming article and a nonconformity – limits for the c charts are based on the Poisson distribution – the combination of Poisson distribution – conditions favorable to the economic use of the control chart for nonconformities – adaptations of the c chart to variations in the area of opportunity for a nonconformity – probability limits for c and u charts

– the u chart for nonconformities per multiple units – listing individual nonconformities on the form containing a c or u chart – the introduction of a control chart may motivate quality improvement – classification of nonconformities and their weighting - q charts for quality scores and d charts for demerit classifications – use of  $3\sqrt{c}$  for approximate calculation of control limits in situations involving the Binomial Distribution.

Chapter 7 (Sections 7.1 – 7.13)

**Module IV**

Some Fundamental Concepts in Scientific Sampling: Lot-by-Lot Acceptance Using Single Sampling by Attributes – OC Curve of an Ideal Sampling Plan – The Indexing of Acceptance Plans by a Single Point on the OC Curve – Average Outgoing Quality and AOQL – Double Sampling –Choosing a Sampling Plan to Minimize Average Total Inspection – Multiple and Sequential Sampling – Randomness in Acceptance Sampling – Problems.

Chapter 11 (Sections 11.4 – 11.11)

## Module V

*An AQL System for Lot-by-Lot Acceptance Sampling by Attributes: some decisions made in the original establishment of the AQL as a quality standard – some aspects of the master tables reproduced from the ABC standard – determining the sample size code letter – OC curves under normal, tightened, and reduced inspection – single, double and multiple sampling plans in AQL systems – classification of defects – the formation of inspection lots – acceptance based on numbers of defects – a systematic record of quality history is an important aspect of statistical acceptance procedures – selecting an acceptance plan for an isolated lot – importance of AOQL values in sampling plans based on the AQL – problems.*

*Chapter 12 (Sections 12.3 – 12.13)*

### Book for study

Eugene L. Grant, Richard S. Leavenworth, Statistical Quality Control, McGraw-Hill Company, Seventh Edition, 1996.

### Book for Reference

S.C. Gupta, V.K. Kapoor, Fundamentals of Applied Statistics, Sultan Chand & Sons, Reprint 2003.

Course Designed by : N. RAJESWARI

Course Reviewed by : R. ANGELJOY

Course Checked by : A.R. THILAGAVATHI

B.Sc. Mathematics

Semester V

## Part III – Core XII-FUZZY LOGIC AND INTUITIONISTIC FUZZY

### SETS

514M12

[For students admitted during the academic year 2014-2015 and onwards]

65 Hours

### Preamble

The course on fuzzy logic and intuitionistic fuzzy sets focuses on soft computing which is a powerful means for obtaining solutions to problems quickly, yet

accurately and acceptably. It is designed

- To introduce the concept of soft computing to the students.
- To take up research projects in these areas.
- To enable the students to apply the soft computing methodologies in their fields of work.

### Fuzzy Logic

#### Module I

(13 Hours)

Fuzzy Set Theory : Fuzzy versus Crisp - Crisp sets - Fuzzy sets - \*Crisp relations - Fuzzy relations.

Book 1 : Chapter 6

#### Module II

(13 Hours)

Fuzzy Systems: \*Crisp Logic - Predicate Logic - Fuzzy Logic - Fuzzy Rule based system - Defuzzification Methods - Applications.

Book 1 : Chapter 7

## Hybrid Systems

### Module III

(13 Hours)

Fuzzy Associative Memories: FAM - An Introduction - Single Association FAM - Fuzzy Hebb FAMs - FAM Involving a Rule Base - \*FAM Rules With Multiple Antecedents/Consequents - Applications.

Book 2 : Chapter 14

### Intuitionistic fuzzy sets

#### Module IV

(13 Hours)

Intuitionistic fuzzy sets: Definition of the concept of an Intuitionistic fuzzy sets- An Example - Operations and Relations over Intuitionistic fuzzy sets. Properties - Intuitionistic fuzzy sets of a Certain Level.

Book 2: Chapter 1 (Sections 1.1 – 1.3)

#### Module V

(13 Hours)

Intuitionistic fuzzy sets: Cartesian Products over Intuitionistic fuzzy sets.  
Intuitionistic fuzzy Relations - “Necessity” and “ Possibility” Operators on Intuitionistic fuzzy sets - Topological Operators over Intuitionistic fuzzy sets.

Book 2: Chapter 1 (Sections 1.4 – 1.6)

### Books for Study

Book 1: For Modules I-III : S.Rajasekaran, and G.A.Vijayalakshmi Pai, Neural Networks, Fuzzy Logic, and Genetic Algorithm : Synthesis and Applications, Prentice-Hall of India Private Ltd, New Delhi, 2010.

Book 2: For Modules IV, V : Krassimir T.Atanassov, Intuitionistic fuzzy sets. Theory and Applications, Physica- Verlag Heidelberg, New York,1999.

### Books for Reference

1. Timothy, J.Ross, Fuzzy Logic with Engineering Applications, McGraw Hill, 1997.
2. Dr.Valluru.B.Rao, Hayagriva.V.Rao, C++ Neural Networks and Fuzzy Logic, BPB Publications, Second Edition, 1996.

Course Designed by : R.ANGEL JOY

Course Reviewed by : P.PADMAVATHI

Course Checked by : A.R.THILAGAVATHI

## B.Sc. Mathematics

### Semester VI

#### Advanced Learner’s Course III – MATHEMATICS IN INSURANCE

614ALM

[For students admitted during the academic year 2014-2015 & onwards]

### Preamble

The object of this course is to equip the students with the knowledge of applications of mathematics in insurance. The course is offered to provide opportunity for knowing the importance of mathematics in the calculation of present value of annuities, mortality

tables, life assurance premiums, assurance benefits, life annuities, conversion of premiums, policy values etc., which widens the scope of employability of the learners.

### **Module I**

Annuities Certain, Present Values, Amounts, Deferred Annuities, Perpetuities,  
Redemption of Loans: Present Value of an Immediate Annuity Certain- Accumulated Value of Annuity- Relation between  $s_n$  and  $a_n$  – Present Value of a Deferred Annuity Certain- Accumulated Value of a Deferred Annuity Certain-

Present Value of an Annuity due of 1 p.a for a term of n years Certain- The Accumulated Value of an Annuity due of 1 p.a for a term of n years Certain at the end of n years- The Present Value of a Deferred Annuity due of 1 p.a for a term of n years Certain, the deferment period being m Years- The Accumulated Value of a Deferred Annuity due of 1 p.a for a term of n years Certain as at the end of n years; the Deferment period being m years- Perpetuity- Present Value of an Immediate Perpetuity of 1 p.a- Present Value of a Perpetuity Due of 1 p.a- Deferred Perpetuity with deferment period of m years.

Chapter II (1 – 27)

### **Module II**

Mortality Table. Life Assurance Premiums: General Considerations.  
Chapters V & VIII

### **Module III**

Assurance Benefits. Life Annuities and Temporary Annuities.  
Chapters IX & X

### **Module IV**

Net Premiums for Assurance Plans. Net Premiums for Annuity Plans  
Chapters XI & XII

### **Module V**

Premium Conversion Tables. Policy Values.  
Chapters XIII & XV

### **Book for study**

Mathematical Basis of Life Assurance, Insurance Institute of India ( IC – 81),  
Mumbai, Reprint July 2002.

### **Books for Reference**

2. Mark.S.Dorfman, Introduction to Risk Management and Insurance, Prentice Hall of India, New Delhi, 2005.
3. Dr.P.K.Gupta, Insurance and Risk Management, Himalaya Publishing House, 1<sup>st</sup> Education,2004

Course Designed by : R.ANGEL JOY  
Course Reviewed by : M.THAMILSELVI  
Course Checked by : A.R.THILAGAVATHI



**B.Sc. Mathematics**  
**Semester wise Distribution with Scheme of Examination**  
**[For the students admitted during the academic year 2012-2013 & onwards]**

Sem	Course	Credits	Duration of Exam(ESE) (Hrs)	Marks		Total
				CIA	ESE	
I	Part I: Language I	3	3	25	75	100
	Part II: English I	3	3	25	75	100
	Part III: Core I: Algebra and Calculus	4	3	25	75	100
	Core II: Differential Equations and Laplace Transforms	4	3	25	75	100
	Allied I : Physics I	4	3	15	60	75
	Allied Physics Practical	-	-	-	-	-
	Part IV: Environmental Studies	2	-	50	-	50
II	Part I: Language II	3	3	25	75	100
	Part II: English II	3	3	25	75	100
	Part III: Core III: Analytical Geometry	4	3	25	75	100
	Core IV: Numerical Methods	4	3	25	75	100
	Allied II: Physics II	4	3	15	60	75
	Allied Physics Practical	2	3	20	30	50
	Part IV: Value Education	2	-	50	-	50
	<b>Advanced Learner's Course I (ALC I): Combinatorics</b>	3*	3	-	100	100
III	Part I: Language III	3	3	25	75	100
	Part II: English III	3	3	25	75	100
	Part III: Core V: Trigonometry, Vector Calculus and Fourier Series	4	3	25	75	100
	Core VI: Statics	4	3	25	75	100
	Allied III: Principles of Accountancy	5	3	25	75	100
	Part IV: Non Major Elective	2	-	75	-	75
	Skill Based Course: Graph Theory- I	3	-	100	-	100

Sem	Course	Credits	Duration of Exam(ESE) Hrs	Marks		Total
				CIA	ESE	
IV	Part I: Language IV	3	3	25	75	100
	Part II: English IV	3	3	25	75	100
	Part III:					
	Core VII: Operations Research	4	3	25	75	100
	Core VIII: Dynamics	4	3	25	75	100
	Allied IV: Mathematical Statistics	5	3	25	75	100
	Part IV: General Awareness	2	-	75	-	75
	Skill Based Course: Graph Theory- II	3	-	100	-	100
	<b>ALC II: Statistical Quality Control</b>	3*	3	-	100	100
Part V: Extension Activity	1	-	50	-	50	
V	Part III:					
	Core IX: Real Analysis I	4	3	25	75	100
	Core X: Abstract Algebra	4	3	25	75	100
	Core XI: Discrete Mathematics	4	3	25	75	100
	Core XII: Fuzzy Logic and Neural Networks	4	3	25	75	100
	Elective I: Programming in C	3	3	25	75	100
	Elective I : Programming in C- Practical	2	3	20	30	50
Part IV: Skill Based Course : Graph Theory- III	3	-	100	-	100	
VI	Part III:					
	Core XIII: Real Analysis II	4	3	25	75	100
	Core XIV: Complex Analysis	4	3	25	75	100
	Core XV: Linear Algebra	4	3	25	75	100
	Elective II- Mathematical Cryptography	5	3	25	75	100
	Elective III: Computational Mathematics Laboratory	3	3	25	75	100
	Elective III: Computational Mathematics Laboratory - Practical	2	3	20	30	50
	Part IV: Skill Based Course IV: Model Presentation (Group Project)	3	-	100	-	100
<b>ALC III: Mathematics in Insurance</b>	3*	3	-	100	100	

**Total Credits                      140**

Starred credits are treated as additional credits which are optional.

Non-Major Elective offered by the Department – Basic Mathematics for Competitive Examinations.

**B.Sc. Mathematics**  
**Semester II**  
**Advanced Learner's Course I-COMBINATORICS**      **212ALM**  
**(For students admitted during the academic year 2012-13 and onwards)**

**Preamble**

Combinatorial mathematics is concerned with counting the number of ways of arranging given objects in a prescribed way. Aim of this course is to introduce a working knowledge of the basic ideas and techniques of the subject. The study begins with a specific problem, and enables to discover several methods for its solution thus motivating the student to enhance the problem solving skills.

**Module I**

The Principles of Inclusion-Exclusion: The Principle of Inclusion-Exclusion - Generalization of the Principle of Inclusion-Exclusion - The Pigeon Hole Principle – The Generalized Pigeon Hole Principle.

Chapter 2(Sections 2.1 - 2.4)

**Module II**

The Principles of Inclusion-Exclusion: Derangements: Nothing is in its Right Place – Rook Polynomials and Arrangements with Forbidden Positions – Hit Polynomial.

Generating Functions: Generating Function – Introductory Examples – Partitions of Integers – The Exponential Generating Function.

Chapter 2(Sections 2.5 - 2.7), Chapter 3(Sections 3.1 – 3.4)

**Module III**

Generating Functions: The Summation Operator - Calculational Techniques- Geometric Series.

Chapter 3(Sections 3.5, 3.6, 3.6.1)

**Module IV**

Recurrence Relations : The First-Order Linear Recurrence Relation – Back Tracking Method – Forward Chaining Method – Summation Method – The second-order Linear Homogeneous Recurrence Relation with Constant Coefficients.

Chapter 4(Sections 4.1 – 4.2)

**Module V**

Recurrence Relations: The Non-Homogeneous Recurrence Relations – Characteristic Equation Method – The Method of Generating Functions.

Chapter 4(Sections 4.3 – 4.4)

**Book for Study**

Theory and Problems of Combinatorics, C.Vasudev, New Age International (P) Limited, Publishers, First Edition, 2005.

**Books for Reference**

1. A first course in combinatorial mathematics, Ian Anderson, Oxford applied mathematics and computing science series, Second Edition, 1989.
2. A Course in enumeration, Martin Aigner, Springer Verlag Berlin, Heidelberg, 2007.

Course Designed by : N.RAJESWARI

Course Reviewed by : N.JEYANTHI

Course Checked by : A.R.THILAGAVATHI

## **B.Sc. Mathematics**

### **Semester IV**

#### **Advanced Learner's Course II – STATISTICAL QUALITY CONTROL 412ALM**

**[For students admitted during the academic year 2012-2013 and onwards]**

#### **Preamble**

Many decisions on matters related to quality are called for in manufacturing. In making such decisions it is desirable to examine the relative economy of the alternatives under consideration. The techniques of statistical quality control give a useful contribution to such economy studies.

#### **Module I**

Directions for simple  $\bar{X}$  and R charts: Setting up and operating control charts for  $\bar{X}$  and R-checklist of necessary steps in using  $\bar{X}$  and R charts. The control chart for fraction rejected: Some practical limitations of control charts for variables- control charts for attributes – the control chart for fraction rejected-the binomial as a probability law that determines the fluctuations of fraction rejected-control limits for the p chart.

Chapter 2 (Sections 2.1, 2.2)

Chapter 6 (Sections 6.1 – 6.5)

#### **Module II**

The Control Chart for Fraction Rejected: Problems introduced by variable subgroup size-checklist of necessary steps in connection with control chart for fraction rejected – sensitivity of the p chart – non product applications of p and np charts – p charts are not suitable for all data on fraction rejected – problems.

Chapter 6 (Sections 6.6- 6.10)

#### **Module III**

The Control Chart for Nonconformities :The place of the c chart in statistical process control – distinction between a nonconforming article and a nonconformity – limits for the c charts are based on the Poisson distribution – the combination of Poisson distribution – conditions favorable to the economic use of the control chart for nonconformities – adaptations of the c chart to variations in the area of opportunity for a nonconformity – probability limits for c and u charts – the u chart for nonconformities per multiple units – listing individual nonconformities on the form containing a c or u chart – the introduction of a control chart may motivate quality improvement – classification of nonconformities and their weighting - q charts for quality scores and d charts for demerit classifications – use of  $3\sqrt{c}$  for approximate calculation of control limits in situations involving the Binomial Distribution.

Chapter 7 (Sections 7.1 – 7.13)

#### **Module IV**

Some Fundamental Concepts in Scientific Sampling: Lot-by-Lot Acceptance Using Single Sampling by Attributes – OC Curve of an Ideal Sampling Plan – The Indexing of Acceptance Plans by a Single Point on the OC Curve – Average Outgoing Quality and AOQL – Double Sampling –Choosing a Sampling Plan to Minimize Average Total Inspection – Multiple and Sequential Sampling – Randomness in Acceptance Sampling – Problems.

Chapter 11 (Sections 11.4 – 11.11)

#### **Module V**

An AQL System for Lot-by-Lot Acceptance Sampling by Attributes: some decisions made in the original establishment of the AQL as a quality standard – some aspects of the master tables reproduced from the ABC standard – determining the sample size code letter – OC

curves under normal, tightened, and reduced inspection – single, double and multiple sampling plans in AQL systems – classification of defects – the formation of inspection lots – acceptance based on numbers of defects – a systematic record of quality history is an important aspect of statistical acceptance procedures – selecting an acceptance plan for an isolated lot – importance of AOQL values in sampling plans based on the AQL – problems.

Chapter 12 (Sections 12.3 – 12.13)

**Book for study**

Eugene L.Grant, Richard S.Leavenworth, Statistical Quality Control, McGraw-Hill Company, Seventh Edition, 1996.

**Book for Reference**

S.C.Gupta, V.K.Kapoor, Fundamentals of Applied Statistics, Sultan Chand & Sons, Reprint 2003.

Course Designed by : N.RAJESWARI

Course Reviewed by : R.ANGELJOY

Course Checked by : A.R.THILAGAVATHI

**B.Sc. Mathematics**

**Semester VI**

**Advanced Learner's Course III – MATHEMATICS IN INSURANCE 612ALM**

**[For students admitted during the academic year 2012 – 2013 and onwards]**

**Preamble**

The object of this course is to equip the students with the knowledge of applications of mathematics in insurance. The course is offered to provide opportunity for knowing the importance of mathematics in the calculation of present value of annuities, mortality tables, life assurance premiums, Assurance benefits, life annuities, conversion of premiums, policy values etc., which widens the scope of employability of the learners.

**Module I**

Annuities Certain, Present Values, Amounts, Deferred Annuities, Perpetuities, Redemption of Loans: Present Value of an Immediate Annuity Certain- Accumulated Value of Annuity- Relation between  $s_n$  and  $a_n$  – Present Value of a Deferred Annuity Certain- Accumulated Value of a Deferred Annuity Certain- Present Value of an Annuity due of 1 p.a for a term of n years Certain- The Accumulated Value of an Annuity due of 1 p.a for a term of n years Certain at the end of n years- The Present Value of a Deferred Annuity due of 1 p.a for a term of n years Certain, the deferment period being m Years- The Accumulated Value of a Deferred Annuity due of 1 p.a for a term of n years Certain as at the end of n years; the Deferment period being m years- Perpetuity- Present Value of an Immediate Perpetuity of 1 p.a- Present Value of a Perpetuity Due of 1 p.a- Deferred Perpetuity with deferment period of m years.

Chapter II (1 – 27)

**Module II**

Mortality Table. Life Assurance Premiums: General Considerations.  
Chapters V & VIII

**Module III**

Assurance Benefits. Life Annuities and Temporary Annuities.  
Chapters IX & X

**Module IV**

Net Premiums for Assurance Plans. Net Premiums for Annuity Plans  
Chapters XI & XII

**Module V**

Premium Conversion Tables. Policy Values.  
Chapters XIII & XV

**Book for study**

Mathematical Basis of Life Assurance, Insurance Institute of India ( IC – 81), Mumbai,  
Reprint July 2002.

**Books for Reference**

3. Mark.S.Dorfman, Introduction to Risk Management and Insurance, Prentice Hall of India, New Delhi, 2005.
4. Dr.P.K.Gupta, Insurance and Risk Management, Himalaya Publishing House, 1<sup>st</sup> Education,2004

Course Designed by : R.ANGEL JOY  
Course Reviewed by : M.THAMILSELVI  
Course Checked by : A.R.THILAGAVATHI

**Curriculum Design**  
**SRI G.V.G. VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**  
 Affiliated to Bharathiar University  
 Department of Mathematics  
**M.Sc Mathematics**  
**Scheme of Examination – CBCS Pattern**

**[For the Students admitted from the academic year 2017-18 onwards]**

Course Code	Course Title	Ins. Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester I</b>							
17MM01	Core I : Algebra	6	3	25	75	100	4
17MM02	Core II : Real Analysis	6	3	25	75	100	4
17MM03	Core III : Ordinary Differential Equations	6	3	25	75	100	4
17MM04	Core IV : Optimization Techniques I	5	3	25	75	100	4
17MME1/ 17MME2	Elective I: Number Theory / Differential Geometry	6	3	25	75	100	4
<b>Semester II</b>							
17MM05	Core V : Complex Analysis	5	3	25	75	100	4
17MM06	Core VI : Partial Differential Equations	6	3	25	75	100	4
17MM07	Core VII : Numerical Analysis	6	3	25	75	100	4
17MM08	Core VIII : Optimization Techniques II	5	3	25	75	100	4
17MME3/ 17MME4	Elective II : Control Theory/ Stochastic differential Equations	6	3	25	75	100	4
17MGCS	Cyber Security	2	2	-	-	Grade	Grade
17MMA1/ 17MMA2	Advanced Learners Course I: L <sup>A</sup> T <sub>E</sub> X Practicals / Statistical Methods	-	-	-	100	100	4*
<b>Semester III</b>							
17MM09	Core IX : Topology	6	3	25	75	100	4
17MM10	Core X : Classical Mechanics	6	3	25	75	100	4
17MM11	Core XI : Programming with C++	3	3	25	75	100	4
17MMCP	Programming with C++ Practical	3	3	40	60	100	4
17MM12	Core XII : Mathematical Modelling	5	3	25	75	100	4
17MME5/ 17MME6	Elective III : Graph Theory / Fuzzy Topology	6	3	25	75	100	4
17MMIS	Internship /Summer School/Sports Training	-	-	50	-	50	2

	<b>Semester IV</b>							
17MM13	Core XIII : Mathematical Methods	6	3	25	75	100	4	
17MM14	Core XIV : Functional Analysis	6	3	25	75	100	4	
17MM15	Core XV : Fluid Dynamics	6	3	25	75	100	4	
17MME7/	Elective IV : Special Functions/							
17MME8	Operator Theory	6	3	25	75	100	4	
17MMPV	Project and Viva-Voce	-	-	-	-	200	8	
17MMA3/	Advanced Learners Course II :							
17MMA4	Mathematical Biology / Subject viva voce	-	-	-	100	100	4*	
<b>Total</b>						<b>2250</b>	<b>90</b>	

Starred credits are treated as additional credits which are optional.

### M. Sc Mathematics Semester II

#### Elective II- STOCHASTIC DIFFERENTIAL EQUATIONS 17MME4

[For students admitted from the academic year 2017-2018 and onwards]75 Hours

The course is designed with the following objectives:

- To know about the existence and the uniqueness of solutions of Stochastic Differential Equations, their properties and nature
- To give the students the knowledge about the various methods available to solve the Stochastic Differential Equations
- To make the students expose to a fascinating field which has a wide scope of research

#### **Unit I (15 Hours)**

Introduction: Stochastic Analogs of Classical Differential Equations, Filtering Problems, Stochastic Approach to Deterministic Boundary Value Problems, Optimal Stopping, Stochastic Control and Mathematical Finance. Some mathematical preliminaries: Probability Spaces, Random Variables and Stochastic Processes and an Important Example: Brownian Motion.

Chapters 1 and 2

#### **Unit II (15 Hours)**

Ito Integrals: Construction of the Ito integral , Some Properties of the Ito Integral and Extensions of the Ito Integral.

Chapter 3

#### **Unit III (15 Hours)**

The Ito formula and the Martingale Representation Theorem: The 1- dimensional Ito Formula, the Multi dimensional Ito Formula and the Martingale Representation Theorem.

Chapter 4

#### **Unit IV (15 Hours)**

Stochastic Differential Equations: Examples and Some Solution Methods, An Existence and Uniqueness Result and Weak and Strong Solutions.

Chapter 6



**\*Unit V****(15 Hours)**

The Filtering problem: Introduction, The 1- dimensional Linear Filtering Problem and the Multi- dimensional Linear Filtering Problem.

Chapter 5

**Book for Study**

Stochastic Differential Equations – An Introduction with Applications, Bernt Oksendal, Sixth Edition with 14 Figures, Springer International Edition, Fourth Indian Reprint 2008.

**Books for Reference**

1. Basic Stochastic Processes, Zdzislaw Brzezniak and Tomasz Zastawniak, Springer International Edition, Second Indian Reprint 2009.

**M.Sc Mathematics****Semester - II****Advanced Learner's Course I - LATEX Practical****17MMA1****[For students admitted from the academic year 2017-2018 and onwards]**

Latex is a document markup language and document preparation system for the TEX typesetting program. The following are the objectives of the course:

- To create basic types of LATEX documents (article, report, letter, book).
- To format words, lines, and paragraphs, design pages, create lists, tables, references, and figures in LATEX.
- To build complex math structures such as fractions, stacked expressions, and matrices.
- To import graphics.
- To become a self-learner and begin investigating and learning new LATEX packages.

**List of Programs**

- Creation of basic types of LATEX documents.
- Formatting words, lines, and paragraphs, designing pages, lists, tables, references, and figures in LATEX
- Typesetting complicated Mathematics.
- Building diagrams, enhancing figures, and plotting functions, using the graphics packages.
- Creating a table of contents and lists of figures and tables.
- Developing large documents.
- Creating rich PDF documents with bookmarks, hyperlinks, and meta-data.
- Enhancing documents by color.

**Books for Reference**

1. A Guide to LATEX by H. Kopka and P.W. Daly, Third Edition, Addison – Wesley, London, 1999.
2. K.B.M.Nambudiripad, Latex For Beginners, Narosa Publishing House Pvt .Ltd., 2014

Course Designed by : P.PADMAVATHI

Course Reviewed by : N.JEYANTHI

Course Checked by : S.KALAISELVI

## M.Sc Mathematics

### Semester II

#### Advanced Learner's Course II STATISTICAL METHODS

17MMA2

[For students admitted from the academic year 2017-2018 and onwards]

Hypothesis testing is usually considered as the principal instrument in research. It is used to extend the sample inference to the population. This course facilitates the students

- to know the procedure for testing of hypothesis for large samples
- to understand about various tests of significance for large samples for attributes and variables.

#### Unit I

Large Sample Theory: Tests of Significance :Null and alternative hypotheses-Errors in sampling-Critical region and level of significance-One tailed and two tailed test-Critical values or significant values.

Chapter14 (Sections 14.4.1-14.4.5)

#### Unit II

Large Sample Theory: Procedure for testing of hypothesis-Tests of significance for large samples. Sampling of attributes: Test of significance for single proportion.Sampling of attributes: Test of significance for difference of proportions.

Chapter14 (Sections 14.5,14.6,14,7.1-14.7.2)

#### Unit III

Large Sample Theory: Sampling of variables: Unbiased estimate for population mean and variance-Standard error of sample mean-Test of significance for single mean. Tests of significance for difference of means- Tests of significance for the difference of standard deviations.

Chapter14 (Sections 14.8.1-14.8.5)

#### \*Unit IV

Exact Sampling Distributions-I:Applications of Chi-Square Distribution: Inferences about a Population Variance-Goodness of Fit Test -Test of Independence of Attributes-Contingency tables. Yate's correction(for 2 X 2 contingency table)-Brandt and Snedecor formula for 2 x k contingency table -Chi-square test of Homogeneity of correlation Coefficients-Bartlett's Test for homogeneity of several independent estimates of the same population Variance.

Chapter15(Sections 15.6.1-15.6.7)

#### Unit V

Exact Sampling Distributions-II: Applications of t-Distribution:t – test for Single Mean-t – test for Difference of Means – Paired t – test for difference of Means. t-test for Testing the Significance of an Observed Sample Correlation Coefficient- t-test for Testing the Significance of an Observed Regression Coefficient-t-test for Testing the Significance of an Observed Partial Correlation Coefficient.Applications of F-Distribution: F-test for Equality of Two Population Variances

Chapter16 (Sections 16.3.1 - 16.3.6,16.6.1)

#### Book for study

S.C.Gupta and V.K.Kapoor, Fundamentals of Mathematical Statistics, Sultan Chand & Sons,2010.

#### Books for reference

1. S.C Srivastava & Sangya Srivastava ,Fundamentals of Statistics, , Anmol

- publications Pvt Ltd, First Edition 2003.
2. D.N.Elhance, Veena Elhance & BM.Aggarval ,Fundamentals of Statistics, Kitab Mahal Agencies, 52<sup>nd</sup> Edition 2008.

Course Designed by : M.THAMILSELVI  
Course Reviewed by : A.R.THILAGAVATHI  
Course Checked by : S.KALAISELVI

**M. Sc Mathematics**

**Semester III**

**Elective III -FUZZY TOPOLOGY**

**17MME6**

**[For students admitted from the academic year 2017-2018 and onwards] 75 Hours**

The objective is to enable the students

- To be familiar with the basic concepts in fuzzy topology
- To tackle the inexact concepts that are shown everywhere in our daily life by an exact methodology.
- To apply and appreciate the importance of fuzzy concepts in the various fields of Mathematics

**Unit I (15 Hours)**

Fuzzy set theory : Introduction – Sets and Subsets-Fuzzy Subsets-Basic Operations on Fuzzy Subsets-Graphical Representation of Some Terms-Concept of Uncertainty-Support of a Fuzzy Set and  $r$ -cut or  $r$ -level. Types of Fuzzy Sets: Introduction-Different Types of Fuzzy Sets-Further Operations on Fuzzy Sets -  $t$ -norms and  $t$ -conorms or  $s$ -norms – The Extension Principle and Application – Operations for Type 2 Fuzzy Sets – Algebraic Operations with Fuzzy Numbers and Arithmetic.

Chapters 1 and 2

**Unit II (15 Hours)**

Fuzzy Topological Spaces: Introduction – Fuzzy Topology – Intuitionistic Fuzzy Topological Space. Induced Fuzzy Topological Space: Introduction – Lower Semi Continuous Function – Induced Fuzzy Topological Space.

Chapter 4 and 5

**Unit III (15 Hours)**

Connectedness in Fuzzy Topological Space: Introduction – Fuzzy Separated Sets – Fuzzy Connectedness – Some Stronger and Weaker Form of Fuzzy Connectedness.

Chapter 6

**Unit IV (15 Hours)**

Separation Axioms: Introduction – Fuzzy Separation Axiom – Unification of Fuzzy Separation Axiom.

Chapter 7

**Unit V (15 Hours)**

Fuzzy Compactness: Introduction – Fuzzy Compactness.

Chapter 8

**Book for Study**

Anjan Mukherjee and S.Bhattacharya Halder,Fuzzy set and Fuzzy Topology,Narosa

Publishing House Pvt Ltd,2015.

### **Books for Reference**

1. Ying-ming Liu, Mao-kang Luo, Fuzzy Topology, World Scientific Publishing Company Private Limited, Volume 9,1997.

2. N.Palaniappan, Fuzzy Topology , Narosa Publishing House Pvt Ltd, Third Reprint 2008.

Course Designed by : R.ANGEL JOY

Course Reviewed by : S.KALAISELVI

Course Checked by : S.KALAISELVI

## **M.Sc Mathematics**

### **Semester IV**

**Advanced Learner's Course II - MATHEMATICAL BIOLOGY 17MMA3**

**[For students admitted from the academic year 2017-2018 and onwards]**

The objectives of the course are

- To know the applications of difference and differential equations in population biology, epidemiology and ecology
- To be able to model biological motion that has some random element in it

#### **Unit I**

Single Species Population Dynamics: Introduction-Linear and Nonlinear First Order Discrete Time Models: The Biology of Insect Population Dynamics -A Model For Insect Population Dynamics with Competition-Differential Equation Models-Evolutionary Aspects-Harvesting and Fisheries-Metapopulations-Delay Effects- Fibonacci's Rabbits.

Chapter 1(Sections 1.1 – 1.8).

#### **Unit II**

Population Dynamics of Interacting Species: Introduction-Host-parasitoid Interactions-The Lotka-Volterra Prey-predator Equations-Modelling the Predator Functional Response- Competition-Ecosystems Modelling.

Chapter 2(Sections 2.1 – 2.6).

#### **Unit III**

Infectious Diseases: Introduction-The Simple Epidemic and SIS Diseases-SIR Epidemics-SIR Endemics: No Disease related Death-Including Disease related death-Eradication and Control-Age structured Populations: The Equations-Steady State.

Chapter 3(Sections 3.1 – 3.6).

#### **Unit IV**

Population Genetics and Evolution: Introduction – Mendelian Genetics in Populations with Non overlapping Generations- Selection Pressure-Selection in Some Special Cases: Selection for a Dominant Allele- Selection for a Recessive Allele- Selection against Dominant and Recessive Allele-The Additive Case-Analytical Approach for Weak Selection-The Balance Between Selection and Mutation-Wright's Adaptive Topography-Evolution of the Genetic System.

Chapter 4(Sections 4.1 – 4.8).

## Unit V

Biological Motion: Introduction – Macroscopic Theory of Motion; A Continuum Approach: General Derivation-Some Particular Cases-Directed Motion, or Taxis – Steady State Equations and Transit Times: Steady State Equations in One Spatial Variable-Transit Times-Macrophages vs Bacteria-Biological Invasions: A Model for Muskrat Dispersal –Travelling Wave Solutions of General Reaction-diffusion Equations: Node-saddle Orbits(the Monostable Equation) – Saddle-saddle Orbits(the Bistable Equation).  
Chapter 5(Sections 5.1 – 5.6).

### Book for study

Nicholas F.Britton, Essential Mathematical Biology, Springer-Verlag London Limited, First Indian Reprint 2004.

### Books for reference

1. J.N Kapur, Mathematical Modelling, Wiley Eastern Limited, Third Reprint, 1990.
2. George. F. Simmons, Differential Equations with applications and Historical Notes, Mc Graw Hill, Inc, 2<sup>nd</sup> Edition 1991.

Course Designed by : S.KALAISELVI

Course Reviewed by : N.JEYANTHI

Course Checked by : A.R.THILAGAVATHI

## M.Sc Mathematics

### Semester IV

Advanced Learner's Course II - SUBJECT VIVA VOCE 17MMA4

[For students admitted from the academic year 2017-2018 and onwards]

The subject viva-voce is intended

- to test the objective skill of the student in each subject.
- to correlate the various concepts and present the same with confidence.
- to express their views and comprehension of the subject.
- to apply the concepts in research

**Curriculum Design**  
**SRI G.V.G. VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**  
 Affiliated to Bharathiar University  
 Department of Mathematics  
**M.Sc Mathematics**  
 Scheme of Examination – CBCS Pattern  
 [For the Students admitted from the academic year 2015-16 onwards]

Course Code	Course Title	Ins. Hrs/week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester I</b>							
15MM01	Core I : Algebra	6	3	25	75	100	4
15MM02	Core II : Real Analysis	6	3	25	75	100	4
15MM03	Core III : Ordinary Differential Equations	6	3	25	75	100	4
15MM04	Core IV : Optimization Techniques I	5	3	25	75	100	4
15MME1	Elective I: Number Theory	6	3	25	75	100	4
<b>Semester II</b>							
15MM05	Core V : Complex Analysis	5	3	25	75	100	4
15MM06	Core VI : Partial Differential Equations	6	3	25	75	100	4
15MM07	Core VII : Numerical Analysis	6	3	25	75	100	4
15MM08	Core VIII : Optimization Techniques II	5	3	25	75	100	4
15MME2	Elective II : Control Theory	6	3	25	75	100	4
15MMIS	Internship	-	-	50	-	50	2
15MGCS	Cyber Security	2	2	50	-	Grade	Grade
15MMA1/	Advanced Learners Course I: Fuzzy Set	-	-	-	100	100	4*
15MMA2	Theory and its Applications / Mathematical Modelling						
<b>Semester III</b>							
15MM09	Core IX : Topology	6	3	25	75	100	4
15MM10	Core X : Classical Mechanics	6	3	25	75	100	4
15MM11	Core XI : Programming with C++	3	3	25	75	100	4
15MMCP	Programming with C++ Practical	3	3	40	60	100	4
15MM12	Core XII : Statistical Methods	5	3	25	75	100	4
15MME3	Elective III : Graph Theory	6	3	25	75	100	4

	<b>Semester IV</b>						
15MM13	Core XIII : Mathematical Methods	6	3	25	75	100	4
15MM14	Core XIV : Functional Analysis	6	3	25	75	100	4
15MM15	Core XV : Fluid Dynamics	6	3	25	75	100	4
15MME4	Elective IV : Special Functions	6	3	25	75	100	4
15MMPV	Project and Viva-Voce	-	-	-	-	200	8
15MMA3/	Advanced Learners Course II: Operator	-	-	-	100	100	4*
15MMA4	Theory / Differential Geometry						
<b>Total</b>						<b>2250</b>	<b>90</b>

Starred credits are treated as additional credits which are optional.

**M.Sc Mathematics**  
**Semester II**  
**Advanced Learner's Course I**  
**FUZZY SET THEORY AND ITS APPLICATIONS** **15MMA1**  
**[For students admitted from the academic year 2015-16 onwards]**

**Preamble**

This course is introduced for the Post Graduate advanced learners for the following two reasons:

- To provide a comprehensive coverage of theoretical foundations of Fuzzy set theory and Fuzzy logic.
- To know the diverse applications in many important areas like Engineering, Medicine, Psychology and almost all branches of science.

**Unit I**

From classical (crisp) sets to Fuzzy Sets: Fuzzy Sets: Basic Types – Fuzzy Sets. Basic concepts. Fuzzy Sets versus Crisp Sets: Additional properties of  $\alpha$ -cuts – Representation of Fuzzy sets – Extension Principle for Fuzzy Sets. Operations on Fuzzy Sets: Types of Operations – Fuzzy Compliments – Fuzzy Intersection: t-norms – Fuzzy Unions: t-Conorms – Combinations of Operations – Aggregation Operations.

Chapter 1 (Sections 1.3, 1.4), Chapter 2 (Sections 2.1-2.3) Chapter 3 (Sections 3.1-3.6)

**Unit II**

Fuzzy Arithmetic: Fuzzy Numbers-Linguistic Variables – Arithmetic Operation on Intervals – Arithmetic Operations on Fuzzy Numbers. Fuzzy Relations: Binary Fuzzy Relations – Binary Relations on a single set – Fuzzy Equivalence Relations – Fuzzy Compatibility Relations – Fuzzy Ordering Relations – Fuzzy Morphisms – Sup-i compositions of Fuzzy Relations-Inf-i compositions of Fuzzy Relations.

Chapter 4 (Sections 4.1 - 4.4), Chapter 5 (Sections 5.3 - 5.10)

**Unit III**

Fuzzy Logic: Classical Logic: An overview – Multivalued Logics – Fuzzy Propositions – Fuzzy Quantifiers- Linguistic Hedges – Inference from conditional Fuzzy propositions – Inference from conditional and quantified propositions.

Chapter 8 (Sections 8.1- 8.8).

#### **Unit IV**

Approximate Reasoning: Fuzzy Expert System: An Overview-Fuzzy Implications – Selection of Fuzzy implications – Multi Conditional Approximate Reasoning – The Role of Fuzzy Relation Equations. Fuzzy Systems: General Discussion-Fuzzy Controllers: An Overview-Fuzzy Controllers: An Example.  
Chapter 11 (Sections 11.1-11.5), Chapter 12 (Sections 12.1-12.3)

#### **Unit V**

Fuzzy Decision making: General Discussion-Individual Decision Making- Multiperson Decision Making – Multicriteria Decision Making – Multistage Decision Making – Fuzzy Ranking Methods – Fuzzy Linear Programming.  
Chapter 15 (Sections 15.1-15.7)

#### **Book for Study**

George J.Klir and Bo Yuan, Fuzzy Sets and Fuzzy Logic, Prentice – Hall of India Private Limited, New Delhi-2006.

#### **Book for Reference**

H.J. Zimmermann, Fuzzy Set Theory And its Applications, Kluwer Academic Publishers, Boston/Dordrecht/London Fourth Edition, 2<sup>nd</sup> Indian Reprint 2010.

Course Designed by : A.R.THILAGAVATHI

Course Reviewed by : R.ANGEL JOY

Course Checked by : A.R.THILAGAVATHI

### **M.Sc. Mathematics**

#### **Semester II**

#### **Advanced Learner's Course I**

#### **MATHEMATICAL MODELLING**

**15MMA2**

**[For students admitted from the academic year 2015 –16 onwards]**

#### **Preamble**

Mathematical modelling essentially consists of translating real world problem into mathematical problems by considering all the essential features of the problem and solving these problems to obtain a solution that could be implemented.

The objectives of this course are:

- To give a panoramic view of application of mathematics in Science and technology
- To choose the dominant technique among the available which is most appropriate for a particular situation.

#### **Unit I**

Mathematical Modelling through Ordinary Differential Equations of First order: Mathematical Modelling through Differential Equations-Linear Growth and decay Models- Non- Linear Growth and decay Models- Compartment Models- Mathematical Modelling in Dynamics through Ordinary Differential Equations of First Order.

Chapter 2 (Sections 2.1-2.5)

#### **Unit II**

Mathematical Modelling Through Systems of Ordinary Differential Equations of the First Order: Mathematical Modelling in Population Dynamics- Mathematical Modelling of Epidemics Through Systems of Ordinary Differential Equations of First Order -



Compartment Models through Systems of Ordinary Differential Equations - Mathematical Modelling in Economics through Systems of Ordinary Differential Equations of First Order.  
Chapter 3(Sections 3.1-3.4)

### **Unit III**

Mathematical Modelling Through Difference Equations: The Need for Mathematical Modelling Through Difference Equations: Some Simple Models- Basic Theory of Linear Difference Equations with Constant Coefficients- Mathematical Modelling Through Difference Equations in Economics and Finance.  
Chapter 5(Sections 5.1-5.3)

### **Unit IV**

Mathematical Modelling Through Partial Differential Equations: Situations giving rise to Partial Differential Equations Models – Mass-Balance Equations: First Method of Getting PDE Models Momentum – Balance Equations: The Second Method of Obtaining Partial Differential Equations Models – Variational Principles: Third Method of Obtaining Partial Differential Equation Models – Model for Traffic Flow on a Highway.  
Chapter 6(Sections 6.1-6.4,6.6)

### **Unit V**

Mathematical Modelling Through Graphs: Situations that can be Modelled Through Graphs – Mathematical Models in Terms of Directed Graphs – Mathematical Models in Terms of Signed Graphs – Mathematical Modelling in Terms of Weighted Digraphs – Mathematical Modelling in Terms of Unoriented Graphs.  
Chapter 7 (Sections 7.1-7.5)

### **Book For Study**

J.N Kapur, Mathematical Modelling, Wiley Eastern Limited, Third Reprint, 1990.

### **Books For Reference**

1. B.C. Mehra and G.M.K. Madani, Mathematics for Economists, Sultan Chand and Sons, Sixth Edition, 1988.
2. George. F. Simmons, Differential Equations with applications and Historical Notes, Mc Graw Hill, Inc, 2<sup>nd</sup> Edition 1991.
3. M.K.Venkataraman, Dynamics, Agasthiar book depot, 13<sup>th</sup> edition 2009.

Course Designed by : S.KALAISELVI

Course Reviewed by : R.ANGEL JOY

Course Checked by : A.R.THILAGAVATHI

**M.Sc Mathematics**

**Semester IV**

**ELECTIVE IV– SPECIAL FUNCTIONS**

**15MME4**

**[For students admitted from the academic year 2015-16 onwards]**

### **Preamble**

**65 Hours**

Modern engineering and physical science applications demand a thorough knowledge of applied mathematics, particularly special functions. These typically arise in applications such as communication systems, electro-optics, nonlinear wave propagation, electromagnetic theory, electric circuit theory, and quantum mechanics.

Five important special functions are included in this course.

- Legendre polynomials have application in various branches of physics and engineering, especially in the transformation of spherical harmonics under co-ordinate rotations.

- Bessel functions appear in problems of wave propagation, static potentials and problems involving cylindrical coordinate systems.
- The Hermite polynomials have their main application in the quantum-mechanical harmonic oscillator.
- The Laguerre polynomials arise in quantum mechanics, in the radial part of the solution of the Schrödinger equation for a one-electron atom.
- Chebyshev polynomials are used in polynomial approximations to arbitrary functions. They also occur in electrical circuit theory.

**Unit I** **(14 Hours)**

Legendre's Equation: Legendre's Equation-Solution of Legendre's Equation-Definition of  $P_n(x)$  and  $Q_n(x)$  – General solution of Legendre's Equation – to show the  $P_n(x)$  is the co-efficient of  $h^n$  in the expansion of  $(1-2xh+h^2)^{-1/2}$  – Laplace's definite integral for  $P_n(x)$  – Orthogonal properties of Legendre's polynomials – Recurrence formulae – Beltrami's results – Christoffel's Expansion - Christoffel's summation formula – Rodrigue's formula – Even and odd functions.

Chapter 2 (2.1-2.13)

**Unit II** **(14 Hours)**

Bessel's Equation .

Chapter 5.

**\*Unit III** **(12 Hours)**

Hermite Polynomials .

Chapter 6.

**Unit IV** **(13 Hours)**

Laguerre Polynomials.

Chapter 7.

**Unit V** **(12 Hours)**

Chebyshev Polynomials .

Chapter 8

**Book for Study**

J.N. Sharma and Dr.R.K.Gupta , Special Functions, Krishna Prakashan Mandir ,  
Sixteenth edition 1992-93.

**Books for Reference**

1. S. G. Deo, V.Lakshmikantan, V. Raghavendra ,Text book of Ordinary Differential Equations, Tata McGraw-Hill Publishing Company Ltd, New Delhi,Second Edition,16<sup>th</sup> Reprint – 2010.
2. Gupta B.D., Mathematical physics, Vikas Publishing House, Fourth Edition, 2010
3. Sathyaprakash, Mathematical physics,Sultan Chand & Sons ,5<sup>th</sup> revised edition,2011  
Course Designed by : R.ANGEL JOY  
Course Reviewed by : N.RAJESWARI  
Course Checked by : A.R.THILAGAVATHI

**M.Sc. Mathematics**  
**Semester IV**

**Advanced Learner's Course II – OPERATOR THEORY** **15MMA3**  
**[For students admitted from the academic year 2015 – 2016 onwards]**

**Preamble**

This course is introduced in the curriculum for advanced learners to provide a sound knowledge about different types of operators such as compact operators, Fredholm integral operators, adjoint compact operators etc., and higher concepts in functional analysis. This course aims

- to study the behaviour of linear operators through spectral theory.
- to provide the necessary background required to solve a system of algebraic equations, differential equations and integral equations.

**Unit I**

Bounded Linear Operators: Examples – The algebra of bounded linear operators.  
Chapter 6 (Sections 6.1-6.2)

**Unit II**

Bounded Linear Operators: The spectrum of bounded linear operators – The adjoint of a bounded linear transformation.  
Chapter 6 (Sections 6.3-6.4)

**Unit III**

Bounded Linear Operators: Compact linear operators – The Riesz – Schauder theory of compact linear operators – The spectrum of a compact linear operator – Fredholm integral equations.  
Chapter 6 (Sections 6.5-6.8)

**Unit IV**

Spectral Theory in Hilbert Spaces: Hermitian symmetric forms – Orthogonality – The Hilbert space adjoint – Self – adjoint bounded linear operators – Self – adjoint compact linear operators.  
Chapter 9: (Sections 9.1-9.5)

**Unit V**

Spectral Theory in Hilbert Spaces: Positive linear operators – Orthogonal projections – Functions of a self – adjoint bounded linear operator – The spectral theorem.  
Chapter 9: (Sections 9.6-9.9).

**Book for Study**

A.L.Brown and A.Page, Elements of Functional Analysis, Van Nostrand Reinhold Company, London, 1970.

**Books for Reference**

1. L.A.Lusternik and V.J.Sobolev, Elements of Functional Analysis, Hindustan Publishing Corpn, Delhi, Reprint of Third Edition, 1985.
2. Ronald G.Douglas, Banach Algebra Techniques in Operator Theory, Springer, Second Edition 1998.

Course Designed by : S.KALAISELVI

Course Reviewed by : N.JEYANTHI

Course Checked by : A.R.THILAGAVATHI

**M. Sc Mathematics**  
**Semester IV**  
**Advanced Learner's Course II –DIFFERENTIAL GEOMETRY 15MMA4**  
**[For students admitted from the academic year 2015-16 onwards]**

**Preamble**

This course is introduced in PG course in view of the following highlights.

- It is a rapidly growing branch of modern Mathematics with manifold applications in Maxwell theory, General relativity, Quantum mechanics etc.,.
- Provides the students with a strong grounding in the areas of curves and surfaces.
- Facilitates the students to farewell in the SLET and NET examinations.

**Unit I**

Curves: Analytic representation – Arc length, tangent-Osculating plane – Curvature – Torsion – Formulas of Frenet.

Chapter 1 (Sections 1.1 - 1.6)

**Unit II**

Curves: Contact – Natural Equations – Helics – General solution of the natural Equations – Evolutes and involutes.

Chapter 1 (Sections 1.7 - 1.11)

**Unit III**

Elementary theory of surfaces: Analytic representation – First fundamental form –Normal, tangent plane – Developable surfaces.

Chapter 2 (Sections 2.1 - 2.4)

**Unit IV**

Elementary theory of surfaces: Second fundamental form–Meusnier's theorem–Euler's theorem – Dupin's indicatrix – Some surfaces. The fundamental equations: Gauss – The equations of Gauss Weingarten.

Chapter 2 (Sections 2.5 - 2.8) Chapter 3 (Sections 3.1 - 3.2)

**Unit V**

The fundamental equations: The theorem of Gauss and the equations of Codazzi – Curvilinear coordinates in space – Some applications of the Gauss and the Codazzi equations – The fundamental theorem of surface theory.

Geometry of a surface: Geodesic(tangential) curvature – Geodesics.

Chapter 3 (Sections 3.3 - 3.6) Chapter 4 (Sections 4.1 - 4.2)

**Book for Study**

Dirk J. Struik, Lectures on Classical Differential Geometry, Addison- Wesley Publishing company Inc., Second Edition, 1961.

**Books for reference**

1. Dr. P.P.Gupta and G.S.Malik, Three dimensional Differential Geometry, Pragat Prakashan, Meerut, Tenth Edition, 2001.
2. Mittal and Agarwal, Differential Geometry, Krishna Prakashan Mandir, Twenty fifth Edition, 1997.

Course Designed by : P.PADMAVATHI

Course Reviewed by : N.JEYANTHI

Course Checked by : A.R.THILAGAVATHI

**M.Sc. Mathematics**  
**Semesterwise distribution with Scheme of Examination**  
**[For the students admitted during the academic year 2014-15 and onwards]**

Sem	Course	Credits	Duration of Exam Hrs (ESE)	Marks		Total
				CIA	ESE	
I	Core I: Algebra	5	3	25	75	100
	Core II: Real Analysis	5	3	25	75	100
	Core III: Ordinary Differential Equations	5	3	25	75	100
	Elective I: Number Theory	3	3	25	75	100
	Diploma Course : I	3	-	100	-	100
II	Core IV : Complex Analysis	5	3	25	75	100
	Core V : Partial Differential Equations	5	3	25	75	100
	Core VI: Numerical Analysis	5	3	25	75	100
	Elective II: Control Theory	3	3	25	75	100
	Diploma Course : II	3	-	100	-	100
	Mini Project	2	-	50	-	50
	Advanced Learner's Course I: Fuzzy Set Theory and its Applications / Mathematical Modelling	4*	3	-	100	100
III	Core VII: Topology	5	3	25	75	100
	Core VIII: Classical Mechanics	5	3	25	75	100
	Core IX: Programming with C++	4	3	25	75	100
	Core IX: Programming with C++ Practical	2	3	20	30	50
	Elective III : Graph theory	3	3	25	75	100
	Diploma Course: III	3	-	100	-	100
	Project Work	-	-	-	-	-
IV	Core X: Mathematical Methods	5	3	25	75	100
	Core XI : Functional Analysis	5	3	25	75	100
	Elective IV: Fluid Dynamics	3	3	25	75	100
	Diploma Course : IV	3	-	100	-	100
	Project Work	8	-	100	100	200
	Advanced Learner's Course II : Operator Theory / Differential Geometry	4*	3	-	100	100

**Total Credits**

**90**

\* Starred credits are treated as additional credits.

\*\* Diploma course carries 12 credits.

The Diploma Course offered by the Department is Quantitative Techniques.

## M.Sc Mathematics

### Semester II

#### Advanced Learner's Course I

### **FUZZY SET THEORY AND ITS APPLICATIONS 14MMA1**

**[For students admitted during the academic year 2014-15 and onwards]**

#### **Preamble**

This course is introduced for the Post Graduate advanced learners for the following two reasons:

- To provide a comprehensive coverage of theoretical foundations of Fuzzy set theory and Fuzzy logic.
- To know the diverse applications in many important areas like Engineering, Medicine, Psychology and almost all branches of science.

#### **Module I**

From classical (crisp) sets to Fuzzy Sets: Fuzzy Sets: Basic Types – Fuzzy Sets. Basic concepts. Fuzzy Sets versus Crisp Sets: Additional properties of  $\alpha$ -cuts – Representation of Fuzzy sets – Extension Principle for Fuzzy Sets. Operations on Fuzzy Sets: Types of Operations – Fuzzy Compliments – Fuzzy Intersection: t-norms – Fuzzy Unions: t-Conorms – Combinations of Operations – Aggregation Operations.  
Chapter 1 (Sections 1.3, 1.4), Chapter 2 (Sections 2.1-2.3)  
Chapter 3 (Sections 3.1-3.6)

#### **Module II**

Fuzzy Arithmetic: Fuzzy Numbers-Linguistic Variables – Arithmetic Operation on Intervals – Arithmetic Operations on Fuzzy Numbers. Fuzzy Relations: Binary Fuzzy Relations – Binary Relations on a single set – Fuzzy Equivalence Relations – Fuzzy Compatibility Relations – Fuzzy Ordering Relations – Fuzzy Morphisms – Sup-i compositions of Fuzzy Relations-Inf-i compositions of Fuzzy Relations.  
Chapter 4 (Sections 4.1 - 4.4), Chapter 5 (Sections 5.3 - 5.10)

#### **Module III**

Fuzzy Logic: Classical Logic: An overview – Multivalued Logics – Fuzzy Propositions – Fuzzy Quantifiers- Linguistic Hedges – Inference from conditional Fuzzy propositions – Inference from conditional and quantified propositions.  
Chapter 8 (Sections 8.1- 8.8).

#### **Module IV**

Approximate Reasoning: Fuzzy Expert System: An Overview-Fuzzy Implications – Selection of Fuzzy implications – Multi Conditional Approximate Reasoning – The Role of Fuzzy Relation Equations. Fuzzy Systems: General Discussion-Fuzzy Controllers: An Overview-Fuzzy Controllers: An Example.  
Chapter 11 (Sections 11.1-11.5), Chapter 12 (Sections 12.1-12.3)

#### **Module V**

Fuzzy Decision making: General Discussion-Individual Decision Making- Multiperson Decision Making – Multicriteria Decision Making – Multistage Decision Making – Fuzzy Ranking Methods – Fuzzy Linear Programming.  
Chapter 15 (Sections 15.1-15.7)

**Book for Study**

George J.Klir and Bo Yuan, Fuzzy Sets and Fuzzy Logic, Prentice – Hall of India Private Limited, New Delhi-2006.

**Book for Reference**

H.J. Zimmermann, Fuzzy Set Theory And its Applications, Kluwer Academic Publishers, Boston/Dordrecht/London Fourth Edition, 2<sup>nd</sup> Indian Reprint 2010.

Course Designed by : A.R.THILAGAVATHI

Course Reviewed by : R.ANGEL JOY

Course Checked by : A.R.THILAGAVATHI

**M.Sc. Mathematics****Semester II****Advanced Learner's Course I****MATHEMATICAL MODELLING 14MMA2**

[For students admitted during the academic year 2014 –15 and onwards]

**Preamble**

Mathematical modelling essentially consists of translating real world problem into mathematical problems by considering all the essential features of the problem and solving these problems to obtain a solution that could be implemented.

The objectives of this course are:

- To give a panoramic view of application of mathematics in Science and technology
- To choose the dominant technique among the available which is most appropriate for a particular situation.

**Module I**

Mathematical Modelling through Ordinary Differential Equations of First order: Mathematical Modelling through Differential Equations-Linear Growth and decay Models- Non- Linear Growth and decay Models- Compartment Models- Mathematical Modelling in Dynamics through Ordinary Differential Equations of First Order.

Chapter 2 (Sections 2.1-2.5)

**Module II**

Mathematical Modelling Through Systems of Ordinary Differential Equations of the First Order: Mathematical Modelling in Population Dynamics- Mathematical Modelling of Epidemics Through Systems of Ordinary Differential Equations of First Order - Compartment Models through Systems of Ordinary Differential Equations - Mathematical Modelling in Economics through Systems of Ordinary Differential Equations of First Order.

Chapter 3(Sections 3.1-3.4)

**Module III**

Mathematical Modelling Through Difference Equations:The Need for Mathematical Modelling Through Difference Equations:Some Simple Models-Basic Theory of Linear Difference Equations with Constant Coefficients- Mathematical Modelling Through Difference Equations in Economics and Finance. Chapter5(Sections 5.1-5.3)

#### **Module IV**

Mathematical Modelling Through Partial Differential Equations: Situations giving rise to Partial Differential Equations Models – Mass-Balance Equations: First Method of Getting PDE Models Momentum – Balance Equations: The Second Method of Obtaining Partial Differential Equations Models – Variational Principles: Third Method of Obtaining Partial Differential Equation Models – Model for Traffic Flow on a Highway.

Chapter 6 (Sections 6.1-6.4, 6.6)

#### **Module V**

Mathematical Modelling Through Graphs: Situations that can be Modelled Through Graphs – Mathematical Models in Terms of Directed Graphs –

Mathematical Models in Terms of Signed Graphs – Mathematical Modelling in Terms of Weighted Digraphs – Mathematical Modelling in Terms of Unoriented Graphs.

Chapter 7 (Sections 7.1-7.5)

#### **Book For Study**

J.N Kapur, Mathematical Modelling, Wiley Eastern Limited, Third Reprint, 1990.

#### **Books For Reference**

1. B.C. Mehra and G.M.K. Madani, Mathematics for Economists, Sultan Chand and Sons, Sixth Edition, 1988.
2. George. F. Simmons, Differential Equations with applications and Historical Notes, Mc Graw Hill, Inc, 2<sup>nd</sup> Edition 1991.
3. M.K.Venkataraman, Dynamics, Agasthiar book deort, 13<sup>th</sup> edition 2009.

Course Designed by : S.KALAISELVI

Course Reviewed by : R.ANGEL JOY

Course Checked by : A.R.THILAGAVATHI

### **M.Sc. Mathematics**

#### **Semester IV**

#### **Advanced Learner's Course II – OPERATOR THEORY 14MMA3**

(For students admitted during the academic year 2014 – 2015 and onwards)

#### **Preamble**

This course is introduced in the curriculum for advanced learners to provide a sound knowledge about different types of operators such as compact operators, Fredholm integral operators, adjoint compact operators etc., and higher concepts in functional analysis. This course aims

- to study the behaviour of linear operators through spectral theory.
- to provide the necessary background required to solve a system of algebraic equations, differential equations and integral equations.
- to motivate them to take up research in these areas.

#### **Module I**

Bounded Linear Operators: Examples – The algebra of bounded linear operators.

Chapter 6 (Sections 6.1-6.2)

#### **Module II**

Bounded Linear Operators: The spectrum of bounded linear operators – The adjoint of a bounded linear transformation.

Chapter 6 (Sections 6.3-6.4)



### **Module III**

Bounded Linear Operators: Compact linear operators – The Riesz – Schauder theory of compact linear operators – The spectrum of a compact linear operator – Fredholm integral equations.

Chapter 6 (Sections 6.5-6.8)

### **Module IV**

Spectral Theory in Hilbert Spaces: Hermitian symmetric forms – Orthogonality – The Hilbert space adjoint – Self – adjoint bounded linear operators – Self – adjoint compact linear operators.

Chapter 9: (Sections 9.1-9.5)

### **Module V**

Spectral Theory in Hilbert Spaces: Positive linear operators – Orthogonal projections – Functions of a self – adjoint bounded linear operator – The spectral theorem.

Chapter 9: (Sections 9.6-9.9).

### **Book for Study**

A.L.Brown and A.Page, Elements of Functional Analysis, Van Nostrand Reinhold Company, London, 1970.

### **Books for Reference**

3. L.A.Lusternik and V.J.Sobolev, Elements of Functional Analysis, Hindustan Publishing Corpn, Delhi, Reprint of Third Edition, 1985.
4. Ronald G.Douglas, Banach Algebra Techniques in Operator Theory, Springer, Second Edition 1998.

Course Designed by : S.KALAISELVI

Course Reviewed by : N.JEYANTHI

Course Checked by : A.R.THILAGAVATHI

## **M. Sc Mathematics**

### **Semester IV**

### **Advanced Learner's Course II –DIFFERENTIAL GEOMETRY 14MMA4**

(For students admitted during the academic year 2014-15 and onwards)

#### **Preamble**

This course is introduced in PG course in view of the following highlights.

- It is a rapidly growing branch of modern Mathematics with manifold applications in Maxwell theory, General relativity, Quantum mechanics etc.,.
- Provides the students with a strong grounding in the areas of curves and surfaces.
- Facilitates the students to farewell in the SLET and NET examinations.

#### **Module I**

Curves: Analytic representation – Arc length, tangent-Osculating plane – Curvature – Torsion – Formulas of Frenet.

Chapter 1 (Sections 1.1 - 1.6)

#### **Module II**

Curves: Contact – Natural Equations – Helics – General solution of the natural Equations – Evolutes and involutes.

Chapter 1 (Sections 1.7 - 1.11)

### **Module III**

Elementary theory of surfaces: Analytic representation – First fundamental form – Normal, tangent plane – Developable surfaces.

Chapter 2 (Sections 2.1 - 2.4)

### **Module IV**

Elementary theory of surfaces: Second fundamental form – Meusnier's theorem – Euler's theorem – Dupin's indicatrix – Some surfaces. The fundamental equations: Gauss – The equations of Gauss Weingarten.

Chapter 2 (Sections 2.5 - 2.8) Chapter 3 (Sections 3.1 - 3.2)

### **Module V**

The fundamental equations: The theorem of Gauss and the equations of Codazzi – Curvilinear coordinates in space – Some applications of the Gauss and the Codazzi equations – The fundamental theorem of surface theory.

Geometry of a surface: Geodesic (tangential) curvature – Geodesics.

Chapter 3 (Sections 3.3 - 3.6) Chapter 4 (Sections 4.1 - 4.2)

### **Book for Study**

Dirk J. Struik, Lectures on Classical Differential Geometry, Addison- Wesley Publishing company Inc., Second Edition, 1961.

### **Books for reference**

3. Dr. P.P.Gupta and G.S.Malik, Three dimensional Differential Geometry, PragatPrakashan, Meerut, Tenth Edition, 2001.
4. Mittal and Agarwal, Differential Geometry, Krishna Prakashan Mandir, Twenty fifth Edition, 1997

Course Designed by : P.PADMAVATHI

Course Reviewed by : M.THAMILSELVI

Course Checked by : A.R.THILAGAVATHI

**M.Sc. Mathematics**  
**Semesterwise distribution with Scheme of Examination**  
**[For the students admitted during the academic year 2012-13 and onwards]**

Sem	Course	Credits	Duration of Exam Hrs (ESE)	Marks		Total
				CIA	ESE	
I	Core I: Algebra	5	3	25	75	100
	Core II: Real Analysis	5	3	25	75	100
	Core III: Ordinary Differential Equations	5	3	25	75	100
	Elective I: Number Theory	4	3	25	75	100
	Diploma Course : I	3	-	100	-	100
II	Core IV : Complex Analysis	5	3	25	75	100
	Core V : Partial Differential Equations	5	3	25	75	100
	Core VI: Numerical Analysis	5	3	25	75	100
	Elective II: Control Theory	4	3	25	75	100
	Diploma Course : II	2	-	100	-	100
	Advanced Learner's Course I: Fuzzy Set Theory and its Applications / Mathematical Modelling	4*	3	-	100	100
III	Core VII: Topology	5	3	25	75	100
	Core VIII: Classical Mechanics	5	3	25	75	100
	Core IX: Programming with C++	4	3	25	75	100
	Core IX: Programming with C++ Practical	2	3	40	60	100
	Elective III : Graph theory	4	3	25	75	100
	Diploma Course: III	3	-	100	-	100
	Project Work	-	-	-	-	-
IV	Core X: Mathematical Methods	5	3	25	75	100
	Core XI : Functional Analysis	5	3	25	75	100
	Elective IV: Fluid Dynamics	4	3	25	75	100
	Diploma Course : IV	2	-	100	-	100
	Project Work	8	-	-	-	200
	Advanced Learner's Course II : Operator Theory / Differential Geometry	4*	3	-	100	100

**Total Credits**

**90**

\* Starred credits are treated as additional credits.

\*\* Diploma course carries 10 credits.

## M.Sc Mathematics

### Semester II

#### Advanced Learner's Course I

### FUZZY SET THEORY AND ITS APPLICATIONS

12MMA1

[For students admitted during the academic year 2012-13 and onwards]

#### Preamble

This course is introduced for the Post Graduate advanced learners for the following two reasons:

- To provide a comprehensive coverage of theoretical foundations of Fuzzy set theory and Fuzzy logic.
- To know the diverse applications in many important areas like Engineering, Medicine, Psychology and almost all branches of science.

#### Module I

From classical (crisp) sets to Fuzzy Sets: Fuzzy Sets: Basic Types – Fuzzy Sets.

Basic concepts. Fuzzy Sets versus Crisp Sets: Additional properties of  $\alpha$ -cuts – Representation of Fuzzy sets – Extension Principle for Fuzzy Sets.

Operations on Fuzzy Sets: Types of Operations – Fuzzy Compliments – Fuzzy Intersection: t-norms – Fuzzy Unions: t-Conorms – Combinations of Operations – Aggregation Operations.

Chapter 1 (Sections 1.3, 1.4), Chapter 2 (Sections 2.1-2.3)

Chapter 3 (Sections 3.1-3.6)

#### Module II

Fuzzy Arithmetic: Fuzzy Numbers-Linguistic Variables – Arithmetic Operation on Intervals – Arithmetic Operations on Fuzzy Numbers.

Fuzzy Relations: Binary Fuzzy Relations – Binary Relations on a single set – Fuzzy Equivalence Relations – Fuzzy Compatibility Relations – Fuzzy Ordering Relations – Fuzzy Morphisms – Sup- $\alpha$  compositions of Fuzzy Relations-Inf- $\alpha$  compositions of Fuzzy Relations.

Chapter 4 (Sections 4.1 - 4.4), Chapter 5 (Sections 5.3 - 5.10)

#### Module III

Fuzzy Logic: Classical Logic: An overview – Multivalued Logics – Fuzzy Propositions – Fuzzy Quantifiers- Linguistic Hedges – Inference from conditional Fuzzy propositions – Inference from conditional and Quantified propositions.

Chapter 8 (Sections 8.1- 8.8).

#### Module IV

Approximate Reasoning: Fuzzy Expert System: An Overview-Fuzzy Implications – Selection of Fuzzy implications – Multi Conditional Approximate Reasoning – The Role of Fuzzy Relation Equations.

Fuzzy Systems: General Discussion-Fuzzy Controllers: An Overview-Fuzzy Controllers: An Example.

Chapter 11 (Sections 11.1-11.5), Chapter 12 (Sections 12.1-12.3)

#### Module V

Fuzzy Decision making: General Discussion-Individual Decision Making- Multiperson Decision Making – Multicriteria Decision Making – Multistage Decision Making – Fuzzy Ranking Methods – Fuzzy Linear Programming.

Chapter 15 (Sections 15.1-15.7)

**Book for Study**

George J.Klir and Bo Yuan, Fuzzy Sets and Fuzzy Logic, Prentice – Hall of India Private Limited, New Delhi-2006.

**Book for Reference**

H.J. Zimmermann, Fuzzy Set Theory And its Applications, Kluwer Academic Publishers, Boston/Dordrecht/London Fourth Edition, 2<sup>nd</sup> Indian Reprint 2010.

Course Designed by : A.R.THILAGAVATHI

Course Reviewed by : R.ANGEL JOY

Course Checked by : A.R.THILAGAVATHI

**M.Sc. Mathematics****Semester II****Advanced Learner's Course I****MATHEMATICAL MODELLING****12MMA2**

[For students admitted during the academic year 2012 –13 and onwards]

**Preamble**

Mathematical modelling essentially consists of translating real world problem into mathematical problems by considering all the essential features of the problem and solving these problems to obtain a solution that could be implemented.

The objectives of this course are:

- To give a panoramic view of application of mathematics in Science and technology
- To choose the dominant technique among the available which is most appropriate for a particular situation.

**Module I**

Mathematical Modelling through Ordinary Differential Equations of First order:

Mathematical Modelling through Differential Equations-Linear Growth and decay Models- Non- Linear Growth and decay Models- Compartment Models- Mathematical Modelling in Dynamics through Ordinary Differential Equations of First Order.

Chapter 2 (Sections 2.1-2.5)

**Module II**

Mathematical Modelling Through Systems of Ordinary Differential Equations of the First Order: Mathematical Modelling in Population Dynamics- Mathematical Modelling of Epidemics Through Systems of Ordinary Differential Equations of First Order - Compartment Models through Systems of Ordinary Differential Equations - Mathematical Modelling in Economics through Systems of Ordinary Differential Equations of First Order.

Chapter 3(Sections 3.1-3.4)

**Module III**

Mathematical Modelling Through Difference Equations:The Need for Mathematical Modelling Through Difference Equations:Some Simple Models-Basic Theory of Linear Difference Equations with Constant Coefficients- Mathematical Modelling Through Difference Equations in Economics and Finance.

Chapter5(Sections 5.1-5.3)

**Module IV**

Mathematical Modelling Through Partial Differential Equations: Situations giving rise to Partial Differential Equations Models – Mass-Balance Equations:First Method of Getting

PDE Models Momentum – Balance Equations: The Second Method of Obtaining Partial Differential Equations Models – Variational Principles: Third Method of Obtaining Partial Differential Equation Models – Model for Traffic Flow on a Highway.

Chapter 6 (Sections 6.1-6.4, 6.6)

### **Module V**

Mathematical Modelling Through Graphs: Situations that can be Modelled Through Graphs – Mathematical Models in Terms of Directed Graphs – Mathematical Models in Terms of Signed Graphs – Mathematical Modelling in Terms of Weighted Digraphs – Mathematical Modelling in Terms of Unoriented Graphs.

Chapter 7 (Sections 7.1-7.5)

### **Book For Study**

J.N Kapur, Mathematical Modelling, Wiley Eastern Limited, Third Reprint, 1990.

### **Books For Reference**

1. B.C.Mehra and G.M.K.Madani, Mathematics for Economists, Sultan Chand and Sons, Sixth Edition, 1988.
2. George.F.Simmons, Differential Equations with applications and Historical Notes, Mc Graw Hill, Inc, 2<sup>nd</sup> Edition 1991.
3. M.K.Venkataraman, Dynamics, Agasthiar book deort, 13<sup>th</sup> edition 2009.

Course Designed by : S.KALAISELVI

Course Reviewed by : R.ANGEL JOY

Course Checked by : A.R.THILAGAVATHI

## **M.Sc. Mathematics**

### **Semester IV**

#### **Advanced Learner's Course II – OPERATOR THEORY 12MMA3**

**(For students admitted during the academic year 2012 – 2013 and onwards)**

### **Preamble**

This course is introduced in the curriculum for advanced learners to provide a sound knowledge about different types of operators such as compact operators, Fredholm integral operators, adjoint compact operators etc., and higher concepts in functional analysis. This course aims

- to study the behaviour of linear operators through spectral theory.
- to provide the necessary background required to solve a system of algebraic equations, differential equations and integral equations.
- to motivate them to take up research in these areas.

### **Module I**

Bounded Linear Operators: Examples – The algebra of bounded linear operators.

Chapter 6 (Sections 6.1-6.2)

### **Module II**

Bounded Linear Operators: The spectrum of bounded linear operators – The adjoint of a bounded linear transformation.

Chapter 6 (Sections 6.3-6.4)

### **Module III**

Bounded Linear Operators: Compact linear operators – The Riesz – Schauder theory of compact linear operators – The spectrum of a compact linear operator – Fredholm integral equations.

Chapter 6 (Sections 6.5-6.8)

#### **Module IV**

Spectral Theory in Hilbert Spaces: Hermitian symmetric forms – Orthogonality – The Hilbert space adjoint – Self – adjoint bounded linear operators – Self – adjoint compact linear operators.

Chapter 9: (Sections 9.1-9.5)

#### **Module V**

Spectral Theory in Hilbert Spaces: Positive linear operators – Orthogonal projections – Functions of a self – adjoint bounded linear operator – The spectral theorem.

Chapter 9: (Sections 9.6-9.9).

#### **Book for Study**

A.L.Brown and A.Page, Elements of Functional Analysis, Van Nostrand Reinhold Company, London, 1970.

#### **Books for Reference**

5. L.A.Lusternik and V.J.Sobolev, Elements of Functional Analysis, Hindustan Publishing Corpn, Delhi, Reprint of Third Edition, 1985.
6. Ronald G.Douglas, Banach Algebra Techniques in Operator Theory, Springer, Second Edition 1998.

Course Designed by : S.KALAISELVI

Course Reviewed by : N.JEYANTHI

Course Checked by : A.R.THILAGAVATHI

### **M. Sc Mathematics**

#### **Semester IV**

**Advanced Learner's Course II –DIFFERENTIAL GEOMETRY 12MMA4**  
**[For students admitted during the academic year 2012-13 and onwards]**

#### **Preamble**

This course is introduced in PG course in view of the following highlights.

- It is a rapidly growing branch of modern Mathematics with manifold applications in Maxwell theory, General relativity, Quantum mechanics etc.,.
- Provides the students with a strong grounding in the areas of curves and surfaces.
- Facilitates the students to farewell in the SLET and NET examinations.

#### **Module I**

Curves: Analytic representation – Arc length, tangent-Osculating plane – Curvature – Torsion – Formulas of Frenet.

Chapter 1 (Sections 1.1 - 1.6)

#### **Module II**

Curves: Contact – Natural Equations – Helics – General solution of the natural Equations – Evolutes and involutes.

Chapter 1 (Sections 1.7 - 1.11)

#### **Module III**

Elementary theory of surfaces: Analytic representation – First fundamental form – Normal, tangent plane – Developable surfaces.

Chapter 2 (Sections 2.1 - 2.4)

#### **Module IV**

Elementary theory of surfaces: Second fundamental form – Meusnier's theorem – Euler's

theorem – Dupin's indicatrix – Some surfaces.

The fundamental equations: Gauss – The equations of Gauss Weingarten.

Chapter 2 (Sections 2.5 - 2.8) Chapter 3 (Sections 3.1 - 3.2)

### **Module V**

The fundamental equations: The theorem of Gauss and the equations of Codazzi – Curvilinear coordinates in space – Some applications of the Gauss and the Codazzi equations – The fundamental theorem of surface theory.

Geometry of a surface: Geodesic(tangential) curvature – Geodesics.

Chapter 3 (Sections 3.3 - 3.6) Chapter 4 (Sections 4.1 - 4.2)

### **Book for Study**

Dirk J. Struik, Lectures on Classical Differential Geometry, Addison- Wesley Publishing company Inc., Second Edition, 1961.

### **Books for reference**

5. Dr. P.P.Gupta and G.S.Malik, Three dimensional Differential Geometry, PragatPrakashan, Meerut, Tenth Edition, 2001.
6. Mittal and Agarwal, Differential Geometry, Krishna Prakashan Mandir, Twenty fifth Edition, 1997.

Course Designed by :P.PADMAVATHI

Course Reviewed by : M.THAMILSELVI

Course Checked by : A.R.THILAGAVATHI



**Curriculum Framework for the students admitted in the academic year 2017-2018**

**Department of Physics**

**Curriculum Design**

**Sri G.V.G Visalakshi College for Women (Autonomous)**

Affiliated to Bharathiar University

**B.Sc. Physics**

Scheme of Examination – CBCS Pattern

Sem	Course code	Course Title	Ins Hrs/ week	Examination				Credits
				Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>I</b>	117TA1/ 117MY1/ 117HD1/ 117FR1	<b>Part I - Language I</b>	6	3	25	75	100	4
	117EN1	<b>Part II - English I</b>	6	3	25	75	100	4
	117P01	<b>Part III - Core I- Mechanics, Properties of Matter and Sound</b>	7	3	25	75	100	5
		Core Practical I	3	-	-	-	-	-
	117AP1	Allied I-Chemistry I	4	3	25	50	75	3
		Allied Chemistry Practical	2	-	-	-	-	-
	117EVS	<b>Part IV - Environmental Studies</b>	2	2	50	-	50	2
<b>II</b>	217TA2/ 217MY2/ 217HD2/ 217FR2	<b>Part I - Language II</b>	6	3	25	75	100	4
	217EN2	<b>Part II - English II</b>	6	3	25	75	100	4
	217P02	<b>Part III - Core II - Heat and Thermodynamics</b>	4	3	25	75	100	4
	217P03	<b>Part III - Core III - Optics</b>	3	3	25	75	100	3
	217PP1	Core Practical I	3	3	40	60	100	4
	217AP2	Allied II- Chemistry II	4	3	25	50	75	3
	217APP	Allied Chemistry Practical	2	3	20	30	50	2
	217VEC	<b>Part IV- Value Education</b>	2	2	50	-	50	2

<b>III</b>	317TA3/ 317MY3/ 317HD3/ 317FR3	<b>Part I - Language III</b>	6	3	25	75	100	4
	317EN3	<b>Part II - English III</b>	6	3	25	75	100	4
	317P04	<b>Part III - Core IV- Atomic and Solid State Physics</b>	4	3	25	75	100	4
		Core Practical II	3	-	-	-	-	-
	317AP3	Allied III - Mathematics I	6	3	25	75	100	4
	317NSE	<b>Part IV</b> Non-Major Elective Science in everyday life	2	2	50	-	50	2
	317PS1	<b>Part IV</b> Skill Enhancement Course I- Mechanical & Medical Instrumentation	3	3	75	-	75	3
<b>IV</b>	417TA4/ 417MY4/ 417HD4/ 417FR4	<b>Part I - Language IV</b>	6	3	25	75	100	4
	417EN4	<b>Part II- English IV</b>	6	3	25	75	100	4
	417P05	<b>Part III- Core V Mathematical Physics</b>	4	3	25	75	100	4
	417PP2	Core Practical II	3	3	40	60	100	4
	417AP4	Allied IV- Mathematics II	6	3	25	75	100	4
	417NGA	<b>Part IV</b> General Awareness	-	1	50	-	50	2
	417PS2	<b>Part IV- Skill</b> Enhancement Course –II Electrical Instrumentation	3	3	75	-	75	3
	417GIS	Information Security	2	2	50	-	Grade	Grade
	417ALP	<b>Advanced Learners Course I - Space Physics</b>	-	3	-	100	100	4*

<b>V</b>	517P06	<b>Part III</b> - Core VI - Electronic Devices and Circuits	5	3	25	75	100	4
	517P07	Core VII - Nanosciences	6	3	25	75	100	4
	517PP3	Core Practical III	6	3	40	60	100	4
	517PE1	Elective I – Scilab (T &P) / Astrophysics	5	3	40	60	100	4
	517PE2		5	3	25	75	100	4
	517PE3	Elective II – Project and Viva - voce	5	3	50	50	100	4
517PS3	<b>Part IV</b> - Skill Enhancement Course-III Electronic Instrumentation	3	3	75	-	75	3	
<b>VI</b>	617P08	<b>Part III</b> - Core VIII - Electricity and Magnetism	5	3	25	75	100	4
	617P09	Core IX - Quantum Mechanics and Relativity	5	3	25	75	100	4
	617P10	Core X - Digital Electronics and Microprocessors	5	3	25	75	100	4
	617PP4	Core Practical IV	6	3	40	60	100	4
	617PE4	Elective III- Programming in C / Programming in MATLAB	4	3	25	75	100	4
	617PE5							
	617PE6	Elective Practical - Programming in C / Programming in MATLAB	2	3	20	30	50	2
	617PE7							
	617PS4	<b>Part IV</b> -Skill Enhancement Course-IV Institutional Training	3	-	75	-	75	3
617EX1/ 617EX2/ 617EX3/ 615EX4/ 617EX 5	<b>Part V</b> - Extension activity	-	-	50	-	50	2	
617ALP	<b>Advanced Learners Course II</b> - Energy Physics	-	3	-	100	100	4 *	
<b>Total</b>						<b>3500</b>	<b>140</b>	

\* Starred credits are treated as additional credits (Optional).

**Institutional training during summer vacation after II and IV semesters for one week.**

**B.Sc. Physics**  
**Semester IV**  
**Advanced Learner's Course I**      **417ALP**  
**Space Physics**

**Credits: 4**

**The main objectives of this course are**

- To provide an understanding about the universe, celestial bodies and gravity existing among them.
- To acquaint oneself with the informations regarding the planets and moon.
- To instill an awareness regarding the planetary probes and SLVs.
- To provide a learning in the areas of developments in satellite communication.
- To inculcate a curiosity and interest to probe into the space.

**Unit I**

Atmosphere and beyond – Gravity – Escape velocity – Rockets – Artificial satellites – Geostationary orbit – Polar orbits.

**Unit II**

Lunar probes and planetary probes – Expedition to the moon – Conquest of moon – Moon probes, Asteroids – Mars – Jupiter – Venus – Mercury – Saturn – Distant planets.

**Unit III**

Planetary probes and Indian launch vehicle – Genesis – Aryabhata – Bhaskara – SLV3 – Apple.

**Unit IV**

ASLV – PSLV – GSLV – Polar Satellite Launch Vehicle – Geosynchronous Satellite Launch Vehicle – Indian National Satellite Systems – Chandrayan – Mangalyan.

**Unit V**

Satellite Application – Introduction – Satellite television – Telephone service via satellite – Data communication satellite – Satellite for earth observation.

Satellite for weather forecast – Satellite for scientific studies – Satellite for military applications.

**Books for study:**

<b>Unit No.</b>	<b>Name of the Book</b>	<b>Authors</b>	<b>Publishers</b>	<b>Year &amp; Edition</b>
I to IV	Space research	Prof.S.Kumaravelu Prof. N. Suseela Kumaravelu	Senthil Art Printers, Sivakasi,	2002
V	Satellite Communications	Dr. D.C.A.Agarwal, A.K. Mani	Khanna Publishers	4 <sup>th</sup> edition  2000

**Course outcome:**

The self learning of this course will be able to

**CO1:** develop an interest in the knowing of universe.

**CO2:** provide an understanding of the satellite probes and planets.

**CO3:** create an awareness on the types of launch vehicles used for various purpose.

**CO4:** facilitate an understanding on the Indian satellite system.

**CO5:** generate a responsibility to contribute oneself for the Indian space mission.

**Curriculum Framework for the students admitted in the academic year 2016-2017**

**Department of Physics**

**Curriculum Design**

**Sri G.V.G Visalakshi College for Women (Autonomous)**

Affiliated to Bharathiar University

**B.Sc. Physics**

Scheme of Examination – CBCS Pattern

Sem	Course code	Course Title	Ins Hrs/ week	Examination				Credits
				Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>I</b>	115TA1/ 115MY1/ 115HD1/ 115FR1	<b>Part I</b> - Language I	6	3	25	75	100	4
	115EN1 115P01	<b>Part II</b> - English I <b>Part III</b> - Core I- Mechanics and Properties of Matter Core Practical I	6	3	25	75	100	4
			7	3	25	75	100	4
			3	-	-	-	-	-
	115AP1	Allied I-Chemistry I Allied Chemistry Practical	4	3	25	50	75	3
	115EVS	<b>Part IV</b> - Environmental Studies	2	2	50	-	50	2
<b>II</b>	215TA2/ 215MY2/ 215HD2/ 215FR2	<b>Part I</b> - Language II	6	3	25	75	100	4
	215EN2 215P02	<b>Part II</b> - English II <b>Part III</b> - Core II - Heat and Thermodynamics Core Practical I	6	3	25	75	100	4
			7	3	25	75	100	4
	215PP1		3	3	40	60	100	4
	215AP2	Allied II- Chemistry II Allied Chemistry Practical	4	3	25	50	75	3
	215APP		2	3	20	30	50	2
	215VEC	<b>Part IV</b> - Value Education	2	2	50	-	50	2
<b>III</b>	315TA3/ 315MY3/ 315HD3/ 315FR3	<b>Part I</b> - Language III	6	3	25	75	100	4
	315EN3 315P03	<b>Part II</b> - English III <b>Part III</b> - Core III- Optics Core Practical II	6	3	25	75	100	4
			4	3	25	75	100	4
			3	-	-	-	-	-
	315AP3	Allied III - Mathematics I <b>Part IV</b>	6	3	25	75	100	4
	315PS1	Skill Based Course I- Mechanical Instrumentation	3	3	75	-	75	3
	315NSE	Non-Major Elective Course I: Science in everyday life	2	2	50	-	50	2

IV	415TA4/ 415MY4/ 415HD4/ 415FR4 415EN4 415P04	<b>Part I - Language IV</b>	6	3	25	75	100	4
		<b>Part II- English IV</b>	6	3	25	75	100	4
		<b>Part III- Core IV- Waves and Oscillations</b>	4	3	25	75	100	4
		<b>416PP2</b> Core Practical II	3	3	40	60	100	4
		415AP4 Allied IV- Mathematics II	6	3	25	75	100	4
		415PS2 <b>Part IV- Skill Based Course -II</b> Medical Instrumentation	3	3	75	-	75	3
		415NGA Non-Major Elective Course II: General Awareness (On-line)	-	1	50	-	50	2
		415GIS Information Security	2	2	50	-	Grade	Grade
	<b>415ALP</b>	<b>Advanced Learners Course I - Space Physics</b>	-	3	-	100	100	3*
V	515P05	<b>Part III - Core V- Mathematical Physics</b>	5	3	25	75	100	4
	515P06	Core VI- Atomic and Solid State Physics	4	3	25	75	100	4
	515P07	Core VII- Electronic Devices and Circuits	4	3	25	75	100	4
	515PP3	Core Practical III	6	3	40	60	100	4
	<b>515PE1</b>	<b>Elective I – Nanosciences</b>	4	3	25	75	100	4
	<b>515PE2</b>	<b>Elective II – Project and Viva - voce</b>	4	3	50	50	100	4
	515PS3	<b>Part IV- Skill Based Course-III</b> Electrical and Electronic Instrumentation	3	3	75	-	75	3
VI	615P08	<b>Part III - Core VIII- Electricity and Magnetism</b>	5	3	25	75	100	4
	615P09	Core IX - Quantum Mechanics and Relativity	5	3	25	75	100	4
	615P10	Core X - Digital Electronics and Microprocessors	5	3	25	75	100	4
	<b>615PE3</b>	<b>Elective III- Programming in C</b>	4	3	25	75	100	4
	615PP4	Core Practical IV	6	3	40	60	100	4
	<b>615PPE</b>	<b>Elective Practical Programming in C</b>	2	3	20	30	50	2
	615PS4	<b>Part IV-Skill Based Course-IV</b> Institutional Training	3	-	75	-	75	3
		<b>Part V-</b> Extension activity	-	-	50	-	50	2
	615EX1/ 615EX2/ 615EX3/ 615EX4/ 615EX5							
	<b>615ALP</b>	<b>Advanced Learners Course II - Energy Physics</b>	-	3	-	100	100	3*
<b>Total</b>			<b>3500</b>			<b>140</b>		

**B.Sc Physics**  
**Semester IV**  
**Advanced Learner's Course I** **415ALP**  
**Space Physics**

**Credits: 4**

**Preamble:**

This paper is introduced for the advanced learners to inculcate an interest and curiosity to know about space. This paper also imparts knowledge about the recent development in satellite communication.

**Objectives:**

- The main objective of this Self learning paper is to make the students understand the existence of the celestial bodies and the forces between them.
- Secondly this paper will facilitate the students to learn about the attempts being made by our country in the space exploration.

**Unit I**

Atmosphere and beyond – Gravity – Escape velocity – Rockets – Artificial satellites – Geostationary orbit – Polar orbits.

**Unit II**

Lunar probes and planetary probes – Expedition to the moon – Conquest of moon – Moon probes, Asteroids – Mars – Jupiter – Venus – Mercury – Saturn – Distant planets.

**Unit III**

Planetary probes and Indian launch vehicle – Genesis – Aryabhata – Bhaskara – SLV3 – Apple.

**Unit IV**

ASLV – PSLV – GSLV – Polar Satellite Launch Vehicle – Geosynchronous Satellite Launch Vehicle – Indian National Satellite Systems – Chandrayan – Mangalyan.

**Unit V**

Satellite Application – Introduction – Satellite television – Telephone service via satellite – Data communication satellite – Satellite for earth observation.

Satellite for weather forecast – Satellite for scientific studies – Satellite for military applications.

**Books for study:**

1. Space research, Prof. S.Kumaravelu, Prof. N. Suseela Kumaravelu, Senthil Art Printers, Sivakasi, 2002 (**Unit I to IV**).



2. Satellite Communications, Dr. D.C.A. Agarwal, A.K. Mani, Khanna Publishers, 4<sup>th</sup> edition, 2000 (**Unit V**).

**B.Sc Physics**  
**Semester VI**  
**Advanced Learner's Course II** **615ALP**  
**Energy Physics**

**Preamble:**

This course is intended to introduce students to the range and potential of energy resources, available methods of conversion and utilization of energy. The contents are so designed to make the students understand various forms of energy and its importance as sources of energy.

**Unit I Introduction to energy sources**

Energy consumption as a measure of prosperity – World Energy Futures – Energy sources and their available conventional energy sources – Non-conventional energy sources – Renewable energy sources – Advantages – Prospects of renewable energy sources.

**Unit II Solar Energy**

Solar radiation measurements – Conversion of solar radiation into Heat – Solar energy collectors – Flat Plate Collector – Solar energy storage system – Solar ponds – Applications of solar energy – Solar water heating – Photovoltaic electric conversion.

**Unit III Wind Energy**

Basic principles of the wind energy – Conversion – Power in the wind – Basic components of a wind energy conversion system – Classification of WEC system – Advantages and Disadvantages of WEC systems – Application of wind energy.

**Unit IV Biomass Energy**

Introduction – Biomass conversion technologies – Biogas generation factors affecting generation of gas – Classification of biogas plants – Biogas from plant wastes – Problems related to bio-gas plants – Advantages & Disadvantages of biological conversion of solar energy.

**Unit V Chemical Energy**

Introduction – Fuel Cells – Design and Principles of operation – Advantages & Disadvantages – Conversion – efficiency of fuel cells – Application of fuel cells – Batteries – Different types of Battery arrangement – Classification of Battery : Nickel – Cadmium battery – Advantages of Batteries for Bulk energy storage (Qualitative ideas).

**Books for study:**

1. Non-conventional energy sources, G.D.Rai, Kanna publishers, New Delhi, 3<sup>rd</sup> edition, reprint 1995.
2. Solar Energy utilization, G.D.Rai, 4<sup>th</sup> edition, 1991.

**Books for Reference:**

1. Solar Energy Principles of Thermal collection and storage, S.P.Sukhatme, 2<sup>nd</sup> edition.
2. Renewable energy, Maheswar Dayal, 1<sup>st</sup> edition 1989.
3. Non-Conventional Energy systems, K.M.Mittal, 1<sup>st</sup> edition, 1991.

**Curriculum Framework for the students admitted in the academic year 2015-2016**

**Department of Physics**

**Curriculum Design**

**Sri G.V.G Visalakshi College for Women (Autonomous)**

Affiliated to Bharathiar University

**B.Sc Physics**

Scheme of Examination – CBCS Pattern

Sem	Course code	Course Title	Ins Hrs/ week	Examination				Credits
				Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>I</b>	115TA1/ 115MY1/ 115HD1/ 115FR1	<b>Part I</b> - Language I	6	3	25	75	100	4
	115EN1 115P01	<b>Part II</b> - English I <b>Part III</b> - Core I- Mechanics and Properties of Matter	6	3	25	75	100	4
		Core Practical I	7	3	25	75	100	4
			3	-	-	-	-	-
	115AP1	Allied I-Chemistry I	4	3	25	50	75	3
		Allied Chemistry Practical	2	-	-	-	-	-
	115EVS	<b>Part IV</b> - Environmental Studies	2	2	50	-	50	2
<b>II</b>	215TA2/ 215MY2/ 215HD2/ 215FR2	<b>Part I</b> - Language II	6	3	25	75	100	4
	215EN2 215P02	<b>Part II</b> - English II <b>Part III</b> - Core II - Heat and Thermodynamics	6	3	25	75	100	4
		Core Practical I	7	3	25	75	100	4
			3	3	40	60	100	4
	215PP1	Allied II- Chemistry II	4	3	25	50	75	3
	215AP2	Allied Chemistry Practical	4	3	25	50	75	3
	215APP		2	3	20	30	50	2
	215VEC	<b>Part IV</b> - Value Education	2	2	50	-	50	2
<b>III</b>	315TA3/ 315MY3/ 315HD3/ 315FR3	<b>Part I</b> - Language III	6	3	25	75	100	4
	315EN3 315P03	<b>Part II</b> - English III <b>Part III</b> - Core III- Optics	6	3	25	75	100	4
		Core Practical II	4	3	25	75	100	4
			3	-	-	-	-	-
	315AP3	Allied III - Mathematics I	6	3	25	75	100	4
		<b>Part IV</b>						
	315PS1	Skill Based Course I- Mechanical Instrumentation	3	3	75	-	75	3
	315NSE	Non-Major Elective Course I: Science in everyday life	2	2	50	-	50	2

IV	415TA4/ 415MY4/ 415HD4/ 415FR4 415EN4 415P04	<b>Part I - Language IV</b>	6	3	25	75	100	4
		<b>Part II- English IV</b>	6	3	25	75	100	4
		<b>Part III- Core IV- Waves and Oscillations</b>	4	3	25	75	100	4
	415PP2	Core Practical II	3	3	40	60	100	4
	415AP4	Allied IV- Mathematics II	6	3	25	75	100	4
	415PS2	<b>Part IV- Skill Based Course -II Medical Instrumentation</b>	3	3	75	-	75	3
	415NGA	Non-Major Elective Course II: General Awareness (On-line)	-	1	50	-	50	2
	415GIS	Information Security	2	2	50	-	Grade	Grade
	<b>415ALP</b>	<b>Advanced Learners Course I - Space Physics</b>	-	3	-	100	100	3*
V	515P05	<b>Part III - Core V- Mathematical Physics</b>	5	3	25	75	100	4
	<b>515P06</b>	<b>Core VI- Atomic and Solid State Physics</b>	4	3	25	75	100	4
	515P07	Core VII- Electronic Devices and Circuits	4	3	25	75	100	4
	515PP3	Core Practical III	6	3	40	60	100	4
	515PE1	Elective I – Nanosciences	4	3	25	75	100	4
	<b>515PE2</b>	<b>Elective II – Project and Viva - voce</b>	4	3	50	50	100	4
	515PS3	<b>Part IV- Skill Based Course-III Electrical and Electronic Instrumentation</b>	3	3	75	-	75	3
VI	615P08	<b>Part III - Core VIII- Electricity and Magnetism</b>	5	3	25	75	100	4
	615P09	Core IX - Quantum Mechanics and Relativity	5	3	25	75	100	4
	615P10	Core X - Digital Electronics and Microprocessors	5	3	25	75	100	4
	615PE3	Elective III- Programming in C	4	3	25	75	100	4
	615PP4	Core Practical IV	6	3	40	60	100	4
	615PPE	Elective Practical Programming in C	2	3	20	30	50	2
	615PS4	<b>Part IV-Skill Based Course-IV Institutional Training</b>	3	-	75	-	75	3
		<b>Part V- Extension activity</b>	-	-	50	-	50	2
	615EX1/ 615EX2/ 615EX3/ 615EX4/ 615EX5							
	<b>615ALP</b>	<b>Advanced Learners Course II - Energy Physics</b>	-	3	-	100	100	3*
<b>Total</b>							<b>3500</b>	<b>140</b>

**B.Sc Physics**  
**Semester IV**  
**Advanced Learner's Course I** **415ALP**  
**Space Physics**

(For the students admitted from the academic year 2015 - 2016 onwards)

**Credits: 4**

**Preamble:**

This paper is introduced for the advanced learners to inculcate an interest and curiosity to know about space. This paper also imparts knowledge about the recent development in satellite communication.

**Objectives:**

- The main objective of this Self learning paper is to make the students understand the existence of the celestial bodies and the forces between them.
- Secondly this paper will facilitate the students to learn about the attempts being made by our country in the space exploration.

**Unit I**

Atmosphere and beyond – Gravity – Escape velocity – Rockets – Artificial satellites – Geostationary orbit – Polar orbits.

**Unit II**

Lunar probes and planetary probes – Expedition to the moon – Conquest of moon – Moon probes, Asteroids – Mars – Jupiter – Venus – Mercury – Saturn – Distant planets.

**Unit III**

Planetary probes and Indian launch vehicle – Genesis – Aryabhata – Bhaskara – SLV3 – Apple.

**Unit IV**

ASLV – PSLV – GSLV – Polar Satellite Launch Vehicle – Geosynchronous Satellite Launch Vehicle – Indian National Satellite Systems – Chandrayan – Mangalyan.

**Unit V**

Satellite Application – Introduction – Satellite television – Telephone service via satellite – Data communication satellite – Satellite for earth observation.

Satellite for weather forecast – Satellite for scientific studies – Satellite for military applications.

**Books for study:**

1. Space research, Prof. S.Kumaravelu, Prof. N. Suseela Kumaravelu, Senthil Art Printers, Sivakasi, 2002 (**Unit I to IV**).
2. Satellite Communications, Dr. D.C.A.Agarwal, A.K. Mani, Khanna Publishers, 4<sup>th</sup> edition, 2000 (**Unit V**).

**B.Sc Physics**  
**Semester VI**  
**Advanced Learner's Course II** **615ALP**  
**Energy Physics**

**Preamble:**

This course is intended to introduce students to the range and potential of energy resources, available methods of conversion and utilization of energy. The contents are so designed to make the students understand various forms of energy and its importance as sources of energy.

**Unit I Introduction to energy sources**

Energy consumption as a measure of prosperity – World Energy Futures – Energy sources and their available conventional energy sources – Non-conventional energy sources – Renewable energy sources – Advantages – Prospects of renewable energy sources.

**Unit II Solar Energy**

Solar radiation measurements – Conversion of solar radiation into Heat – Solar energy collectors – Flat Plate Collector – Solar energy storage system – Solar ponds – Applications of solar energy – Solar water heating – Photovoltaic electric conversion.

**Unit III Wind Energy**

Basic principles of the wind energy – Conversion – Power in the wind – Basic components of a wind energy conversion system – Classification of WEC system – Advantages and Disadvantages of WEC systems – Application of wind energy.

**Unit IV Biomass Energy**

Introduction – Biomass conversion technologies – Biogas generation factors affecting generation of gas – Classification of biogas plants – Biogas from plant wastes – Problems related to bio-gas plants – Advantages & Disadvantages of biological conversion of solar energy.

**Unit V Chemical Energy**

Introduction – Fuel Cells – Design and Principles of operation – Advantages & Disadvantages – Conversion – efficiency of fuel cells – Application of fuel cells – Batteries – Different types of Battery arrangement – Classification of Battery :

Nickel – Cadmium battery – Advantages of Batteries for Bulk energy storage (Qualitative ideas).

**Books for study:**

1. Non-conventional energy sources, G.D.Rai, Kanna publishers, New Delhi, 3<sup>rd</sup> edition, reprint 1995.
2. Solar Energy utilization, G.D.Rai, 4<sup>th</sup> edition, 1991.

**Books for Reference:**

1. Solar Energy Principles of Thermal collection and storage, S.P.Sukhatme, 2<sup>nd</sup> edition.
2. Renewable energy, Maheswar Dayal, 1<sup>st</sup> edition 1989.
3. Non-Conventional Energy systems, K.M.Mittal, 1<sup>st</sup> edition, 1991.

**Curriculum Framework for the students admitted in the academic year 2014-2015**

**Department of Physics**

**B.Sc. Physics**

**Semester wise distribution with Scheme of Examination & Credits**

<b>Sem</b>	<b>Title of the course</b>	<b>Credits</b>	<b>Exam Hrs (ESE)</b>	<b>Marks CIA</b>	<b>Marks ESE</b>	<b>Total</b>
<b>I</b>	Part I Language I	3	3	25	75	100
	Part II English I	3	3	25	75	100
	Part III Core I Kinetic theory, Thermodynamics & Statistical Thermodynamics	6	3	25	75	100
	Allied I Chemistry I	4	3	15	60	75
	<b>Part IV Environmental Studies</b>	2	-	50	-	50
<b>II</b>	Part I Language II	3	3	25	75	100
	Part II English II	3	3	25	75	100
	Part III Core II Optics and Spectroscopy	4	3	25	75	100
	Part III Core III Properties of matter and Sound	4	3	25	75	100
	Core Practical I	2	3	40	60	100
	Allied I Chemistry II	4	3	15	60	75
	Allied Chemistry Practical	2	3	20	30	50
	<b>ALC I Energy Physics</b>	<b>*3</b>	3	-	100	100
	<b>Part IV Value Education</b>	2	-	50	-	50
<b>III</b>	Part I Language III	3	3	25	75	100
	Part II English III	3	3	25	75	100
	Part III Core IV Mathematical Physics	6	3	25	75	100
	Allied III Mathematics I	5	3	25	75	100
	<b>Part IV Skill Based Course Instrumentation I</b>	3	-	100	-	100



	Mechanical Instrumentation					
	<b>Part IV Non-Major Elective</b>	2	-	75	-	75
<b>IV</b>	Part I Language IV	3	3	25	75	100
	Part II English IV	3	3	25	75	100
	Part III Core V Atomic, Nuclear & Particle Physics	5	3	25	75	100
	Core Practical II	2	3	40	60	100
	Allied IV Mathematics II	5	3	25	75	100
	<b>Part IV Skill Based Course Instrumentation II</b> Medical Instrumentation	3	-	100	-	100
	<b>Part IV</b> General Awareness	2	Online Test	75	-	75
	<b>ALC II Space Physics</b>	<b>*3</b>	-	-	100	100
	Extension Activities	1	-	50	-	50
<b>V</b>	Part III Core VI Nanotechnology I	4	3	25	75	100
	Core VII Electricity and Magnetism	4	3	25	75	100
	Core VIII Solid State Physics	4	3	25	75	100
	Core IX Electronic Devices & Circuits	4	3	25	75	100
	Elective I Programming in C(Theory & Practical)	5	3	40	60	100
	Core Practical III	2	3	40	60	100
	<b>Part IV Skill Based Course Instrumentation III</b> Electrical and Electronic Instrumentation	3	-	100	-	100
<b>VI</b>	Part III Core X- Nanotechnology II	4	3	25	75	100
	Core XI Quantum Mechanics and Relativity	4	3	25	75	100
	Core XII Laser Physics and Fiber Optics	4	3	25	75	100
	Elective II Digital Electronics & Microprocessor	4	3	25	75	100

Elective III MATLAB (Theory & Practical)	5	3	40	60	100
Core, Digital Electronics & Microprocessor Practical IV	2	3	40	60	100
Part IV Skill Based Course Instrumentation Institutional Training	3	-	100	-	100
<b>ALC III Thin Film Technology</b>	<b>*3</b>	3	-	100	100

## B.Sc Physics – Semester II

Advanced Learner's Course (ALC) I

Subject Code:212ALP

### \* Energy Physics (Self Study)

#### Preamble:

This course is intended to introduce students to the range and potential of energy resources, available methods of conversion and utilization of energy. The contents are so designed to make the students understand various forms of energy and the importance of energy sources.

#### Module I Introduction to energy sources

Energy consumption as a measure of prosperity – World Energy Futures – Energy sources and their available conventional energy sources – non-conventional energy sources – Renewable energy sources – Advantages – Prospects of renewable energy sources.

#### Module II Solar Energy

Solar radiation measurements – Conversion of solar radiation into Heat – Solar energy collectors – Flat Plate Collector – Solar energy storage system – Solar ponds – Applications of solar energy – Solar water heating – Photovoltaic electric conversion

#### Module III Wind Energy

Basic principles of the wind energy – Conversion – Power in the wind – Basic components of a wind energy conversion system – Classification of WEC system – Advantages and Disadvantages of WEC systems – Application of wind energy.

#### Module IV Biomass Energy

Introduction – Biomass conversion technologies – Biogas generation factors affecting generation of gas – Classification of biogas plants – Biogas from plant wastes – Problems related to bio-gas plants – Advantages & Disadvantages of biological conversion of solar energy.

#### Module V Chemical Energy

Introduction – Fuel Cells – Design and Principles of operation – Advantages & Disadvantages – Conversion – efficiency of fuel cells – Application of fuel cells – Batteries – Different types of Battery arrangement – Classification of Battery : Nickel – Cadmium battery – Advantages of Batteries for Bulk energy storage (Qualitative ideas).

**Books for study:**

1. Non-conventional energy sources : G.D.Rai, Kanna publishers, New Delhi, 3<sup>rd</sup> edition, reprint 1995.
2. Solar Energy utilization : G.D.Rai, 4<sup>th</sup> edition, 1991.

**Books for Reference:**

1. Solar Energy Principles of Thermal collection and storage : S.P.Sukhatme, 2<sup>nd</sup> edition.
2. Renewable energy : Maheswar Dayal, 1<sup>st</sup> edition 1989.
3. Non-Conventional Energy systems : K.M.Mittal, 1<sup>st</sup> edition, 1991.

**B.Sc. Physics – Semester IV****Advanced Learner's Course (ALC) II****Subject Code:412ALP****\* Space Physics  
(Self Study)****Preamble:**

This paper is introduced for the advanced learners to inculcate an interest and curiosity to know about space. This paper also imparts knowledge about the recent development in satellite communication.

**Module I**

Atmosphere and beyond – Gravity – Escape velocity – Rockets – Artificial satellites – Geostationary orbit – Polar orbits.

**Module II**

Lunar probes and planetary probes – Expedition to the moon – Conquest of moon – Moon probes, Asteroids – Mars – Jupiter – Venus – Mercury – Saturn – Distant planets.

**Module III**

Planetary probes and Indian launch vehicle – Genesis – Aryabhata – Bhaskara – SLV3 – Apple.

**Module IV**

ASLV – PSLV – GSLV – Polar satellite launch vehicle – Geosynchronous satellite launch vehicle – Indian national satellite systems - Chandhrayan.

**Module V**

Satellite Application – Introduction – Satellite television – Telephone service via satellite – Data communication satellite – Satellite for earth observation.

Satellite for weather forecast – Satellite for scientific studies – Satellite for military applications.

**Books for study:**

1. Modules I to IV : Space research – Prof. S.Kumaravelu, Prof. N. Suseela Kumaravelu, Senthil Art Printers, Sivakasi, 2002.
2. Module V : Satellite Communications, Dr. D.C.A.Agarwal, A.K. mani, Khanna Publishers, 4<sup>th</sup> edition, 2000.

## B.Sc Physics – Semester VI

Advanced Learner's Course (ALC) III

Subject Code:612ALP

### \*Thin Film Technology

(Self study)

#### Preamble:

The Thin Film science has received an extensive attention in the recent years because of its varied and numerous applications in diverse fields such as Electronic industries, Military weapons, Space science, Solar energy utilization and also as Optical and Super conducting film materials, High memory computer elements, Sensors and in Microelectronic circuits and in others.

#### Module I Vacuum Technology

Kinetic theory of gases – Gas flow – Gas flow rates – Conductance and pump speed – Fore and roughing pumps – Roots blower pumps – High vacuum pumps – Diffusion pumps – Diffusion pump fluids – Diffusion pump performance – Diffusion pump operation – Vacuum gauges – Hydrostatic gauges – Cold cathode ionization gauges.

#### Module II Thin Films – Deposition Techniques

Nature of thin film – Deposition technology – Thermal deposition in vacuo – Resistive heating – Thermal evaporation – flash evaporation – Electron beam method – Cathodic sputtering – Chemical vapour deposition – Thermal decomposition or pyrolysis

#### Module III

Film Thickness Measurement Film thickness and control – mass method – Micro balance technique – Crystal oscillator – Optical method – Photometry – Interferometry – Substrate cleaning.

#### Module IV Thin Film Analysis

Introduction – Electron diffraction technique – High Energy Electron Diffraction (HEED) – Low Energy Electron Diffraction (LEED) – Electron Spectroscopy for Chemical Analysis (ESCA) – Mass spectroscopy.

#### Module V Dielectric and Optical properties of Thin films

Basic concepts in dielectric (qualitative) – AC conductivity – Break down voltage and field strength – Experimental techniques for dielectric films – Capacitor preparation and setup – Measuring instrument and technique.

Thin film optical constants – Experimental techniques for determination of optical parameters such as measurement of reflectance, transmittance and absorbance – Applications of optical films – Anti reflection coating.

#### Books for study:

1. Thin film technology : Robert W. Berry, Peter M. Hall Murray T. Harris – Van Nostrand Reinhold co., New York
2. Thin film fundamentals : A. Goswami, New age International Pvt. Ltd., New Delhi.

#### Books for reference:

1. Hand book of Thin film Technology : Leon I. Maissel & Reinhard Glang ,  
Mc Graw Hill book company.

**Curriculum Framework for the students admitted in the academic year 2013-2014**

**Department of Physics**

**B.Sc. Physics**

**Semester wise distribution with Scheme of Examination & Credits**

<b>Sem</b>	<b>Title of the course</b>	<b>Credits</b>	<b>Exam Hrs (ESE)</b>	<b>Marks CIA</b>	<b>Marks ESE</b>	<b>Total</b>
<b>I</b>	Part I Language I	3	3	25	75	100
	Part II English I	3	3	25	75	100
	Part III Core I Kinetic theory, Thermodynamics & Statistical Thermodynamics	6	3	25	75	100
	Allied I Chemistry I	4	3	15	60	75
	<b>Part IV Environmental Studies</b>	2	-	50	-	50
<b>II</b>	Part I Language II	3	3	25	75	100
	Part II English II	3	3	25	75	100
	Part III Core II Optics and Spectroscopy	4	3	25	75	100
	Part III Core III Properties of matter and Sound	4	3	25	75	100
	Core Practical I	2	3	40	60	100
	Allied I Chemistry II	4	3	15	60	75
	Allied Chemistry Practical	2	3	20	30	50
	<b>ALC I Energy Physics</b>	<b>*3</b>	3	-	100	100
	<b>Part IV Value Education</b>	2	-	50	-	50
<b>III</b>	Part I Language III	3	3	25	75	100
	Part II English III	3	3	25	75	100
	Part III Core IV Mathematical Physics	6	3	25	75	100
	Allied III Mathematics I	5	3	25	75	100

	<b>Part IV Skill Based Course Instrumentation I</b> Mechanical Instrumentation	3	-	100	-	100
	<b>Part IV Non-Major Elective</b>	2	-	75	-	75
<b>IV</b>	Part I Language IV	3	3	25	75	100
	Part II English IV	3	3	25	75	100
	Part III Core V Atomic, Nuclear & Particle Physics	5	3	25	75	100
	Core Practical II	2	3	40	60	100
	Allied IV Mathematics II	5	3	25	75	100
	<b>Part IV Skill Based Course Instrumentation II</b> Medical Instrumentation	3	-	100	-	100
	<b>Part IV</b> General Awareness	2	Online Test	75	-	75
	<b>ALC II Space Physics</b>	<b>*3</b>	-	-	100	100
	Extension Activities	1	-	50	-	50
<b>V</b>	Part III Core VI Nanotechnology I	4	3	25	75	100
	Core VII Electricity and Magnetism	4	3	25	75	100
	Core VIII Solid State Physics	4	3	25	75	100
	Core IX Electronic Devices & Circuits	4	3	25	75	100
	Elective I Programming in C(Theory & Practical)	5	3	40	60	100
	Core Practical III	2	3	40	60	100
	<b>Part IV Skill Based Course Instrumentation III</b> Electrical and Electronic Instrumentation	3	-	100	-	100
<b>VI</b>	Part III Core X- Nanotechnology II	4	3	25	75	100
	Core XI Quantum Mechanics and Relativity	4	3	25	75	100
	Core XII Laser Physics and Fiber Optics	4	3	25	75	100
	Elective II Digital Electronics & Microprocessor	4	3	25	75	100

Elective III MATLAB (Theory & Practical)	5	3	40	60	100
Core, Digital Electronics & Microprocessor Practical IV	2	3	40	60	100
Part IV Skill Based Course Instrumentation Institutional Training	3	-	100	-	100
<b>ALC III Thin Film Technology</b>	<b>*3</b>	3	-	100	100

## B.Sc Physics – Semester II

Advanced Learner's Course (ALC) I

Subject Code:212ALP

### \* Energy Physics (Self Study)

#### Preamble:

This course is intended to introduce students to the range and potential of energy resources, available methods of conversion and utilization of energy. The contents are so designed to make the students understand various forms of energy and the importance of energy sources.

#### Module I Introduction to energy sources

Energy consumption as a measure of prosperity – World Energy Futures – Energy sources and their available conventional energy sources – non-conventional energy sources – Renewable energy sources – Advantages – Prospects of renewable energy sources.

#### Module II Solar Energy

Solar radiation measurements – Conversion of solar radiation into Heat – Solar energy collectors – Flat Plate Collector – Solar energy storage system – Solar ponds – Applications of solar energy – Solar water heating – Photovoltaic electric conversion

#### Module III Wind Energy

Basic principles of the wind energy – Conversion – Power in the wind – Basic components of a wind energy conversion system – Classification of WEC system – Advantages and Disadvantages of WEC systems – Application of wind energy.

#### Module IV Biomass Energy

Introduction – Biomass conversion technologies – Biogas generation factors affecting generation of gas – Classification of biogas plants – Biogas from plant wastes – Problems related to bio-gas plants – Advantages & Disadvantages of biological conversion of solar energy.

#### Module V Chemical Energy

Introduction – Fuel Cells – Design and Principles of operation – Advantages & Disadvantages – Conversion – efficiency of fuel cells – Application of fuel cells – Batteries – Different types of Battery arrangement – Classification of Battery : Nickel –Cadmium battery – Advantages of Batteries for Bulk energy storage (Qualitative ideas).

**Books for study:**

1. Non-conventional energy sources : G.D.Rai, Kanna publishers, New Delhi, 3<sup>rd</sup> edition, reprint 1995.
2. Solar Energy utilization : G.D.Rai, 4<sup>th</sup> edition, 1991.

**Books for Reference:**

1. Solar Energy Principles of Thermal collection and storage : S.P.Sukhatme, 2<sup>nd</sup> edition.
2. Renewable energy : Maheswar Dayal, 1<sup>st</sup> edition 1989.
3. Non-Conventional Energy systems : K.M.Mittal, 1<sup>st</sup> edition, 1991.

**B.Sc. Physics – Semester IV****Advanced Learner's Course (ALC) II****Subject Code:412ALP****\* Space Physics  
(Self Study)****Preamble:**

This paper is introduced for the advanced learners to inculcate an interest and curiosity to know about space. This paper also imparts knowledge about the recent development in satellite communication.

**Module I**

Atmosphere and beyond – Gravity – Escape velocity – Rockets – Artificial satellites – Geostationary orbit – Polar orbits.

**Module II**

Lunar probes and planetary probes – Expedition to the moon – Conquest of moon – Moon probes, Asteroids – Mars – Jupiter – Venus – Mercury – Saturn – Distant planets.

**Module III**

Planetary probes and Indian launch vehicle – Genesis – Aryabhata – Bhaskara – SLV3 – Apple.

**Module IV**

ASLV – PSLV – GSLV – Polar satellite launch vehicle – Geosynchronous satellite launch vehicle – Indian national satellite systems - Chandhrayan.

**Module V**

Satellite Application – Introduction – Satellite television – Telephone service via satellite – Data communication satellite – Satellite for earth observation.

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## B.Sc Physics – Semester VI

Advanced Learner's Course (ALC) III

Subject Code:612ALP

### \*Thin Film Technology (Self study)

#### Preamble:

The Thin Film science has received an extensive attention in the recent years because of its varied and numerous applications in diverse fields such as Electronic industries, Military weapons, Space science, Solar energy utilization and also as Optical and Super conducting film materials, High memory computer elements, Sensors and in Microelectronic circuits and in others.

#### Module I Vacuum Technology

Kinetic theory of gases – Gas flow – Gas flow rates – Conductance and pump speed – Fore and roughing pumps – Roots blower pumps – High vacuum pumps – Diffusion pumps – Diffusion pump fluids – Diffusion pump performance – Diffusion pump operation – Vacuum gauges – Hydrostatic gauges – Cold cathode ionization gauges.

#### Module II Thin Films – Deposition Techniques

Nature of thin film – Deposition technology – Thermal deposition in vacuo – Resistive heating – Thermal evaporation – flash evaporation – Electron beam method – Cathodic sputtering – Chemical vapour deposition – Thermal decomposition or pyrolysis

#### Module III Film Thickness Measurement

Film thickness and control – mass method – Micro balance technique – Crystal oscillator – Optical method – Photometry – Interferometry – Substrate cleaning.

#### Module IV Thin Film Analysis

Introduction – Electron diffraction technique – High Energy Electron Diffraction (HEED) – Low Energy Electron Diffraction (LEED) – Electron Spectroscopy for Chemical Analysis (ESCA) – Mass spectroscopy.

#### Module V Dielectric and Optical properties of Thin films

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Thin film optical constants – Experimental techniques for determination of optical parameters such as measurement of reflectance, transmittance and absorbance – Applications of optical films – Anti reflection coating.

#### Books for study:

- 1.Thin film technology : Robert W. Berry, Peter M. Hall Murray T. Harris – Van Nostrand Reinhold co., NewYork
2. Thin film fundamentals : A. Goswami, New age International Pvt. Ltd., New Delhi.

#### Books for reference:

1. Hand book of Thin film Technology : Leon I. Maissel & Reinhard Glang ,  
Mc Graw Hill book company.

**Curriculum Framework for the students admitted in the academic year 2017-2018**

**Department of Physics**

Curriculum Design

Sri G.V.G. Visalakshi College for Women (Autonomous)

Affiliated to Bharathiar University

**M.Sc. Physics**

Scheme of Examination – CBCS Pattern

Sem ester	Course Code	Course Title	Ins. Hrs / week	Examination				Credits
				Dur .Hr s	CIA Marks	ESE Marks	Total Marks	
I	17MP01	Core I - Classical Mechanics	5	3	25	75	100	4
	17MP02	Core II - Mathematical Physics I	5	3	25	75	100	4
	17MP03	Core III - Modern optics	4	3	25	75	100	4
	17MP04	Core IV - Semiconductor Circuits and Applications	5	3	25	75	100	4
	17MPP1	Practical I	6	4	40	60	100	4
	17MPE1 / 17MPE2	<b>Elective I: Nano science and Nanotechnology/ Thin film Technology</b>	5 5	3 3	25 25	75 75	100 100	4
II	17MP05	Core V - Mathematical Physics II	5	3	25	75	100	4
	17MP06	Core VI -Quantum Mechanics I	5	3	25	75	100	4
	17MP07	Core VII - Condensed Matter Physics	4	3	25	75	100	4
	17MP08	Core VIII– Statistical Mechanics	4	3	25	75	100	4
	17MPP2	Practical II	6	4	40	60	100	4
	17MPE3 / 17MPE4	<b>Elective II - Digital Electronics and Microprocessors / Energy Physics</b>	4 4	3 3	25 25	75 75	100 100	4
	17MGCS	Cyber Security	2	2	50	-	Grade	Grade

	17MPA1	Advanced Learners Course I - Astrophysics		3	-		100	4*
III	17MP09	Core IX - Quantum Mechanics II	5	3	25	75	100	4
	17MP10	Core X - Electromagnetic Theory	5	3	25	75	100	4
	17MP11	Core XI - Molecular Spectroscopy	5	3	25	75	100	4
	17MP12	Core XII - Nuclear and Particle Physics	4	3	25	75	100	4
	17MPP3	Practical III	6	6	40	60	100	4
	17MPE5 / 17MPE6	Elective III - Analog and Digital Communications  Computational Physics (Theory & Practical)	5 5	3 3	25 40	75 60	100 100	4
	17MPIS	Internship/ Summer Fellowship			150	-	150	6
IV	17MPPV	Project and Viva-voce			150	150	300	12
	17MPA2	Advanced Learner's Course II - Plasma Physics		3			100	4*

**Total**

**2250 90**

**\* Starred credits are treated as additional credits (Optional).**

**M.Sc. Physics**  
**Semester II**  
**Advanced Learner's Course I - Astrophysics 17MPA1**

**Credits: 4**

**The main objectives of this course are**

- To arouse a curiosity to learn about cosmos
- To develop an understanding about the dark matter of Universe and cosmic particles

**Unit I The expanding Universe\*\***

The Hubble expansion – Olber's Paradox – The Friedmann equation – The source of energy density – Observed energy densities and the age of the universe – The deceleration parameter: the effects of cosmological constant – Cosmic microwave radiation – Radiation in the early universe – Radiation and matter eras – Baryogenesis and the matter – Antimatter asymmetry of the universe.

**Unit II Dark matter and Dark energy in the universe\*\***

Dark matter in galaxies and clusters – Gravitational lensing – amplification by gravitational lenses: Microlensing and MACHOs – The lensing probability: Optical depth – Baryonic dark matter – Neutrinos – Axions – WIMPs – Expected WIMP cross-sections and event rates – Dark energy: The Hubble plot at large redshifts – Vacuum energy: The Casimir effect – Problems with the cosmological constant and dark energy.

**Unit III Development of structure in the early Universe\*\***

Horizon and Flatness problems – Inflation – Chaotic inflation – Quantum fluctuations and inflation – The spectrum of primordial fluctuations – Large scale structure: Gravitational collapse and the Jeans mass – The growth of structure in an expanding universe – Evolution of fluctuations during the radiation era.

**Unit IV Cosmic Particles\*\***

The spectrum and composition of cosmic rays – Geomagnetic and solar effects – Acceleration of cosmic rays – Secondary cosmic radiation: Hard and Soft components – Electromagnetic cascades and air showers – Ultra high energy cosmic ray shower – Radio galaxies and Quasars – Point sources of gamma rays: Gamma ray bursts – Atmospheric Neutrinos: Neutrino oscillations – Solar Neutrinos – Point Neutrino sources – The binary Pulsar.

**Unit V Particle Physics in stars\*\***

Stellar evolution – The early stages – Hydrogen burning: the pp cycle in the sun – Helium burning and the production of Carbon and oxygen – Production of heavy elements – White dwarf stars – Stellar Collapse: Type II Supernovae –

Neutrinos from SN1987A – Neutron stars and pulsars – Black holes – Hawking radiation from black holes.

**\*\* Problems associated with the topics Excluded**

**Book for study:**

Unit No.	Name of the Book	Authors	Publishers	Year & Edition
I -V	Particle Astrophysics	Donald Perkins	Oxford University Press	Reprint 2008

**Books for Reference:**

S No.	Name of the Book	Authors	Publishers	Year & Edition
1	Astrophysics-Stars and Galaxies	K.D.Abhyankar	University Press (India) Private limited	Reprint 2009
2	Astrophysics of the solar system	K.D.Abhyankar	University Press (India) Private limited	Reprint 2009
3	Astrophysics for physicist	Arnab Rai Choudhuri	Cambridge University Press	Imprint 2010

**M.Sc Physics  
Semester IV**

**Advanced Learners Course II - Plasma Physics 17MPA2**

**Credits: 4**

**Unit I**

Introduction – Composition and Characteristics of plasma – Collisions – Elastic collisions – Inelastic Collisions – Surface Phenomena – Transport phenomena – Diffusion and Mobility: Ambipolar Diffusion – Gas Discharges – Comparison of various natural and man-made plasmas – Plasma diagnostics – Plasma waves and instabilities: Confinement of plasma – Space plasma.

**Unit II**

Microscopic and macroscopic description – Motion of a charged particle in electric and magnetic fields – Uniform magnetic field – Constant electric and magnetic fields – Converging magnetic field: Magnetic mirror – Magnetic trap and double-mirror – Van Allen radiation belt – Coefficient of reflection of particles.

### Unit III

Description of plasma as a gas mixture – Properties of plasma in a magnetic field – Force on plasma in a magnetic field – Current in magnetized plasma – Collisions in fully ionized magneto-plasmas – Pinch effect – Oscillations and waves in the plasma – Plasma frequency.

### Unit IV

Distribution function – Homogeneous, Inhomogeneous, Isotropic and Anisotropic distribution functions – Boltzmann equation – Conservation of particles – Conservation of mass – Fokker-Planck equation – Debye Screening – Initial value Problem: Landau Damping – Cyclotron Damping – Excitation : Two-Stream Instability, Beam-Plasma Instability, Pinch instability – Non-linear effects.

### Unit V

Controlled thermonuclear reactions – Lawson criterion – The Coulomb Barrier – Heating and Confinement of the Plasma: Pinch devices (Z- pinch and  $\ominus$ -pinch), Mirror machine, Stellarator, Tokamak, The Levitron – Magneto hydrodynamic conversion of energy – Plasma Propulsion – Other Plasma devices.

### Book for study:

Unit No.	Name of the Book	Authors	Publishers	Year & Edition
I -V	Elements of Plasma Physics	S.N. Goswami	New Central Book Agency Private Limited	3 <sup>rd</sup> Impression, 2005

### Books for Reference:

S.No.	Name of the Book	Authors	Publishers	Year & Edition
1	Introduction to Plasma Physics	B.M. Smirnov	Mir Publishers	First Published 1977.
2	Fundamentals of Plasma Physics	J.A. Bittencourt	Springer Publishers Private limited, New Delhi	3 <sup>rd</sup> Edition
3	Elementary Plasma Physics	Conrad L.Longmire,	Wiley Eastern Private Limited	First wiley Eastern Reprint, 1971, New Delhi

**Curriculum Framework for the students admitted in the academic year 2016-2017**

**Department of Physics**

**Curriculum Design**

**Sri G.V.G Visalakshi College for Women (Autonomous)**

Affiliated to Bharathiar University

**Department of Physics**

**M.Sc. Physics**

Scheme of Examination – CBCS Pattern

Semester	Course Code	Course Title	Ins. hours	Examination				Credits
				Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
I	15MP01	Core I - Classical Mechanics	5	3	25	75	100	4
	15MP02	Core II - Mathematical Physics I	5	3	25	75	100	4
	15MP03	Core III - Modern optics	4	3	25	75	100	4
	15MP04	Core IV - Semiconductor Circuits and Applications	5	3	25	75	100	4
	15MPP1	Practical I	6	4	40	60	100	4
	15MPE1	<b>Elective I: Nano science and Nanotechnology I</b>	5	4	25	75	100	4
II	15MP05	Core V - Mathematical Physics II	5	3	25	75	100	4
	15MP06	Core VI - Quantum Mechanics I	5	3	25	75	100	4
	15MP07	Core VII - Condensed Matter Physics	4	3	25	75	100	4
	15MP08	Core VIII - Digital Electronics and Microprocessors	4	3	25	75	100	4
	15MPP2	Practical II	6	4	40	60	100	4
	15MPE2	<b>Elective II - Nano science and Nanotechnology II</b>	4	3	25	75	100	4
	15MGCS	Cyber Security	2	2	50	-	Grade	Grade

	15MPA1	Advanced Learner's Course I - Astrophysics		3	-		100	4*
III	15MP09	Core IX - Quantum Mechanics II	5	3	25	75	100	4
	15MP10	Core X - Electromagnetic Theory	5	3	25	75	100	4
	15MP11	Core XI - Molecular Spectroscopy	5	3	25	75	100	4
	15MP12	Core XII - Nuclear and Particle Physics	4	3	25	75	100	4
	15MPP3	Practical III	6	4	40	60	100	4
	15MPE3	Elective III - Analog and Digital Communications	5	3	25	75	100	4
	15MPIS	Internship/ Summer Fellowship			75	75	150	6
IV	15MPPV	Project and Viva-voce			150	150	300	12
	15MPA2	Advanced Learner's Course II - Plasma Physics		3			100	4*
<b>Total</b>							<b>2250</b>	<b>90</b>

**M.Sc Physics**  
**Semester II**  
**Advanced Learner's Course I - Astrophysics** **15MPA1**

**Credits: 4**

**Preamble:**

Everyone is familiar with the fact that the universe is populated by stars and that these occur in huge assemblies. These huge assemblies called as galaxies contain stars of the order of  $10^{11}$ , together with clouds of gas and dust. Also in the universe is present the non-luminous large fraction of matter called dark matter. The dark energy is estimated to about 70% of the bulk of the energy density in the universe. The striking success of the big bang theory with the observation of the red shift of galaxies, abundant presence of light elements, the existence of the all pervading cosmic microwave background radiation would intrigue any Astrophysicist to explore the nuances of universe. This paper gives a well defined explanation for the enthusiastic



physics off springs to enjoy not only about space, but also about the cosmic rays and cosmic particles.

### **Unit I The expanding Universe\*\***

The Hubble expansion – Olber's Paradox - The Friedmann equation - The source of energy density – Observed energy densities and the age of the universe – The deceleration parameter: the effects of cosmological constant – Cosmic microwave radiation – Radiation in the early universe – Radiation and matter eras – Baryogenesis and the matter – Antimatter asymmetry of the universe.

### **Unit II Dark matter and Dark energy in the universe\*\***

Dark matter in galaxies and clusters – Gravitational lensing – amplification by gravitational lenses: Microlensing and MACHOs – The lensing probability: Optical depth – Baryonic dark matter – Neutrinos – Axions – WIMPs – Expected WIMP cross-sections and event rates – Dark energy: The Hubble plot at large redshifts – Vacuum energy: The Casimir effect – Problems with the cosmological constant and dark energy.

### **Unit III Development of structure in the early Universe\*\***

Horizon and Flatness problems – Inflation - Chaotic inflation – Quantum fluctuations and inflation – The spectrum of primordial fluctuations – Large scale structure: Gravitational collapse and the Jeans mass – The growth of structure in an expanding universe – Evolution of fluctuations during the radiation era.

### **Unit IV Cosmic Particles\*\***

The spectrum and composition of cosmic rays – Geomagnetic and solar effects – Acceleration of cosmic rays – Secondary cosmic radiation: Hard and Soft components – Electromagnetic cascades and air showers – Ultra high energy cosmic ray shower – Radio galaxies and Quasars – Point sources of gamma rays: Gamma ray bursts – Atmospheric Neutrinos: Neutrino oscillations – Solar Neutrinos – Point Neutrino sources – The binary Pulsar.

### **Unit V Particle Physics in stars\*\***

Stellar evolution – The early stages – Hydrogen burning: the pp cycle in the sun – Helium burning and the production of Carbon and oxygen – Production of heavy elements – White dwarf stars – Stellar Collapse: Type II Supernovae – Neutrinos from SN1987A – Neutron stars and pulsars – Black holes – Hawking radiation from black holes.

### **\*\* Problems associated with the topics Excluded**

#### **Book for study:**

Particle Astrophysics

: Donald Perkins-Oxford Master series in Particle Physics, Astrophysics and Cosmology, Oxford University Press, Reprint 2004, 2005, 2008.

**Book for Reference:**

1. Astrophysics-Stars and Galaxies : K.D.Abhyankar, University Press (India) Private limited 2001, Reprint 2009.
2. Astrophysics of the solar system : K.D.Abhyankar, University Press (India) Private limited 1999, Reprint 2009.

**M.Sc Physics****Semester IV****Advanced Learner's Course II - Plasma Physics****15MPA2****Credits: 4****Preamble:**

The word 'Plasma' comes from Greek meaning something 'moulded'. It is used to describe a wide variety of macroscopically neutral substances containing many interacting free electrons and ionized atoms or molecules which exhibit the collective behavior due to long range coulomb forces. Not all media containing charged particles, however can be classified as plasmas. For a collection of interacting charged and neutral particles to exhibit plasma behavior, it must satisfy certain conditions or criteria, for plasma existence. This paper focuses on Plasma and its behavior.

**Objectives:**

- To learn the basic characteristics of Plasma.
- To gain knowledge about the effect of Plasma in electric & magnetic field.
- To study the applications of Plasma in different areas.

**Unit I**

Introduction - Composition and Characteristics of plasma - Collisions – Elastic collisions - Inelastic Collisions - Surface Phenomena - Transport phenomena - Diffusion and Mobility: Ambipolar Diffusion - Gas Discharges - Comparison of various natural and man-made plasmas - Plasma diagnostics - Plasma waves and instabilities: Confinement of plasma - Space plasma.

**Unit II**

Microscopic and macroscopic description - Motion of a charged particle in electric and magnetic fields - Uniform magnetic field-Constant electric and magnetic fields - Converging magnetic field: Magnetic mirror – Magnetic trap and double-mirror – Van Allen radiation belt – Coefficient of reflection of particles.

**Unit III**

Description of plasma as a gas mixture – Properties of plasma in a magnetic field – Force on plasma in a magnetic field – Current in magnetized plasma – Collisions in fully ionized magneto-plasmas – Pinch effect – Oscillations and waves in the plasma – Plasma frequency.

**Unit IV**

Distribution function – Homogeneous, Inhomogeneous, Isotropic and Anisotropic distribution functions – Boltzmann equation – Conservation of particles – Conservation of mass – Fokker-Planck equation – Debye Screening – Initial value Problem: Landau Damping – Cyclotron Damping – Excitation : Two-Stream Instability, Beam-Plasma Instability, Pinch instability – Non-linear effects.

## Unit V

Controlled thermonuclear reactions – Lawson criterion – The Coulomb Barrier – Heating and Confinement of the Plasma: Pinch devices (Z- pinch and  $\ominus$ -pinch), Mirror machine, Stellarator, Tokamak, The Levitron – Magnetohydrodynamic conversion of energy – Plasma Propulsion – Other Plasma devices.

### Book for study:

Elements of Plasma Physics

: S.N. Goswami, New Central Book Agency Private Limited, 8/1 Chintamani Das Lane, Kolkata. Third Impression 2005.

### Books for Reference:

1. Introduction to Plasma Physics

: B.M. Smirnov, Mir Publishers, First Published 1977.

2. Fundamentals of Plasma Physics

: J.A. Bittencourt, Springer Publishers Private limited, New Delhi. Third Edition.

3. Elementary Plasma Physics

: Conrad L.Longmire, Wiley Eastern Private Limited, First Wiley Eastern Reprint, 1971, New Delhi.

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**Curriculum Design**

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**Department of Physics**

**M.Sc Physics**

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Semester	Course Code	Course Title	Ins. hours	Examination				Credits
				Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
I	15MP01	Core I - Classical Mechanics	5	3	25	75	100	4
	15MP02	Core II - Mathematical Physics I	5	3	25	75	100	4
	15MP03	Core III - Modern optics	4	3	25	75	100	4
	15MP04	Core IV - Semiconductor Circuits and Applications	5	3	25	75	100	4
	15MPP1	Practical I	6	4	40	60	100	4
	15MPE1	<b>Elective I: Nano science and Nanotechnology I</b>	5	4	25	75	100	4
II	15MP05	Core V - Mathematical Physics II	5	3	25	75	100	4
	15MP06	Core VI - Quantum Mechanics I	5	3	25	75	100	4
	15MP07	Core VII - Condensed Matter Physics	4	3	25	75	100	4
	15MP08	Core VIII - Digital Electronics and Microprocessors	4	3	25	75	100	4
	15MPP2	Practical II	6	4	40	60	100	4
	15MPE2	<b>Elective II - Nano science and Nanotechnology II</b>	4	3	25	75	100	4
	15MGCS	Cyber Security	2	2	50	-	Grade	Grade

	15MPA1	Advanced Learner's Course I - Astrophysics		3	-		100	4*
III	15MP09	Core IX - Quantum Mechanics II	5	3	25	75	100	4
	15MP10	Core X - Electromagnetic Theory	5	3	25	75	100	4
	15MP11	Core XI - Molecular Spectroscopy	5	3	25	75	100	4
	15MP12	Core XII - Nuclear and Particle Physics	4	3	25	75	100	4
	15MPP3	Practical III	6	4	40	60	100	4
	15MPE3	Elective III - Analog and Digital Communications	5	3	25	75	100	4
	15MPIS	Internship/ Summer Fellowship			75	75	150	6
IV	15MPPV	Project and Viva-voce			150	150	300	12
	15MPA2	Advanced Learner's Course II - Plasma Physics		3			100	4*
<b>Total</b>							<b>2250</b>	<b>90</b>

**M.Sc Physics**  
**Semester II**  
**Advanced Learner's Course I - Astrophysics** **15MPA1**

**Credits: 4**

**Preamble:**

Everyone is familiar with the fact that the universe is populated by stars and that these occur in huge assemblies. These huge assemblies called as galaxies contain stars of the order of  $10^{11}$ , together with clouds of gas and dust. Also in the universe is present the non-luminous large fraction of matter called dark matter. The dark energy is estimated to about 70% of the bulk of the energy density in the universe. The striking success of the big bang theory with the observation of the red shift of galaxies, abundant presence of light elements, the existence of the all pervading cosmic microwave background radiation would intrigue any Astrophysicist to explore the nuances of universe. This paper gives a well defined explanation for the enthusiastic

physics off springs to enjoy not only about space, but also about the cosmic rays and cosmic particles.

### **Unit I The expanding Universe\*\***

The Hubble expansion – Olber's Paradox - The Friedmann equation - The source of energy density – Observed energy densities and the age of the universe – The deceleration parameter: the effects of cosmological constant – Cosmic microwave radiation – Radiation in the early universe – Radiation and matter eras – Baryogenesis and the matter – Antimatter asymmetry of the universe.

### **Unit II Dark matter and Dark energy in the universe\*\***

Dark matter in galaxies and clusters – Gravitational lensing – amplification by gravitational lenses: Microlensing and MACHOs – The lensing probability: Optical depth – Baryonic dark matter – Neutrinos – Axions – WIMPs – Expected WIMP cross-sections and event rates – Dark energy: The Hubble plot at large redshifts – Vacuum energy: The Casimir effect – Problems with the cosmological constant and dark energy.

### **Unit III Development of structure in the early Universe\*\***

Horizon and Flatness problems – Inflation - Chaotic inflation – Quantum fluctuations and inflation – The spectrum of primordial fluctuations – Large scale structure: Gravitational collapse and the Jeans mass – The growth of structure in an expanding universe – Evolution of fluctuations during the radiation era.

### **Unit IV Cosmic Particles\*\***

The spectrum and composition of cosmic rays – Geomagnetic and solar effects – Acceleration of cosmic rays – Secondary cosmic radiation: Hard and Soft components – Electromagnetic cascades and air showers – Ultra high energy cosmic ray shower – Radio galaxies and Quasars – Point sources of gamma rays: Gamma ray bursts – Atmospheric Neutrinos: Neutrino oscillations – Solar Neutrinos – Point Neutrino sources – The binary Pulsar.

### **Unit V Particle Physics in stars\*\***

Stellar evolution – The early stages – Hydrogen burning: the pp cycle in the sun – Helium burning and the production of Carbon and oxygen – Production of heavy elements – White dwarf stars – Stellar Collapse: Type II Supernovae – Neutrinos from SN1987A – Neutron stars and pulsars – Black holes – Hawking radiation from black holes.

### **\*\* Problems associated with the topics Excluded**

#### **Book for study:**

Particle Astrophysics

: Donald Perkins-Oxford Master series in Particle Physics, Astrophysics and Cosmology, Oxford University Press, Reprint 2004, 2005, 2008.

**Book for Reference:**

1. Astrophysics-Stars and Galaxies : K.D.Abhyankar, University Press (India) Private limited 2001, Reprint 2009.
2. Astrophysics of the solar system : K.D.Abhyankar, University Press (India) Private limited 1999, Reprint 2009.

**M.Sc Physics  
Semester IV****Advanced Learner's Course II - Plasma Physics****15MPA2****Credits: 4****Preamble:**

The word 'Plasma' comes from Greek meaning something 'moulded'. It is used to describe a wide variety of macroscopically neutral substances containing many interacting free electrons and ionized atoms or molecules which exhibit the collective behavior due to long range coulomb forces. Not all media containing charged particles, however can be classified as plasmas. For a collection of interacting charged and neutral particles to exhibit plasma behavior, it must satisfy certain conditions or criteria, for plasma existence. This paper focuses on Plasma and its behavior.

**Objectives:**

- To learn the basic characteristics of Plasma.
- To gain knowledge about the effect of Plasma in electric & magnetic field.
- To study the applications of Plasma in different areas.

**Unit I**

Introduction - Composition and Characteristics of plasma - Collisions – Elastic collisions - Inelastic Collisions - Surface Phenomena - Transport phenomena - Diffusion and Mobility: Ambipolar Diffusion - Gas Discharges - Comparison of various natural and man-made plasmas - Plasma diagnostics - Plasma waves and instabilities: Confinement of plasma - Space plasma.

**Unit II**

Microscopic and macroscopic description - Motion of a charged particle in electric and magnetic fields - Uniform magnetic field-Constant electric and magnetic fields - Converging magnetic field: Magnetic mirror – Magnetic trap and double-mirror – Van Allen radiation belt – Coefficient of reflection of particles.

**Unit III**

Description of plasma as a gas mixture – Properties of plasma in a magnetic field – Force on plasma in a magnetic field – Current in magnetized plasma – Collisions in fully ionized magneto-plasmas – Pinch effect – Oscillations and waves in the plasma – Plasma frequency.

## Unit IV

Distribution function – Homogeneous, Inhomogeneous, Isotropic and Anisotropic distribution functions – Boltzmann equation – Conservation of particles – Conservation of mass – Fokker-Planck equation – Debye Screening – Initial value Problem: Landau Damping – Cyclotron Damping – Excitation : Two-Stream Instability, Beam-Plasma Instability, Pinch instability – Non-linear effects.

## Unit V

Controlled thermonuclear reactions – Lawson criterion – The Coulomb Barrier – Heating and Confinement of the Plasma: Pinch devices (Z- pinch and  $\Theta$ -pinch), Mirror machine, Stellarator, Tokamak, The Levitron – Magnetohydrodynamic conversion of energy – Plasma Propulsion – Other Plasma devices.

### Book for study:

Elements of Plasma Physics : S.N. Goswami, New Central Book Agency Private Limited, 8/1 Chintamani Das Lane, Kolkata. Third Impression 2005.

### Books for Reference:

1. Introduction to Plasma Physics : B.M. Smirnov, Mir Publishers, First Published 1977.
2. Fundamentals of Plasma Physics : J.A. Bittencourt, Springer Publishers Private limited, New Delhi. Third Edition.
3. Elementary Plasma Physics : Conrad L.Longmire, Wiley Eastern Private Limited, First Wiley Eastern Reprint, 1971, New Delhi.



**Curriculum Framework for the students admitted in the academic year 2014-2015**

**Department of Physics**

**M.Sc. Physics**

**Semester wise distribution with Scheme of Examination**

Semester	Title of the Course	Credits	Instruction hours per week	Duration of Exam (ESE)	Marks		Total
					CIA	ESE	
I	Core I Classical Mechanics	4	6	3	25	75	100
	Core II Mathematical Physics	4	6	3	25	75	100
	Core III Condensed Matter Physics	4	6	3	25	75	100
	Practical I	4	6	4	40	60	100
	<b>Elective I Electronic Devices, Circuits and Applications</b>	3	6	3	25	75	100
II	Core IV Quantum Mechanics	4	6	3	25	75	100
	Core V Electromagnetic Theory	4	6	3	25	75	100
	Core VI Nano science and Nanotechnology I – Fundamentals	4	6	3	25	75	100
	Practical II	4	6	4	40	60	100
	<b>Elective II Digital Electronics and Microprocessors</b>	3	6	3	25	75	100
	<b>Advanced Learner's Course I Astrophysics</b>	4*	-	3	-	100	100

Seme ster	Title of the Course	Cre dits	Instru cti on hours per week	Duration of Exam (ESE)	Marks		Total
					CIA	ESE	
III	Core VII Nuclear and Particle Physics	5	5	3	25	75	100
	Core VIII Nano science and Nanotechnology II - Applications	5	5	3	25	75	100
	Core IX Molecular Spectroscopy	5	5	3	25	75	100
	Practical III	5	6	6	40	60	100
	<b>Elective III : MATLAB (T &amp; P)</b>	3	4	4	25	75	100
	Internship / Summer Fellowship	5	5	-	-	-	100
IV	Core X Modern Optics	5	6	3	25	75	100
	Core XI Analog and Digital Communications	5	6	3	25	75	100
	<b>Elective IV : Object Oriented Programming with C++</b>	3	5	3	25	75	100
	Practical IV : Object Oriented Programming with C++	3	4	4	40	60	100
	Project & Viva voce	8	9	-	100	100	200
	Advanced Learner's Course II Plasma physics	4*	-	3	-	100	100

**Total Credits : 90**

## M.Sc Physics – Semester II

### Advanced Learner's Course I Astrophysics

Credits: 4

QPC: 14MPA1

#### Preamble:

Everyone is familiar with the fact that the universe is populated by stars and that these occur in huge assemblies. These huge assemblies called as galaxies contain stars of the order of  $10^{11}$ , together with clouds of gas and dust. Also in the universe is present the non-luminous large fraction of matter called dark matter. The dark energy is estimated to about 70% of the bulk of the energy density in the universe. The striking success of the big bang theory with the observation of the red shift of galaxies, abundant presence of light elements, the existence of the all pervading cosmic microwave background radiation would intrigue any Astrophysicist to explore the nuances of universe. This paper gives a well defined explanation for the enthusiastic physics off springs to enjoy not only about space, but also about the cosmic rays and cosmic particles.

#### Unit I The expanding Universe\*\*

The Hubble expansion – Olber's Paradox - The Friedmann equation - The source of energy density – Observed energy densities and the age of the universe – The deceleration parameter: the effects of cosmological constant – Cosmic microwave radiation – Radiation in the early universe – Radiation and matter eras – Baryogenesis and the matter – Antimatter asymmetry of the universe.

#### Unit II Dark matter and Dark energy in the universe\*\*

Dark matter in galaxies and clusters – Gravitational lensing – amplification by gravitational lenses: Microlensing and MACHOs – The lensing probability: Optical depth – Baryonic dark matter – Neutrinos – Axions – WIMPs – Expected WIMP cross-sections and event rates – Dark energy: The Hubble plot at large redshifts – Vacuum energy: The Casimir effect – Problems with the cosmological constant and dark energy.

#### Unit III Development of structure in the early Universe\*\*

Horizon and Flatness problems – Inflation - Chaotic inflation – Quantum fluctuations and inflation – The spectrum of primordial fluctuations – Large scale structure: Gravitational collapse and the Jeans mass – The growth of structure in an expanding universe – Evolution of fluctuations during the radiation era.

#### Unit IV Cosmic Particles\*\*

The spectrum and composition of cosmic rays – Geomagnetic and solar effects – Acceleration of cosmic rays – Secondary cosmic radiation: Hard and Soft components – Electromagnetic cascades and air showers – Ultra high energy cosmic ray shower – Radio galaxies and Quasars – Point sources of gamma rays: Gamma ray bursts – Atmospheric Neutrinos: Neutrino oscillations – Solar Neutrinos – Point Neutrino sources – The binary Pulsar.

#### Unit V Particle Physics in stars\*\*

Stellar evolution – The early stages – Hydrogen burning: the pp cycle in the sun – Helium burning and the production of Carbon and oxygen – Production of heavy elements – White dwarf

stars – Stellar Collapse: Type II Supernovae – Neutrinos from SN1987A – Neutron stars and pulsars – Black holes – Hawking radiation from black holes.

**\*\* Problems associated with the topics Excluded**

**Book for study:**

Particle Astrophysics : Donald Perkins-Oxford Master series in Particle Physics, Astrophysics and Cosmology, Oxford University Press, Reprint 2004, 2005, 2008.

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2. Astrophysics of the solar system : K.D.Abhyankar, University Press (India) Private limited 1999, Reprint 2009.

## **M.Sc Physics – Semester IV**

### **Advanced Learner's Course II Plasma Physics**

**Credits: 4**

**QPC: 14MPA2**

**Preamble:**

The word 'Plasma' comes from Greek meaning something 'moulded'. It is used to describe a wide variety of macroscopically neutral substances containing many interacting free electrons and ionized atoms or molecules which exhibit the collective behavior due to long range coulomb forces. Not all media containing charged particles, however can be classified as plasmas. For a collection of interacting charged and neutral particles to exhibit plasma behavior, it must satisfy certain conditions or criteria, for plasma existence. This paper focuses on Plasma and its behavior.

**Objectives:**

- To learn the basic characteristics of Plasma.
- To gain knowledge about the effect of Plasma in electric & magnetic field.
- To study the applications of Plasma in different areas.

**Unit I**

Introduction - Composition and Characteristics of plasma - Collisions – Elastic collisions - Inelastic Collisions - Surface Phenomena - Transport phenomena - Diffusion and Mobility: Ambipolar Diffusion - Gas Discharges - Comparison of various natural and man-made plasmas - Plasma diagnostics - Plasma waves and instabilities: Confinement of plasma - Space plasma.

**Unit II**

Microscopic and macroscopic description - Motion of a charged particle in electric and magnetic fields - Uniform magnetic field-Constant electric and magnetic fields - Converging magnetic field: Magnetic mirror – Magnetic trap and double-mirror – Van Allen radiation belt –

Coefficient of reflection of particles.

### **Unit III**

Description of plasma as a gas mixture – Properties of plasma in a magnetic field – Force on plasma in a magnetic field – Current in magnetized plasma – Collisions in fully ionized magneto-plasmas – Pinch effect – Oscillations and waves in the plasma – Plasma frequency.

### **Unit IV**

Distribution function – Homogeneous, Inhomogeneous, Isotropic and Anisotropic distribution functions – Boltzmann equation – Conservation of particles – Conservation of mass – Fokker-Planck equation – Debye Screening – Initial value Problem: Landau Damping – Cyclotron Damping – Excitation : Two-Stream Instability, Beam-Plasma Instability, Pinch instability – Non-linear effects.

### **Unit V**

Controlled thermonuclear reactions – Lawson criterion – The Coulomb Barrier – Heating and Confinement of the Plasma: Pinch devices (Z- pinch and  $\ominus$ -pinch), Mirror machine, Stellarator, Tokamak, The Levitron – Magnetohydrodynamic conversion of energy – Plasma Propulsion – Other Plasma devices.

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**Curriculum Framework for the students admitted in the academic year 2013-2014**

**Department of Physics**

**M.Sc. Physics**

**Semester wise distribution with Scheme of Examination and Credits**

Semester	Title of the Course	Credits	Instruction hours per week	Duration of Exam (ESE)	Marks		Total
					CIA	ESE	
<b>I</b>	<b>Core I Classical Mechanics</b>	5	6	3	25	75	100
	<b>Core II Mathematical Physics</b>	5	6	3	25	75	100
	<b>Core III Condensed Matter Physics</b>	5	6	3	25	75	100
	<b>Practical I</b>	5	6	4	40	60	100
	<b>Elective I Electronic Devices, Circuits and Applications</b>	5	6	3	25	75	100
<b>II</b>	<b>Core IV Quantum Mechanics</b>	5	6	3	25	75	100
	<b>Core V Electromagnetic Theory</b>	5	6	3	25	75	100
	<b>Core VI Nanoscience and Nanotechnology I – Fundamentals</b>	5	6	3	25	75	100
	<b>Practical II</b>	5	6	4	40	60	100
	<b>Elective II Digital Electronics and Microprocessors</b>	5	6	3	25	75	100
	<b>Advanced Learner's Course I Astrophysics</b>	4*	-	3	-	100	100

## M.Sc Physics – Semester II

### Advanced Learner's Course I Astrophysics

Credits: 4

QPC: 14MPA1

#### Preamble:

Everyone is familiar with the fact that the universe is populated by stars and that these occur in huge assemblies. These huge assemblies called as galaxies contain stars of the order of  $10^{11}$ , together with clouds of gas and dust. Also in the universe is present the non-luminous large fraction of matter called dark matter. The dark energy is estimated to about 70% of the bulk of the energy density in the universe. The striking success of the big bang theory with the observation of the red shift of galaxies, abundant presence of light elements, the existence of the all pervading cosmic microwave background radiation would intrigue any Astrophysicist to explore the nuances of universe. This paper gives a well defined explanation for the enthusiastic physics off springs to enjoy not only about space, but also about the cosmic rays and cosmic particles.

#### Unit I The expanding Universe\*\*

The Hubble expansion – Olber's Paradox - The Friedmann equation - The source of energy density – Observed energy densities and the age of the universe – The deceleration parameter: the effects of cosmological constant – Cosmic microwave radiation – Radiation in the early universe – Radiation and matter eras – Baryogenesis and the matter – Antimatter asymmetry of the universe.

#### Unit II Dark matter and Dark energy in the universe\*\*

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Horizon and Flatness problems – Inflation - Chaotic inflation – Quantum fluctuations and inflation – The spectrum of primordial fluctuations – Large scale structure: Gravitational collapse and the Jeans mass – The growth of structure in an expanding universe – Evolution of fluctuations during the radiation era.

#### Unit IV Cosmic Particles\*\*

The spectrum and composition of cosmic rays – Geomagnetic and solar effects – Acceleration of cosmic rays – Secondary cosmic radiation: Hard and Soft components – Electromagnetic cascades and air showers – Ultra high energy cosmic ray shower – Radio galaxies and Quasars – Point sources of gamma rays: Gamma ray bursts – Atmospheric Neutrinos: Neutrino oscillations – Solar Neutrinos – Point Neutrino sources – The binary Pulsar.

#### Unit V Particle Physics in stars\*\*

Stellar evolution – The early stages – Hydrogen burning: the pp cycle in the sun – Helium burning and the production of Carbon and oxygen – Production of heavy elements – White dwarf

stars – Stellar Collapse: Type II Supernovae – Neutrinos from SN1987A – Neutron stars and pulsars – Black holes – Hawking radiation from black holes.

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**Book for study:**

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**Book for Reference:**

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: K.D.Abhyankar, University Press (India) Private limited 2001, Reprint 2009.

2. Astrophysics of the solar system

: K.D.Abhyankar, University Press (India) Private limited 1999, Reprint 2009.



**Curriculum design**  
**SRI G. V. G. VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**  
 Affiliated to Bharathiar University  
**Department of Chemistry**  
**B.Sc Chemistry**  
 Scheme of Examination – CBCS Pattern  
 (For the students admitted from the academic year 2017 – 2018 onwards)

Course Code	Course Title	Ins. Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester I</b>							
117TA1/ 117MY1/ 117HD1/ 117FR1	Part I: Language I	6	3	25	75	100	4
117EN1	Part II: English I	6	3	25	75	100	4
117C01	Part III: Core I General Chemistry I	7	3	25	75	100	4
	Part III: Core Practical I Semi-micro Qualitative Analysis	3	-	-	-	-	-
117AC1	Part III: Allied I Physics I	4	3	25	50	75	3
	Part III: Allied Physics Practical	2	-	-	-	-	-
117EVS	Part IV: Environmental Studies	2	2	50	-	50	2
<b>Semester II</b>							
217TA2/ 217MY2/ 217HD2/ 217FR2	Part I: Language II	6	3	25	75	100	4
217EN2	Part II: English II	6	3	25	75	100	4
217C02	Part III: Core II General Chemistry II	7	3	25	75	100	4
217CP1	Part III: Core Practical I Semi-micro Qualitative Analysis	3	3	25	50	75	3
217AC2	Part III: Allied II Physics II	4	3	25	50	75	3
217ACP	Part III: Allied Physics Practical	2	3	20	30	50	2
217VEC	Part IV: Value Education	2	2	50	-	50	2
<b>Semester III</b>							
317TA3/ 317MY3/ 317HD3/ 317FR3	Part I: Language III	6	3	25	75	100	4
317EN3	Part II: English III	6	3	25	75	100	4
317C03	Part III: Core III General Chemistry III	4	3	25	75	100	4
	Part III: Core Practical II Volumetric and Organic Analysis	3	-	-	-	-	-
317AC3	Part III: Allied III Mathematics I	6	3	25	75	100	4
317NCE	Part IV: Non Major Elective: Chemistry in Everyday Life	2	2	50	-	50	2
317CS1	Part IV: Skill Enhancement Course I: Applications of Computer in Chemistry	3	3	75	-	75	3

<b>Semester IV</b>							
417TA4/ 417MY4/ 417HD4/ 417FR4	Part I: Language IV	6	3	25	75	100	4
417EN4	Part II: English IV	6	3	25	75	100	4
417C04	Part III: Core IV General Chemistry IV	4	3	25	75	100	4
417CP2	Part III: Core Practical II Volumetric and Organic Analysis	3	6	40	60	100	4
417AC4	Part III: Allied IV Mathematics II	6	3	25	75	100	4
417NGA	Part IV: General Awareness	-	1	50	-	50	2
417CS2	Part IV: Skill Enhancement Course II: Chemistry for Exploration I	3	3	75	-	75	3
417GIS	Part IV: Information Security	2	2	50	-	Grade	Grade
<b>417ALC</b>	<b>Advanced Learner's Course I – Food Science</b>	<b>-</b>	<b>3</b>	<b>-</b>	<b>100</b>	<b>100</b>	<b>4*</b>
<b>Semester V</b>							
517C05	Part III: Core V Organic Chemistry I	5	3	25	75	100	4
517C06	Part III: Core VI Inorganic Chemistry I	4	3	25	75	100	4
517C07	Part III: Core VII Physical Chemistry I	5	3	25	75	100	4
517CE1/ 517CE2	Part III: Elective I Polymer and Dye Chemistry / Agro-Industrial Chemistry	4	3	25	75	100	4
517CE3	Part III: Elective II Project	5	3	50	50	100	4
	Part III: Core Practical III Gravimetric Analysis and Physical Chemistry Experiments	5	-	-	-	-	-
517CS3	Part IV: Skill Enhancement Course III: Chemistry for Exploration II	2	3	75	-	75	3
<b>Semester VI</b>							
617C08	Part III: Core VIII Organic Chemistry II	5	3	25	75	100	5
617C09	Part III: Core IX Inorganic Chemistry II	4	3	25	75	100	4
617C10	Part III: Core X Physical Chemistry II	4	3	25	75	100	4
617C11	Part III: Core XI Spectroscopy	4	3	25	75	100	4
617CE4/ 617CE5	Part III: Elective III Industrial Chemistry/ Applied Chemistry	4	3	25	75	100	4
617CP3	Part III: Core Practical III Gravimetric Analysis and Physical Chemistry Experiments	5	6	40	60	100	4
617CP4	Part III: Core Practical IV Applied Chemistry Practical	2	3	25	50	75	2
617CS4	Part IV: Skill Enhancement Course IV: Nanoscience	2	3	75	-	75	3
617EX1/ 617EX2/ 617EX3 617EX4/ 617EX5	Part V: Extension Activity	-	-	50	-	50	2
<b>617ALC</b>	<b>Advanced Learner's Course II - Dairy Chemistry</b>	<b>-</b>	<b>3</b>	<b>-</b>	<b>100</b>	<b>100</b>	<b>4*</b>
<b>Total</b>						<b>3500</b>	<b>140</b>

Starred credits are treated as additional credits, which are optional.

## B.Sc. Chemistry

### Semester IV

#### Advance Learner's Course - I – Food Science (For candidates admitted from 2017-2018 onwards)

417ALC

#### Objectives:

- To familiarize the students with different constituents of food.
- To explain the need and importance of food additives.
- To identify the food adulterants and standards.
- To understand the principles involved in food preservation.

#### Unit I: Constituents of Food

Introduction to food science- Food groups and their major nutrients- Constituents of food carbohydrates, proteins, fats and oils, emulsifiers, enzymes, pigments and colors, flavors, vitamins and minerals, natural toxicants and water(elementary treatment only).

#### Unit II: Food Additives

Food additives- definition- need, classification- Antioxidants, chelating agents, coloring agents, curing agents, humectants, anticaking agents- Preservatives: definition, action of sodium chloride, sorbic acid and acetic acid as preservative.

#### Unit III: Adulteration

Adulteration- definition, types- intentional and incidental, metallic and other contaminations- Simple test to detect food adulterants- Food safety and standards- national (BIS) and international standards(CODEX)- FSSAI.

#### Unit IV: Food Preservation and Processing

Food spoilage- Causes, Types- Food preservation- Preservation and processing by heating- sterilization, pasteurization and blanching Preservation and processing by low temperature- slow freezing, quick freezing and dehydro freezing.

#### Unit V: Food Quality

Reason for testing food quality- Sensory evaluation- appearance, colour, flavour (odour, taste and mouth feel) - types of tests- difference test (paired comparison test, triangle test)- Rating test- single sample and two sample difference test- objective evaluation: advantages and disadvantages- physico- chemical test methods of objective evaluation.

#### Books for Study:

1. Food science, B. Sri Lakshmi, New age international (P) Ltd publications, 6<sup>th</sup> ed., 2015.
2. Food science, N. N. Potter, J. H. Hotchkiss, CBS publications, 5<sup>th</sup> ed., 2007.
3. Foods- Facts and principles, N. Shakuntala Manay and M. Shadaksharaswamy, New Age international Pvt. Ltd, publications, 1<sup>st</sup> ed., 1995.
4. Food Chemistry, H. K. Chopra, P. S. Panesar, Narosa Publishing house, 1<sup>st</sup> ed., 2013.

#### Course Outcomes:

Upon completion of the course, the students will be able to

**CO1:** Gain the knowledge on constituents of food.

**CO2:** Acquire fundamental knowledge on food additives.

**CO3:** Know about food adulteration.

**CO4:** Know the importance of food preservation and processing.

	<b>PO 1</b>	<b>PO 2</b>	<b>PO 3</b>	<b>PO 4</b>	<b>PO 5</b>	<b>PO 6</b>	<b>Knowledge Level</b>
<b>CO1</b>	H	M	H	H	H	H	U
<b>CO 2</b>	H	H	H	H	H	H	U
<b>CO 3</b>	H	H	H	H	H	H	A
<b>CO 4</b>	H	H	H	H	H	H	U

S. No	<b>Course Delivery</b>	PO1	PO2	PO3	PO4	PO5	PO6
1.	<b>Class room Lecture</b>	✓	✓	✓	✓	✓	✓
2.	<b>Laboratory class and demo</b>	✓	✓	✓	✓	✓	✓
3.	<b>Group Assignments</b>	✓	✓	✓		✓	✓
4.	<b>Flip class room</b>	✓		✓		✓	✓
5.	<b>Viva Voce</b>	✓	✓	✓		✓	✓
6.	<b>Seminar</b>	✓		✓		✓	✓
7.	<b>Video</b>	✓	✓	✓	✓	✓	✓
8.	<b>Power point presentation</b>	✓	✓	✓	✓	✓	✓
9.	<b>Concept mapping</b>	✓	✓	✓		✓	✓
10.	<b>Collaborative Learning</b>	✓	✓	✓		✓	✓

**Curriculum Design**  
**SRI G. V. G. VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**  
 Affiliated to Bharathiar University  
**Department of Chemistry**  
**B.Sc Chemistry**  
 Scheme of Examination – CBCS Pattern  
**(For the Students admitted from the academic year 2016 – 2017 only)**

Course Code	Course Title	Ins. Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester I</b>							
115TA1/ 115MY1/ 115HD1/ 115FR1	Part I: Language I	6	3	25	75	100	4
115EN1	Part II: English I	6	3	25	75	100	4
115C01	Part III: Core I General Chemistry I	7	3	25	75	100	4
	Part III: Core Practical I Semi micro qualitative analysis	3	-	-	-	-	-
115AC1	Part III: Allied I Physics I	4	3	25	50	75	3
	Part III: Allied Physics Practical	2	-	-	-	-	-
115EVS	Part IV: Environmental Studies	2	2	50	-	50	2
<b>Semester II</b>							
215TA2/ 215MY2/ 215HD2/ 215FR2	Part I: Language II	6	3	25	75	100	4
215EN2	Part II: English II	6	3	25	75	100	4
215C02	Part III: Core II General Chemistry II	7	3	25	75	100	4
215CP1	Part III: Core Practical I Semi micro qualitative analysis	3	3	25	50	75	3
215AC2	Part III: Allied II Physics II	4	3	25	50	75	3
215ACP	Part III: Allied Physics Practical	2	3	20	30	50	2
215VEC	Part IV: Value Education	2	2	50	-	50	2
<b>Semester III</b>							
315TA3/ 315MY3/ 315HD3/ 315FR3	Part I: Language III	6	3	25	75	100	4
315EN3	Part II: English III	6	3	25	75	100	4
315C03	Part III: Core III General Chemistry III	4	3	25	75	100	4
	Part III: Core Practical II Volumetric and Organic analysis	3	-	-	-	-	-
315AC3	Part III: Allied III Mathematics I	6	3	25	75	100	4
315CS1	Part IV: Skill Based Course I: Applications of Computer in Chemistry	3	3	75	-	75	3
315NCE	Part IV: Non Major Elective Course I: Chemistry in Everyday Life	2	2	50	-	50	2

Semester IV							
415TA4/ 415MY4/ 415HD4/ 415FR4	Part I: Language IV	6	3	25	75	100	4
415EN4	Part II: English IV	6	3	25	75	100	4
415C04	Part III: Core IV General Chemistry IV	4	3	25	75	100	4
<b>416CP2</b>	<b>Part III: Core Practical II Volumetric and Organic Analysis</b>	<b>3</b>	<b>6</b>	<b>40</b>	<b>60</b>	<b>100</b>	<b>4</b>
415AC4	Part III: Allied IV Mathematics II	6	3	25	75	100	4
415CS2	Part IV: Skill Based Course II: Chemistry for Entrepreneurship	3	3	75	-	75	3
415NGA	Part IV: Non Major Elective Course II: General Awareness (Online)	-	1	50	-	50	2
415GIS	Part IV: Information Security	2	2	-	-	Grade	Grade
<b>415ALC</b>	<b>Advanced Learners Course I – Food Science</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>100</b>	<b>4*</b>
Semester V							
515C05	Part III: Core V Organic Chemistry I	5	3	25	75	100	5
515C06	Part III: Core VI Inorganic Chemistry I	4	3	25	75	100	4
515C07	Part III: Core VII Physical Chemistry I	5	3	25	75	100	4
515C08	Part III: Core VIII Spectroscopy	4	3	25	75	100	4
515CE1	Part III: Elective I Polymer and Dye Chemistry	4	3	25	75	100	4
	Part III: Core Practical III Gravimetric Analysis and Physical Chemistry experiments	5	-	-	-	-	-
515CS3	Part IV: Skill Based Course III: Chemistry for Exploration	3	3	75	-	75	3
Semester VI							
615C09	Part III: Core IX Organic Chemistry II	4	3	25	75	100	5
615C10	Part III: Core X Inorganic Chemistry II	4	3	25	75	100	4
615C11	Part III: Core XI Physical Chemistry II	4	3	25	75	100	4
615CE2	Part III: Elective II Analytical Chemistry	4	3	25	75	100	4
615CE3	Part III: Elective III Project	5	3	25	75	100	4
615CP3	Part III: Core Practical III Gravimetric Analysis and Physical Chemistry experiments	5	6	40	60	100	3
615CP4	Part III: Core Practical IV Applied Chemistry Practical	2	3	25	50	75	2
615CS4	Part IV: Skill Based Course IV: Nanoscience	2	-	75	-	75	3
615EX1/ 615EX2/ 615EX3 615EX4/ 615EX5	Part V: Extension activity	-	-	50	-	50	2
<b>615ALC</b>	<b>Advanced Learners Course II - Dairy chemistry</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>100</b>	<b>4*</b>
<b>Total</b>						<b>3500</b>	<b>140</b>

- Starred credits are treated as additional credits, which are optional.

## B.Sc. Chemistry

**Semester IV**  
**Advanced Learner's Course- I – Food Science**

**415ALC**

**Preamble:**

To familiarize the students with the topics like nutrients, additives and quality of the food and also the methods to preserve food this paper has been introduced.

**Unit I: Constituents of Food**

Introduction to food science- Food groups and their major nutrients- Constituents of food carbohydrates, proteins, fats and oils, emulsifiers, enzymes, pigments and colors, flavors, vitamins and minerals, natural toxicants and water(elementary treatment only).

**Unit II: Food Additives**

Food additives- definition- need, classification- Antioxidants, chelating agents, coloring agents, curing agents, humectants, anticaking agents- Preservatives: definition, action of sodium chloride, sorbic acid and acetic acid as preservative.

**Unit III: Adulteration**

Adulteration- definition, types- intentional and incidental, metallic and other contaminations- Simple test to detect food adulterants- Food safety and standards- national (BIS) and international standards(CODEX)- FSSAI.

**Unit IV: Food Preservation and Processing**

Food spoilage- Causes, Types- Food preservation- Preservation and processing by heating- sterilization, pasteurization and blanching Preservation and processing by low temperature- slow freezing, quick freezing and dehydro freezing.

**Unit V: Food Quality**

Reason for testing food quality- Sensory evaluation- appearance, colour, flavour (odour, taste and mouth feel) - types of tests- difference test (paired comparison test, triangle test)- Rating test- single sample and two sample difference test- objective evaluation: advantages and disadvantages- physico- chemical test methods of objective evaluation.

**Books for Study:**

1. Food science- B. Sri Lakshmi, New age international (P) Ltd, publishers New Delhi edition 1997.
2. Food science- Norman N. Potter, Joesph H. Hotchkiss, CBS, publishers and distributors New Delhi, 5<sup>th</sup> edition.
3. Foods- Facts and principles  
- N.Shakuntala Manay and M. Shadaksharaswamy New Age international (P) Ltd, publishers New Delhi edition 1995.

**B .Sc. Chemistry**  
**Semester – VI**

**Advanced Learner's Course II- Dairy Chemistry**

**615ALC**

**Objectives:**

- To impart knowledge in physico-chemical aspects of milk and milk products with special reference to their processing.
- To impart knowledge on different aspects of major milk products.
- To impart knowledge on fermented and other milk products.

### **Unit I – Composition of Milk**

Milk- Definition, general composition of milk- Constituents of milk- lipids, proteins, carbohydrates, vitamins and minerals- Physical properties of milk- colour, odour, acidity, specific gravity, viscosity and conductivity- Factors affecting the composition of milk- adulterants, preservatives and neutralizer- examples and their detection- Estimation of fat, acidity and total solids in milk.

### **Unit II – Processing of Milk**

Micro biology of milk- destruction of micro organisms in milk- Physico- chemical changes taking place in milk due to processing- Boiling, pasteurization- types of pasteurization- bottle, batch and HTST(high temperature short time), Vacuum pasteurization- ultra high temperature pasteurization.

### **Unit III –Major Milk Products**

Cream- definition- composition- Chemistry of creaming process- gravitational and centrifugal methods of separation of cream- estimation of fat in cream - Butter- definition, composition- theory of churning- desibutter- salted butter- estimation of acidity and moisture content in butter-Ghee- major constituents- common adulterants added to ghee and their detection- rancidity- definition- prevention- antioxidants and synergists- natural and synthetic

### **Unit IV– Special Milk**

Standardised milk- definition- merits- Reconstituted milk- definition- Flow diagram of manufacture- homogenized milk- flavoured milk- vitaminised- milk- toned milk- incitation milk- vegetable toned milk- humanized milk- condensed milk- definition, composition and nutritive value

### **Unit V– Fermented and other Milk Products**

Fermented milk products- fermentation of milk- definition, conditions- Cultured milk- definition of culture- examples, conditions- cultured cream- cultured butter milk- Bulgaxious milk- acidophilous milk- yoheer indigeneous products- Khoa - preparation of khoa , gulabjamun, and rassogalla- Ice-cream- definition- percentage composition- types ingredients- manufacture of ice-cream - Stabilizers- emulsifiers and their role - Milk powder- definition- need for making milk powder- drying process- types of drying- Dairy detergents- characteristics- classification- washing procedure- sterilization- hypochlorite solution.

### **Books for Study:**

1. A text book of dairy Chemistry, Edgar. R. Ling, JV Publishing house , 2<sup>nd</sup> ed, 2008.
2. Dairy Science, V.Rangarajan, Mangaldeep publications, 1<sup>st</sup> ed., 2007.
3. Chemistry and testing of Dairy Products, Henry.V.Atherton, JA. Newlander, CBS publishers,4<sup>th</sup> ed., 2000.
4. Dairy microbiology, H.A.Modi, Aavishkar Publishers, 1<sup>st</sup> ed., 2009.



**Curriculum Design**

**SRI G. V. G. VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**

Affiliated to Bharathiar University

**Department of Chemistry-B.Sc Chemistry - Scheme of Examination – CBCS Pattern**

**(For the Students admitted from the academic year 2015 – 2016 & 2016-2017 only)**

Course Code	Course Title	Ins. Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester I</b>							
115TA1/	Part I: Language I						

<b>Semester IV</b>
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115MY1/ 115HD1/ 115FR1		6	3	25	75	100	4
115EN1	Part II: English I	6	3	25	75	100	4
115C01	Part III: Core I General Chemistry I	7	3	25	75	100	4
	Part III: Core Practical I Semi micro qualitative analysis	3	-	-	-	-	-
115AC1	Part III: Allied I Physics I	4	3	25	50	75	3
	Part III: Allied Physics Practical	2	-	-	-	-	-
115EVS	Part IV: Environmental Studies	2	2	50	-	50	2
<b>Semester II</b>							
215TA2/ 215MY2/ 215HD2/ 215FR2	Part I: Language II	6	3	25	75	100	4
215EN2	Part II: English II	6	3	25	75	100	4
215C02	Part III: Core II General Chemistry II	7	3	25	75	100	4
215CP1	Part III: Core Practical I Semi micro qualitative analysis	3	3	25	50	75	3
215AC2	Part III: Allied II Physics II	4	3	25	50	75	3
215ACP	Part III: Allied Physics Practical	2	3	20	30	50	2
215VEC	Part IV: Value Education	2	2	50	-	50	2
<b>Semester III</b>							
315TA3/ 315MY3/ 315HD3/ 315FR3	Part I: Language III	6	3	25	75	100	4
315EN3	Part II: English III	6	3	25	75	100	4
315C03	Part III: Core III General Chemistry III	4	3	25	75	100	4
	Part III: Core Practical II Volumetric and Organic analysis	3	-	-	-	-	-
315AC3	Part III: Allied III Mathematics I	6	3	25	75	100	4
315CS1	Part IV: Skill Based Course I: Applications of Computer in Chemistry	3	3	75	-	75	3
<b>315NCE</b>	<b>Part IV: Non Major Elective Course I: Chemistry in Everyday Life</b>	<b>2</b>	<b>2</b>	<b>50</b>	<b>-</b>	<b>50</b>	<b>2</b>

415TA4/ 415MY4/ 415HD4/ 415FR4	Part I: Language IV	6	3	25	75	100	4
415EN4	Part II: English IV	6	3	25	75	100	4
415C04	Part III: Core IV General Chemistry IV	4	3	25	75	100	4
415CP2	Part III: Core Practical II Volumetric and Organic Analysis	3	6	40	60	100	4
415AC4	Part III: Allied IV Mathematics II	6	3	25	75	100	4
415CS2	Part IV: Skill Based Course II: Chemistry for Entrepreneurship	3	3	75	-	75	3
415NGA	Part IV: Non Major Elective Course II: General Awareness (Online)	-	1	50	-	50	2
415GIS	Part IV: Information Security	2	2	-	-	Grade	Grade
415ALC	Advanced Learner's Course I – Food Science	-	-	-	100	100	4*
<b>Semester V</b>							
515C05	Part III: Core V Organic Chemistry I	5	3	25	75	100	5
515C06	Part III: Core VI Inorganic Chemistry I	4	3	25	75	100	4
515C07	Part III: Core VII Physical Chemistry I	5	3	25	75	100	4
515C08	Part III: Core VIII Spectroscopy	4	3	25	75	100	4
515CE1	Part III: Elective I Polymer and Dye Chemistry	4	3	25	75	100	4
	Part III: Core Practical III Gravimetric Analysis and Physical Chemistry experiments	5	-	-	-	-	-
515CS3	Part IV: Skill Based Course III: Chemistry for Exploration	3	3	75	-	75	3
<b>Semester VI</b>							
615C09	Part III: Core IX Organic Chemistry II	4	3	25	75	100	5
615C10	Part III: Core X Inorganic Chemistry II	4	3	25	75	100	4
615C11	Part III: Core XI Physical Chemistry II	4	3	25	75	100	4
615CE2	Part III: Elective II Analytical Chemistry	4	3	25	75	100	4
615CE3	Part III: Elective III Project	5	3	25	75	100	4
615CP3	Part III: Core Practical III Gravimetric Analysis and Physical Chemistry experiments	5	6	40	60	100	3
615CP4	Part III: Core Practical IV Applied Chemistry Practical	2	3	25	50	75	2
615CS4	Part IV: Skill Based Course IV: Nanoscience	2	-	75	-	75	3
615EX1/ 615EX2/ 615EX3 615EX4/ 615EX5	Part V: Extension activity	-	-	50	-	50	2
615ALC	Advanced Learner's Course II - Dairy chemistry	-	-	-	100	100	4*
<b>Total</b>						<b>3500</b>	<b>140</b>

Starred credits are treated as additional credits, which are optional.

## II UG Course

### Semester – III

#### Part IV- Non Major Elective Course I - Chemistry in Everyday Life 315NCE (For the students admitted from the academic year 2015 – 2016 onwards)

**Total hours: 38**

#### **Unit I: Chemistry in Health Care and Beauty (8 Hours)**

Health care: Vitamins and Proteins- sources, functions and deficiency diseases- Hazard alert and Precautions for safety: Asbestos, Silica, Lead paints, Cement, Welding fumes and gases.

Cosmetics: Face powder- Face cream- Lipstick- Mascara-Nail polish- Perfumes- Shampoo-Tooth paste-Ingredients and uses.

#### **Unit II: Chemistry in Medicine (7 Hours)**

Analgesics, Antimicrobials, Antifertility drugs, Anaesthetics, Antibiotics, Antacids, Antihistamines, Tranquilizers, Hypnotics and Antidepressant drugs- definition, examples, uses and side effects.

#### **Unit III: Chemistry in Housekeeping (7 Hours)**

Soaps- definition, varieties of soap and their uses- cleansing action of soap -detergents, deodorants, acid cleaners, laundry aids, alkaline cleaners, metal polishes, solvent cleaners, floor seal, abrasive, antiseptics, disinfectants- definition, ingredients and examples.

#### **Unit IV: Chemistry in Industry (8 Hours)**

Role of Chemistry in photography- photographic process- preparation of sensitive plates- exposure- developing- fixing- printing- toning- colour photography.

Food industry: Food adulterants and testing, Food colorants, Food preservatives and Food additives- Agriculture: Fertilizer- Bio fertilizers- requisites, manufacture and uses- micronutrients, macronutrients and mixed fertilizers- definition and examples-Pesticides and Insecticides- definition and examples- fate of pesticides and Insecticides in soil and plants.

Plastics- definition- types, examples and recycling of plastics.

#### **Unit V: Chemistry in Clinical Health and Biochemical Analysis (8 Hours)**

Diagnostic test for sugar, salt and cholesterol in serum and urine- detection of hallucinogens and poisons- Antitodes for poisons- detection of anemia and diabetics- transport of oxygen and maintenance of pH of blood, Analysis of  $R_h$  factor, blood pressure- normal, high and low and to control.

#### **Books for Study:**

1. Text book of Applied Chemistry – Thangamma Jacob, Macmillan, 1987  
Home Science and Allied Science Edition
2. Industrial Chemistry – B.K. Sharma, Goel publishing house
3. A Text of Pharmaceutical Chemistry – Jayashree ghosh, Sultan chand&sons, New Delhi,1997.

**B.Sc Mathematics/Physics/Chemistry/Computer Science/I.T/  
Commerce/BCA/BBA(CA)/B.Com(CA)/B.Com(e-Com)**

**Semester - IV**

**Part IV-Information Security**

**415GIS**

**Level – II**

**(For the students admitted from the academic year 2015-2016 onwards)**

**[20 Hours]**

**Unit I**

**[6 hrs]**

Information Security – Security Concerns - Security Requirements – Security Awareness - Security Challenges - Characteristics – Principles – Applications.

Security Mechanism – Encryption – Digital Signature – Digital Certificates – Public key Infrastructure – Proxy Servers. Information Security polices and Standards.

**Unit II**

**[7 hrs]**

Security Analysis: Security in TCP/IP Networks – LAN Security – Levels of Security – Threats - Types of Threats – Attacks. EDI Security – Hijacking EDI Messages in Transit – Security of EDI System while creating, processing and data retention.

**Unit III**

**[7 hrs]**

Security Issues – Authentication: Protecting Passwords, Viruses, Firewalls - Security for Smart cards – Safe payments – Electronic Banking – Electronic Fund Transfer.

Mobile Information Security – Bluetooth Security – WLAN Security. Social Networking – Measures for Secured Transactions.

**Books for Reference**

- 1."Network Security and Management", Brijendra Singh, PHI Learning Limited, Second Edition.
- 2."Firewalls and Network Security", Whitman, Mattord, Austin, Holden, Cengage Learning India Private Learning
- 3."Cryptography and Information security", V.K.Pachghare, PHI Learning Limited.

**B.Sc. Chemistry**

**Semester IV**

**Advanced Learner's Course- I – Food Science**

**415ALC**

**(For the students admitted from the academic year 2015-2016 onwards)**

**Preamble:**

To familiarize the students with the topics like nutrients, additives and quality of the food and also the methods to preserve food this paper has been introduced.

**Unit I: Constituents of Food**

Introduction to food science- Food groups and their major nutrients- Constituents of food carbohydrates, proteins, fats and oils, emulsifiers, enzymes, pigments and colors, flavors, vitamins and minerals, natural toxicants and water(elementary treatment only).

## **Unit II: Food Additives**

Food additives- definition- need, classification- Antioxidants, chelating agents, coloring agents, curing agents, humectants, anticaking agents- Preservatives: definition, action of sodium chloride, sorbic acid and acetic acid as preservative.

## **Unit III: Adulteration**

Adulteration- definition, types- intentional and incidental, metallic and other contaminations- Simple test to detect food adulterants- Food safety and standards- national (BIS) and international standards(CODEX)- FSSAI.

## **Unit IV: Food Preservation and Processing**

Food spoilage- Causes, Types- Food preservation- Preservation and processing by heating- sterilization, pasteurization and blanching Preservation and processing by low temperature- slow freezing, quick freezing and dehydro freezing.

## **Unit V: Food Quality**

Reason for testing food quality- Sensory evaluation- appearance, colour, flavour (odour, taste and mouth feel) - types of tests- difference test (paired comparison test, triangle test)- Rating test- single sample and two sample difference test- objective evaluation: advantages and disadvantages- physico- chemical test methods of objective evaluation.

### **Books for Study:**

4. Food science- B. Sri Lakshmi, New age international (P) Ltd, publishers New Delhi edition 1997.
5. Food science- Norman N. Potter, Joesph H. Hotchkiss, CBS, publishers and distributors New Delhi, 5<sup>th</sup> edition.
6. Foods- Facts and principles  
- N.Shakuntala Manay and M. Shadaksharaswamy New  
Age international (P) Ltd, publishers New Delhi edition 1995.
4. Detection and prevention of Food adulteration- By Stella Maris College Chennai.
5. <http://www.fssai.gov.in>

## **B.Sc. Chemistry**

### **Semester VI**

#### **Part III Elective III- Project**

**615CE3**

**(For the Students admitted from the academic year 2015 –16 & 2016-17 only)**

### **Objective:**

**Total Hours: 52**

- To think critically and analyze chemical problems.
- To enhance the ability of working in teams as well as independently.
- To perform accurate quantitative measurements with an understanding of the theory and use of contemporary chemical instrumentation, interpret experimental results, perform calculations on these results and draw reasonable, accurate conclusions.
- To present scientific and technical information resulting from laboratory experiments both in written and oral formats.

### **Instructions:**

1. Students are allotted to various faculties of the department according to their CGPA and / or choice. They will be working on specialized problem related to the research interests of the respective guides.
2. Group size: Maximum 3
3. Review I - Evaluated at the end of I CIA  
Review II - Evaluated at the end of II CIA

### **B.Sc. Chemistry**

#### **Semester – VI**

#### **Part IV Skill Based Course IV - Nanoscience**

**615CS4**

**(For the Students admitted from the academic year 2015 –16 & 2016-17 only)**

#### **Objectives:**

**Total hours: 38**

- To know the basics of nanoscience and nanotechnology.
- To learn characterization techniques of nanomaterials.
- To understand the applications of nanomaterials.
- To acquire skill in synthesizing nanoparticles.

#### **Unit I: Fundamentals and overview of nanoscience**

**(3 Hours)**

Nanorevolution of the XX century, Properties at nanoscale-optical, electronic and magnetic, mechanical, thermal properties. Theory, definitions and scaling.

#### **Unit II: Different classes of nanomaterials**

**(4 hours)**

Metal and Semiconductor Nanomaterials, Quantum Dots, Wells and Wires, Molecule to bulk transitions Bucky balls and Carbon Nanotubes.

#### **Unit III: Synthesis of nanomaterials**

**(10 hours)**

Physical methods: Bottom up-Ball Milling, Melt mixing, Physical vapour deposition, Ionised cluster beam deposition, Laser pyrolysis, Sputter deposition.

Chemical methods: Hydrothermal combustion, bath deposition with capping techniques and top down, Chemical vapour deposition, Synthesis of metal & semiconductor nanoparticles by colloidal route, Microemulsions, Sol-gel method, Combustion method, Wet chemical method

#### **Unit IV: Nano Materials and their Characterization:**

**(8 hours)**

Electron microscopes – scanning electron microscopes (SEM) – transmission electron microscopes (TEM) – scanning probe microscopy – atomic force microscopy (AFM) – scanning tunneling electron microscope (STEM) – TEM and EDAX analysis, X-ray Diffraction, Fluorescence Microscopy and Imaging. (Basic principles only)

#### **Unit V: Nanoapplications**

**(5 hours)**

Solar energy conversion- Chemical semiconductor solar cells - Dye sensitized solar cells - Polymer solar cells - Nano quantum dot solar cells - and catalysis, Nanomedicine, Nanomaterials in water purification. Current status and future of nanomaterials.

#### **Practicals : Synthesis of Nanomaterials:**

**(8 hours)**

1. Chemical Synthesis of Copper nanoparticles
2. Chemical Synthesis of iron oxide nanoparticles
3. Chemical Synthesis of CdS Nanoparticles
4. Chemical Synthesis of MnO<sub>2</sub> Nanoparticles

5. Eco friendly synthesis of metal oxide nanoparticles.
6. Bandgap calculation of nanoparticle using UV-Visible spectroscopy.
7. Chemical Synthesis of Silver nanoparticles (demonstration)
8. Synthesis of ZnO Nanoparticles using Sol-gel methods (demonstration)
9. Synthesis of nanoparticle using Ball milling technique (demonstration)

**Books for study :**

1. Nanotechnology principles and Practices Sulabha K Kulkarni, Second Edition, Capital publishing company, New Delhi, Reprint 2011.
2. Nano: The Essentials, T. Pradeep, Tata Mc-Graw Hill, New Delhi, Edition 2007.
3. Nanoscience and Nanotechnology, T. Pradeep, Tata Mc-Graw Hill, New Delhi, Edition 2012

**Reference:**

Essentials of Nanotechnology, Er. Rishabh Anand, MedTec Publisher, Edition 2015

**B.Sc. Chemistry**

**Semester – VI**

**Advanced Learner's Course II- Dairy Chemistry                      615ALC**

**(For the students admitted from the academic year 2015-2016 & 2016-2017 only)**

**Objectives:**

- To impart knowledge in physico-chemical aspects of milk and milk products with special reference to their processing.
- To impart knowledge on different aspects of major milk products.
- To impart knowledge on fermented and other milk products.

**Unit I – Composition of Milk**

Milk- Definition, general composition of milk- Constituents of milk- lipids, proteins, carbohydrates, vitamins and minerals- Physical properties of milk- colour, odour, acidity, specific gravity, viscosity and conductivity- Factors affecting the composition of milk- adulterants, preservatives and neutralizer- examples and their detection- Estimation of fat, acidity and total solids in milk.

**Unit II – Processing of Milk**

Micro biology of milk- destruction of micro organisms in milk- Physico- chemical changes taking place in milk due to processing- Boiling, pasteurization- types of pasteurization- bottle, batch and HTST(high temperature short time), Vacuum pasteurization- ultra high temperature pasteurization.

**Unit III –Major Milk Products**

Cream- definition- composition- Chemistry of creaming process- gravitational and centrifugal methods of separation of cream- estimation of fat in cream - Butter- definition, composition- theory of churning- desibutter- salted butter- estimation of acidity and moisture content in butter-Ghee- major constituents- common adulterants added to ghee and their detection- rancidity- definition- prevention- antioxidants and synergists- natural and synthetic



#### **Unit IV– Special Milk**

Standardised milk- definition- merits- Reconstituted milk- definition- Flow diagram of manufacture- homogenized milk- flavoured milk- vitaminised- milk- toned milk- incitation milk- vegetable toned milk- humanized milk- condensed milk- definition, composition and nutritive value

#### **Unit V– Fermented and other Milk Products**

Fermented milk products- fermentation of milk- definition, conditions- Cultured milk- definition of culture- examples, conditions- cultured cream- cultured butter milk- Bulgaxious milk- acidophilous milk- yoheer indigeneous products- Khoa - preparation of khoa , gulabjamun, and rassogalla- Ice-cream- definition- percentage composition- types ingredients- manufacture of ice-cream - Stabilizers- emulsifiers and their role - Milk powder- definition- need for making milk powder- drying process- types of drying- Dairy detergents- characteristics- classification- washing procedure- sterilization- hypochlorite solution.

#### **Books for Study:**

5. A text book of dairy Chemistry, Edgar. R. Ling, JV Publishing house , 2<sup>nd</sup> ed, 2008.
6. Dairy Science, V.Rangarajan, Mangaldeep publications, 1<sup>st</sup> ed., 2007.
7. Chemistry and testing of Dairy Products, Henry.V.Atherton, JA. Newlander, CBS publishers,4<sup>th</sup> ed., 2000.
8. Dairy microbiology, H.A.Modi, Aavishkar Publishers, 1<sup>st</sup> ed., 2009.

**B.Sc. Chemistry**  
**Semester wise distribution with the Scheme of Examination**  
**(For candidates admitted from 2014-2015 onwards)**

Sem	Courses	Credit	Duration of exam Hrs ESE	Marks		Total	
				CIA	ESE		
I	Part I Language I	3	3	25	75	100	
	Part II English I	3	3	25	75	100	
	Part III Core I General Chemistry I	6	3	25	75	100	
	Part III Allied I Physics I	4	3	15	60	75	
	Part IV Environmental studies	2		50		50	
II	Part I Language II	3	3	25	75	100	
	Part II English II	3	3	25	75	100	
	Part III Core II General Chemistry II	3	3	25	75	100	
	Part III Core III General Chemistry III	4	3	25	75	100	
	Part III Core practical I Semi micro qualitative analysis	2	3	40	60	100	
	Part III Allied II Physics II	4	3	15	60	75	
	Part III Allied Practical	2	3	20	30	50	
	Part IV Value education	2		50		50	
	<b>Part III Advanced Learner's Course I Food Science</b>	<b>3*</b>	<b>3</b>	<b>1</b>	<b>100</b>	<b>100</b>	
III	Part I Language III	3	3	25	75	100	
	Part II English III	3	3	25	75	100	
	Part III Core IV General Chemistry IV	4	3	25	75	100	
	Part III Allied III Mathematics I	5	3	25	75	100	
	Part IV Non Major Elective	2		75		75	
		<b>Part IV Skill Based course Skill Based chemistry I</b>	<b>3</b>	<b>3</b>	<b>100</b>	<b>1</b>	<b>100</b>
IV	Part I Language IV	3	3	25	75	100	
	Part II English IV	3	3	25	75	100	
	<b>Part III Core V General Chemistry V</b>	<b>5</b>	<b>3</b>	<b>25</b>	<b>75</b>	<b>100</b>	
	Part III Core practical II Volumetric and Organic analysis	3	6	40	60	100	
	Part III Allied IV Mathematics II	5	3	25	75	100	
	Part IV General Awareness	2		75		75	
		<b>Part IV Skill Based course Skill Based chemistry II</b>	<b>3</b>	<b>3</b>	<b>100</b>	<b>1</b>	<b>100</b>
		<b>Part III Advanced Learner's Course II Chemistry of non-metals</b>	<b>3*</b>	<b>3</b>	<b>1</b>	<b>100</b>	<b>100</b>

	Part V Extension activities	1		50		50
V	Part III Core VI Inorganic Chemistry	4	3	25	75	100
	Part III Core VII Organic Chemistry	4	3	25	75	100
	Part III Core VIII Essential aspects of spectroscopy	4	3	25	75	100
	Part III Core IX Physical Chemistry	4	3	25	75	100
	Part III Elective I Polymer and Dye Chemistry	5	3	25	75	100
	Part IV Skill Based course Skill Based chemistry III	3		100		100
VI	Part III Core X Biomolecules and pharmaceutical chemistry	4	3	25	75	100
	Part III Core XI Industrial Chemistry	4	3	25	75	100
	Part III Core XII Electrochemistry	4	3	25	75	100
	Part III Elective II Analytical Chemistry	5	3	25	75	100
	Part III Elective III Applied Chemistry	5	3	25	75	100
	Part III Core practical III Gravimetric Analysis and physical chemistry experiments	3	6	60	90	150
	Part III Core practical IV Applied chemistry practical	2	3	20	30	50
	Part IV Skill Based course Skill Based chemistry IV Project	3		100		100
	Part III Advanced Learner's Course III Dairy chemistry	3*	3		100	100
Total	140					

Starred credits are treated as additional credits.

Non- major elective course offered by the department – Consumer products for home needs.

### B.Sc. Chemistry

#### Semester II

#### Part III Advance Learner's Course- I – Food Science 214ALC

(For candidates admitted from 2014-2015 onwards)

#### Preamble:

To have awareness about the nutrients, additives and quality of the food and also the methods to preserve food this paper has been introduced.

#### Module I: Constituents of food:

- 1.1 Introduction to food science.
- 1.2 Food groups and their major nutrients.
- 1.3 Constituents of food : carbohydrates, proteins, fats and oils, emulsifiers, enzymes,

pigments and colors, flavors, vitamins and minerals, natural toxicants and water(elementary treatment only).

### **Module II: Food additives**

- 2.1 Definition
- 2.2 Need for food additives
- 2.3 Classification of food additives
- 2.4 Antioxidants, chelating agents, coloring agents, curing agents, humectants, anticaking agents.
- 2.5 Preservatives- definition, action of sodium chloride, sorbic acid and acetic acid as preservative.

### **Module III: Adulteration**

- 3.1 Definition
- 3.2 Types of adulterants- intentional and incidental, metallic and other contaminations.
- 3.3 Simple test to detect food adulterants.
- 3.4 Food laws- prevention of food adulteration act (PFA) 1954 and rules 1955 and its salient features.

### **Module IV: Food preservation and processing**

- 4.1 Food spoilage
- 4.2 Causes of food spoilage
- 4.3 Types of food spoilage
- 4.4 Food preservation
- 4.41 Preservation and processing by heating- sterilization, pasteurization and blanching
- 4.42 Preservation and processing by low temperature- slow freezing, quick freezing and dehydro freezing.

### **Module V: Food quality**

- 5.1 Reason for testing food quality
- 5.2 Sensory evaluation- appearance, colour, flavour (odour, taste and mouth feel)
- 5.3 Types of tests- difference test (paired comparison test, triangle test).
- 5.31 Rating test- single sample and two sample difference test
- 5.32 Objective evaluation advantages and disadvantages and physico- chemical test methods of objective evaluation.

### **Books for Study:**

- 1. Food science- B.Sri Lakshmi, New age international (P) Ltd, publishers New Delhi edition 1997.
- 2. Food science- Norman N. Potter, Joseph H. Hotchkiss, CBS, publishers and distributors New Delhi 5th edition .
- 3. Foods- Facts and principles N.Shakuntala Manay and M. Shadaksharaswamy New age international (P) Ltd, publishers New Delhi edition 1995.
- 4. Detection and prevention of Food adulteration- By StellaMaris college Chennai.

**B.Sc. Chemistry**

**Semester III**

**Part IV- Skill based course –Skill based chemistry-I**

**Applications of Computers in Chemistry**

**314CS1**

**(For candidates admitted from 2014-2015 onwards)**

**Total hours: 38**

**Module 1: MS WORD**

**(6 Hours)**

- 1.1 Introduction- Word document window
- 1.2 Basic commands
- 1.3 Concept like editing, cutting, saving, pasting, formatting and tabular columns
- 1.4 Formatting the text and document-Working with header and footer
- 1.5 Typing texts and equations in Chemistry
- 1.6 Mail merge

**Module 2: MS EXCEL**

**(5 Hours)**

- 2.1 Introduction- Navigating worksheets
- 2.2 Entering and editing Data, text and formulas
- 2.3 Excel functions
- 2.4 Excel's Chart features(elementary idea only)

**Module 3: MS POWERPOINT**

**(5 Hours)**

- 3.1 Powerpoint basics- Terminology- Color Schemes- templates
- 3.2 Creating presentations
- 3.3 Working with Text in Powerpoint- editing , formatting and aligning Text
- 3.4 Slide preparation and presentation
- 3.5 Working with Animation

**Module 4: CHEMDRAW**

**(6 Hours)**

- 4.1 Introduction- salient features in Chemdraw
- 4.2 Main tools- optional tools
- 4.3 Significance of Chemdraw
- 4.4 Chemdraw Shortcuts
- 4.5 Drawing Chemical Structures and pasting them in the text
- 4.6 Working with Structures- Advantages.

**Module 5: INTERNET**

**(6 Hours)**

- 5.1 Internet – the working way of internet-internet protocols- internet addressing – domain name.
- 5.2 WWW- WebPages, home page, Web browsers- search engine.
- 5.3 E-mail- advantages and disadvantages
- 5.4 Intranet and Extranet
- 5.5 Application of internet in Chemistry

**Practicals**

**(10 Hours)**

1. Prepare Bio-Data using MS Word

2. Create a Newsletter using MS Word
3. Prepare a Mark statement using MS Word
4. Create a document using format options in MS Word
5. Design an advertisement copy in MS Word
6. Create a database using the formulas sum, average, max, min, Formulas in Chemistry (given by the teacher) in Excel
7. Drawing charts and Graphs in Excel
8. Prepare a PowerPoint slide using animation and sound effects
9. Draw the structure of the molecules using Chemdraw
10. Draw the structure of the molecule by using Chemdraw and paste into MS Word Document
11. Create an E-mail ID

### Books for study

1. Nellai Kannan C., 2008, MS OFFICE, NELS Publications, Tirunelveli.
2. Alexis Leon & Mathews Leon, 1999, Fundamentals of Information Technology, Leon Tech World, Chennai.

### B .Sc. Chemistry

#### Semester – IV

#### Part III Core V- General Chemistry V

414C05

(For candidates admitted from 2014-2015 onwards)

#### Preamble:

**Total Hours: 65**

The purpose of this paper is to provide a concise knowledge about co-ordination chemistry, nitrogen containing organic compounds, solutions , colligative properties, distribution law and liquid crystals.

#### Module I –Co-ordination chemistry I

**(12 Hours)**

- \*1.1 Basic concepts of co-ordination compounds, ligands-classification of ligands, co-ordination number and co-ordination sphere
- 1.2 Nomenclature of co-ordination compounds
- 1.3 Theories – Werner’s, Sidgwick’s effective atomic number, Pauling’s valence bond theory and its limitations
- 1.4 Interpretation of properties of the following complexes:  $[\text{Fe}(\text{CN})_6]^{4-}$  ,  $[\text{CoF}_6]^{3-}$   $[\text{Ni}(\text{CO})_4]$  and  $[\text{CuX}_4]^{2-}$
- 1.5 Chelate formation – applications in analytical chemistry, softening of water, medicine and living systems

#### Module II –Co-ordination chemistry II

**(13 Hours)**

- 2.1 Crystal field theory- elementary treatment, splitting of d- orbitals in tetrahedral, square planar and octahedral complexes
- 2.11 Applications of CFT
- \*2.2 Isomerism- ionization, hydration, linkage, co-ordination and co-ordination position

- 2.3 Geometrical isomerism in square planar and octahedral complexes
- 2.4 Optical isomerism in tetrahedral and octahedral complexes
- 2.5 Thermo dynamic and kinetic stability-Factors affecting stability of metal complexes

**Module III –Nitrogen containing compounds and Aromaticity (15 Hours)**

- \*3.1 Nitro compounds- preparation, properties and uses of nitromethane and nitrobenzene
- \*3.2 Separation of primary, secondary and tertiary amines.
- 3.3 Preparation, properties and uses of ethylamine and dimethylamine.
- 3.4 Aromatic amines- preparation, properties and uses of aniline- estimation of aniline
- 3.5 Relative basic character of aliphatic and aromatic amines
- 3.6 Preparation, properties and uses of benzene diazonium chloride
- 3.7 Aromaticity- Huckel's rule and its simple applications to benzenoid and nonbenzenoid aromatic compounds

**Module IV –Solutions and colligative properties (13 Hours)**

- 4.1 Solutions- liquid in liquid solutions- Definitions of Molarity, Normality, Molality and Mole fraction.
- 4.11 Ideal and non ideal solutions
- 4.12 Raoult's law and Gibb's- Duhem – Margules equations
- 4.13 Types of non ideal solutions- introduction and azeotropic mixture formation in detail
- 4.14 Partially miscible liquid system- phenol- water
- 4.2 Colligative properties- introduction
- 4.21 Relative lowering of vapour pressure, elevation of boiling point, depression of freezing point and osmotic pressure- definition and derivation only
- 4.22 Van't Hoff's factor and its application in determining the degree of dissociation and degree of association

**Module V –Distribution law and Liquid crystals (12 Hours)**

- 5.1 Nernst distribution law and conditions for validity
- 5.2 Thermodynamic derivation – association, dissociation and chemical combination of the solute in the solvent
- 5.3 Applications of Nernst distribution law
- 5.4 Liquid crystals Definition, physical and chemical properties
- 5.5 Classification – Nematic, Smectic and Cholestric liquid crystals
- 5.6 Theory of liquid crystals –molecular arrangement in various states
- 5.7 Applications of liquid crystals

**Books for Study:**

1. Principles of inorganic chemistry - B.R Puri, L.R Sharma, K.C Kalia  
Vallabh publications – edition 2003
2. Text book of organic chemistry - P.S Bahl and Arun Bhal S.Chand &  
Company Ltd, edition 2003
3. Text book of organic chemistry - K.STewari V.K.Vishnoi,S.N  
Mehorthra,Vikas publishing house Pvt.Ltd edition  
1998.

4. Principles of physical chemistry - B.R Puri, L.R Sharma, Pathania B.K  
Vishal publishing company.

**B.Sc. Chemistry**  
**Semester IV**

**Part IV- Skill based course –Skill based chemistry-II 414CS2**

**Chemistry for Entrepreneurship**

**(For candidates admitted from 2014-2015 onwards) Total Hours: 38**

**Preamble:**

Chemistry is the study of composition and characterization of substances. Consumer products are essential necessities of every day life. Exposure to this kind may alter one's thought and outlook and open-up new avenues for self employment.

- a) **Industrial visit (2 no. ) – Report making on the visit- 12 hours**  
b) **Preparation of following house hold products – 26 lab hours**  
**(Formulation and procedures)**

<b>Soap</b>	<b>Talcum powder</b>	<b>Bed bug repellent</b>	<b>Cake</b>
<b>Detergent</b>	<b>Shampoo</b>	<b>Mosquito repellent</b>	<b>Bread</b>
<b>Laundry blue</b>	<b>Perfumes</b>	<b>Cockroach repellent</b>	<b>Biscuits</b>
<b>Bleaching powder</b>	<b>Tooth powder</b>	<b>Chalk</b>	<b>Homemade chocolates</b>
<b>Phenoyl</b>	<b>Tooth paste</b>	<b>Candle</b>	<b>Ink</b>
<b>Incandescent sticks</b>	<b>Kumkum</b>	<b>Laundry starch</b>	<b>Cutflower Preservative</b>

**B .Sc. Chemistry**  
**Semester – IV**

**Part III- Advanced learner's course II**

**Chemistry of Non-metals**

**414ALC**

**(For candidates admitted from 2014-2015 onwards)**

**Preamble:**

To obtain knowledge on Nonmetals - Boron, Nitrogen, Phosphorus, Oxygen, Sulphur, Halogens, Noble gases and their compounds - this paper is introduced.

**Module I: Boron group elements:**

- 1.1 Position of boron in the periodic table
- 1.2 Anomalous behavior of boron
- 1.3 Diagonal relationship between boron and silicon
- 1.4 Preparation, properties and structure of diborane, borax and sodiumborohydride

**Module II: Nitrogen and phosphorus group elements**

- 2.1 Nitrogen- Nitrogen cycle and fixation of nitrogen
- 2.2 Difference between nitrogen and other elements of group VA
- 2.3 Preparation, properties and uses of hydrazine and hydroxyl amine



- 2.4 Preparation and properties of orthophosphoric acid and pyrophosphoric acid
- 2.4 Preparation, properties and structure of  $\text{PCl}_5$  and  $\text{POCl}_3$

### **Module III: Oxygen and Sulphur group elements**

- 3.1 Anomalous behavior of oxygen.
- 3.2 Comparison of oxygen with sulphur
- 3.3 Preparation, properties, structure and uses of  $\text{O}_3$  and  $\text{H}_2\text{O}_2$
- 3.4 Preparation and properties of thionyl chloride and dithionic acid

### **Module IV: Halogens**

- 4.1 Basic properties of halogens
- 4.2 Anomalous behavior of Fluorine.
- 4.3 Preparation and properties of  $\text{H}_2\text{F}_2$  and perchloric acid
- 4.4 Similarities between  $\text{H}_2\text{F}_2$  and  $\text{H}_2\text{O}$
- 4.5 Inter halogen compounds - General methods of preparation, properties and uses

### **Module V: Noble gases**

- 5.1 Isolation of rare gases from dry air and liquid air
- 5.2 Importance of noble gases in theoretical chemistry
- 5.3 Conditions and types of compounds formed by inert gases
- 5.4 Uses of noble gases
- 5.5 Preparation and properties of  $\text{XeF}_4$  and  $\text{XeOF}_4$

### **Books for Study:**

- 1. Text book of inorganic chemistry - P.L.Soni, Sultan Chand & Sons, Reprint: 2004
- 2. Modern inorganic chemistry - R.D. Madan, S.Chand and company Ltd
- 3. Advanced inorganic chemistry - Vol. I Gurdeep Raj, Goel publishing house 24<sup>th</sup> edition 1998.

### **B.Sc. Chemistry**

#### **Semester – V**

#### **Part III Elective I– Polymer and Dye Chemistry 514CE1**

**(For candidates admitted from 2014-2015 onwards)**

#### **Preamble:**

**Total Hours: 65**

Our present day to day life is inconceivable without polymers, which surround us in the form of plastics, elastomers, synthetic fibres and films and many other products and so as dyes. From the waste candy wrapper to the artificial heart and drugs, polymers and dyes touch our lives as does no other class of materials. Hence the objective of this subject is to create awareness and give clear understanding about polymer and dye preparation and applications.

#### **Module I : Classification of polymers**

**(15 Hours)**

- 1.1 Basic concepts such as monomers, polymers, polymerization functionality
- 1.2 Degree of polymerization
- 1.3 Classification of polymers – On the basis of occurrence, types of monomers and polymerization process.
- 1.4 Study of following polymers: elastomers , fibres, thermosetting and thermoplastic Polymers, adhesives (preparation not necessary)

- 1.5 Methods of polymerization: bulk, solution, suspension and emulsion.
- 1.6 Polymer processing techniques - calendering – compression, extrusion and injection moulding, film casting, and foaming

**Module II: Polymerization mechanism and special polymers (14 Hours)**

- 2.1 Chain polymerization- mechanism of free radical and ionic polymerization.
- 2.2 Co-ordination polymerization- illustration and mechanism using Zeigler-Natta catalyst
- 2.3 Stereo regulation or tacticity of polymers, factors influencing stereo regulation
- 2.4 Manufacture, properties and uses of typical polymers- polyethylene, polystyrene, polyesters, PVC, PET, nylon 6,6 and phenolic resins, and teflon

**Module III : Fractionation and molecular weight determination (10 Hours)**

- 3.1 Characterization of polymers.
- 3.2 Polymer fractionation – introduction, fractional precipitation method and gel permeation chromatography.
- 3.3 Average molecular weights- introduction and types of average molecular weights.
- 3.4 Molecular weight – determination by light scattering, viscosity and ultra centrifuge method.

**Module IV: Classification of dyes (13 Hours)**

- 4.1 Requisites of a dye.
- 4.2 Colour and constitution – Theories of colour and constitution – Witt theory, Quinonoid theory, Valence bond theory and Molecular orbital theory
- 4.3 Classification of dyes according to application – acidic, basic, direct, mordant, vat, disperse, sulphur and reactive dyes – a brief note on each term with an example .
- 4.3.1 Chemical classification of dyes – each type with one example.
- 4.4 Nitro and nitroso dyes – synthesis, properties, uses of naphthol green Y , disperse yellow, picric acid and martius yellow
- 4.5 Azo dyes - mechanism of diazotisation, principle and mechanism of coupling - preparation and uses of butter yellow, para red, bismark brown and congo red .

**Module V (13 Hours)**

- 5.1 Di and triphenyl methane dyes – auramine-O, malachite green, and crystal violet.
- 5.2 Acridine dyes – proflavin and acriflavin - cyanine , isocyanine and carbocyanine dyes.
- 5.3 Synthesis and uses of quinoline blue, ethyl red and sensitol red.
- 5.4 Phthalocyanine dyes – introduction, general methods of preparation and applications of Metal phthalocyanines – copper phthalocyanine
- 5.5 Non-textile uses of dye stuffs –leather, paper, food colours, medicine, photography, Cosmetics.
- 5.6 Pollution due to dyeing industry effluents and its remedial measures.

**Books for Study:**

1. Text book of polymer science. - Billmeyer FW, , Jr. John Wiley and Sons, 1994.
2. Introductory Polymer Science - G.S.Mishra, New Age International Pvt., Ltd., edition 1993.
3. Text book of Polymer Science - Dr. Vibha Chaturvedi

- and technology A.I.T.B.S Publishers ,India
4. Synthetic dyes - R.Chatwal, Himalayan publishing house, Edition 2001.
5. Industrial chemistry - B.K.Sharma, Goel publishing house Co., Edition 2001(12edition)
6. A text book of synthetic dyes by O.D. Tyagi and M.Yadav, Anmol publications, Edition 2001

**B.Sc. Chemistry**  
**Semester V**

**Part IV- Skill based course - Skill based chemistry III 514CS3**  
**Chemistry for Exploration Total Hours: 38**  
**(For candidates admitted from 2014-2015 onwards)**

- a) **Statistical survey and report making** related to issues in Chemistry -12 hours
- b) **Review of articles** and report making- A minimum of 20 journal articles collection and utilization - 12 hours
- Basic experiments in Chemistry** - 14 hours

TITLE	Time in hours
Experiment :1 Servicing bunsen burners	1
Experiment :2 To bore a hole in a cork	1
Experiment :3 Preparation of H <sub>2</sub> S gas using Kipp's apparatus	1
Experiment :4 Calibration of volumetric apparatus	3
Experiment :5 Preparation of laboratory reagents	1
Experiment :6 Column chromatography-Separation of methylene blue and malachite green	1
Experiment :7 Paper chromatography- Separation of metal ions of group I	1
Experiment :8 TLC – Separation of different types of inks	1
Experiment :9 Distillation and sublimation	2
Experiment :10 Solvent purification-Ethanol and acetone	2

**B.Sc. Chemistry**  
**Semester V & VI**

**Part III Core practical IV –Applied chemistry practical 614CP4**  
**(For candidates admitted from 2014-2015 onwards)**

- Determination of melting and boiling point of organic substances
- Colorimetric experiments using Nessler's tubes:
  - Estimation of Fe<sup>3+</sup> with ammonium thiocyanate
  - Estimation of nickel as nickel dimethyl glyoximate
  - Estimation of Mn<sup>2+</sup> in KMnO<sub>4</sub> using potassium iodate
- Preparation of organic compounds
  - Acetanilide from aniline(acetylation)
  - p- Bromo acetanilide from Acetanilide(Bromination)
  - Phenylbenzoate from phenol(Benzoylation)
  - Salicylic acid from ethylsalicylate(Hydrolysis)

- e. Nitrosalicylic acid from Salicylic acid (Nitration)
  - f. Benzoic acid from benzaldehyde (Oxidation)
  - g. Preparation of dyes – Methyl orange and Phenyl azo – 2 - naphthal.
4. Estimation of hardness of water using EDTA
  5. Group experiments:
    - a. Soxhlet extraction
    - b. Determination of saponification value of oil

## B.Sc. Chemistry

### Semester VI

#### Part III Advanced learner's course III Dairy chemistry

614ALC

(For candidates admitted from 2014-2015 onwards)

#### Module I – Composition of milk

- 1.1 Milk
- 1.2 Definition, general composition of milk
- 1.3 Constituents of milk- lipids, proteins, carbohydrates, vitamins and minerals
- 1.4 Physical properties of milk- colour, odour, acidity, specific gravity, viscosity and conductivity
- 1.5 Factors affecting the composition of milk- adulterants, preservatives and neutralizer- examples and their detection
- 1.6 Estimation of fat, acidity and total solids in milk

#### Module II – Processing of milk

- 2.1 Micro biology of milk- destruction of micro organisms in milk
- 2.2 Physico- chemical changes taking place in milk due to processing
- 2.3 Boiling, pasteurization- types of pasteurization- bottle, batch and HTST (high temperature short time), Vacuum pasteurization- ultra high temperature pasteurization

#### Module III – Major milk products

- 3.1 Cream- definition- composition
- 3.2 Chemistry of creaming process- gravitational and centrifugal methods of separation of cream- estimation of fat in cream
- 3.3 Butter- definition, composition- theory of churning- desibutter- salted butter- estimation of acidity and moisture content in butter
- 3.4 Ghee- major constituents- common adulterants added to ghee and their detection- rancidity- definition- prevention- antioxidants and synergists- natural and synthetic

#### Module IV – Special milk

- 4.1 Standardised milk- definition- merits
- 4.2 Reconstituted milk- definition
- 4.3 Flow diagram of manufacture- homogenized milk- flavoured milk- vitaminised milk- toned milk- incitation milk- vegetable toned milk- humanized milk- condensed milk- definition, composition and nutritive value

## **Module V– Fermented and other milk products**

- 5.1 Fermented milk products- fermentation of milk- definition, conditions
- 5.2 Cultured milk- definition of culture- examples, conditions- cultured cream- cultured butter milk
- 5.3 Bulgaxious milk- acidophilous milk- yoheer indigeneous products
- 5.4 Khoa - preparation of khoa , gulabjamun, and rassogalla
- 5.5 Ice-cream- definition- percentage composition- types ingredients- manufacture of ice-cream
- 5.6 Stabilizers- emulsifiers and their role
- 5.7 Milk powder- definition- need for making milk powder- drying process- types of drying
- 5.8 Dairy detergents- characteristics- classification- washing procedure- sterilization- hypochlorite solution.

### **Books for Study:**

1. Principles of dairy chemistry - Robert Jenness and Patom S, Wiley, New york
2. Indian dairy products - Rangappa K.S and Acharya K.T
3. Fundamentals of dairy chemistry - Wond F.P, Springer
4. Modern dairy products - Lampert L.M Chemical publishing company Inc., New york
5. Principles of dairy processing - Warner, New york
6. Outlines of dairy technology - Sukumar De

## **B.Sc. Chemistry**

### **Semester VI**

**Part IV- Skill based course - Skill based chemistry IV 614CS4**

### **Mini Project**

**(For candidates admitted from 2014-2015 onwards)**

- Mini project of undergraduate level taking a simple chemistry problem.

(Problem must be synthesis / characterization/analytical/application /comparisons/findings/theoretical oriented)

**B.Sc. Chemistry**  
**Semester wise distribution with the scheme of evaluation**  
**(For candidates admitted from 2012-2013 onwards)**

Sem	Courses	Credit	Duration of exam Hrs ESE	Marks		Total
				CIA	ESE	
I	Part I Language I	3	3	25	75	100
	Part II English I	3	3	25	75	100
	Part III Core I General Chemistry I	6	3	25	75	100
	Part III Allied I Physics I	4	3	15	60	75
	Part IV Environmental studies	2		50		50
II	Part I Language II	3	3	25	75	100
	Part II English II	3	3	25	75	100
	Part III Core II General Chemistry II	6	3	25	75	100
	Part III Core practical I Semi micro qualitative analysis	2	3	40	60	100
	Part III Core practical II Applied chemistry practical	2	3	40	60	100
	Part III Allied II Physics II	4	3	15	60	75
	Part III Allied Practical	2	3	20	30	50
	Part IV Value education	2		50		50
	Part III Advanced Learner's Course I Food Science	3*	3	1	100	100
III	Part I Language III	3	3	25	75	100
	Part II English III	3	3	25	75	100
	Part III Core III General Chemistry III	5	3	25	75	100
	Part III Allied III Mathematics I	5	3	25	75	100
	Part IV Non Major Elective	2		75		75
	Part IV Skill Based course Dye chemistry I	3		100		100
IV	Part I Language IV	3	3	25	75	100
	Part II English IV	3	3	25	75	100
	Part III Core IV General Chemistry IV	5	3	25	75	100
	Part III Core practical III Volumetric and Organic analysis	3	3	60	90	150
	Part III Allied IV Mathematics II	5	3	25	75	100
	Part IV General Awareness	2		75		75
	Part IV Skill Based course Dye chemistry II	3		100		100
	Part III Advanced Learner's Course II Metallurgy & applications of transition	3*	3	1	100	100

	metals					
	Part V Extension activities	1		50		50
V	Part III Core V Advanced Inorganic Chemistry	4	3	25	75	100
	Part III Core VI Organic Chemistry	4	3	25	75	100
	Part III Core VII Essential aspects of spectroscopy	4	3	25	75	100
	Part III Core VIII Chemical kinetics and photochemistry	4	3	25	75	100
	Part III Elective I Polymer Chemistry	5	3	25	75	100
	Part IV Skill Based course Dye chemistry III	3		100		100
VI	Part III Core IX Biomolecules and pharmaceutical chemistry	4	3	25	75	100
	Part III Core X Industrial Chemistry	4	3	25	75	100
	Part III Core XI Electrochemistry and technology	4	3	25	75	100
	Part III Elective II Analytical Chemistry	5	3	25	75	100
	Part III Elective III Applied Chemistry	5	3	25	75	100
	Part III Core practical IV Gravimetric Analysis and physical chemistry experiments	3	6	60	90	150
	Part IV Skill Based course Dye chemistry practical & project	3	3	100		100
	Part III Advanced Learner's Course III Dairy chemistry	3*	3		100	100
Total	140					

Starred credits are treated as additional credits.

Non- major elective course offered by the department – Consumer products for home needs.  
30% of the Syllabus in each course is taught using OHP, LCD

**B.Sc. Chemistry  
Semester II**

**Part III Advance Learner's Course- I – Food Science**

**212ALC**

**(For candidates admitted from 2012-2013 onwards)**

**Preamble :**

To have an awareness about the nutrients, additives and quality of the food we eat and also the methods to preserve food this paper has been introduced.

### **Module I: Constituents of food:**

- 1.4 Introduction to food science.
- 1.5 Food groups and their major nutrients.
- 1.6 Constituents of food : carbohydrates, proteins, fats and oils, emulsifiers, enzymes, pigments and colours, flavors, vitamins and minerals, natural toxicants and water(elementary treatment only).

### **Module II: Food additives**

- 2.1 Definition
- 2.2 Need for food additives
- 2.3 Classification of food additives
- 2.4 Antioxidants, chelating agents, colouring agents, curing agents, humectants, anticaking agents.
- 2.5 Preservatives- definition, action of sodium chloride, sorbic acid acetic acid as preservative.

### **Module III: Adulteration**

- 3.1 Definition
- 3.2 Types of adulterants- intentional and incidental, metallic and other contaminations.
- 3.3 Simple test to detect food adulterants.
- 3.4 Food laws- prevention of food adulteration act ( PFA) 1954 and rules 1955 and its salient features.

### **Module IV: Food preservation and processing**

- 4.1 Food spoilage
- 4.2 Causes of food spoilage
- 4.3 Types of food spoilage
- 4.4 Food preservation
- 4.41 Preservation and processing by heating- sterilization, pasteurization and blanching
- 4.42 Preservation and processing by low temperature- slow freezing, quick freezing and dehydrofreezing.

### **Module V: Food quality**

- 5.1 Reason for testing food quality
- 5.2 Sensory evaluation- appearance, colour, flavour (odour, taste and mouth feel)
- 5.3 Types of tests- difference test (paired comparison test, triangle test).
- 5.31 Rating test- single sample and two sample difference test
- 5.32 Objective evaluation advantages and disadvantages and physico- chemical test methods of objective evaluation.



**Books for Study:**

1. Food science- B.Sri Lakshmi, New age international (P) Ltd, publishers New Delhi edition 1997.
2. Food science- Norman N. Potter, Joseph H. Hotchkiss, CBS, publishers and distributors New Delhi 5th edition .
3. Foods- Facts and principles N.Shakuntala Manay and M. Shadaksharaswamy New age international (P) Ltd, publishers New Delhi edition 1995.
4. Detection and prevention of Food adulteration- By StellaMaris college Chennai.

**B .Sc. Chemistry****Semester – IV****Part III- Advanced learner's course II****Metallurgy and applications of transition metal elements****412ALC****(For candidates admitted from 2012-2013 onwards)****Preamble:**

To give enough exposure and awareness in the field of p- block elements, metallurgy and applications of transition metal elements in day today life.

**Module I: III A, VA & VI A group elements:**

- 1.1 Preparation, properties and structure of diborane, borax and sodiumborohydride
- 1.2 V A group
  - 1.21 Nitrogen- Nitrogen cycle and fixation of nitrogen
  - 1.22 Phosphorous- preparation and properties of orthophosphoric acid and pyrophosphoric acid
- 1.3 VI A group
  - 1.31 Preparation and properties of permonosulphuric acid, perdisulphuric acid and dithionic acid.

**Module II: IB & IIB group elements**

- 2.1 Occurrence, extraction and uses of Cu, Ag and Au.
- 2.2 Preparation, properties and uses of Cu (II) sulphate and silver nitrate.
- 2.3 Photographic processes - developing, printing and fixing (black and white).

**Module III: IIIB and IV B group elements**

- 3.1 Occurrence, extraction and uses of scandium.
  - 3.11 Preparation and properties of  $\text{Sc}_2\text{O}_3$  and  $\text{ScCl}_2$ .
- 3.2 Occurrence, extraction and uses of Ti.
  - 3.21 Preparation, properties and uses of titanium dioxide.

**Module IV: VB and VIB group elements**

- 4.1 Occurrence, extraction and uses of vanadium.
- 4.2 Preparation and properties of vanadium pentoxide.
- 4.3 Occurrence, extraction and uses of chromium, molybdenum and tungsten.

## **Module V: VIIB group elements - manganese and iron triads**

- 5.0 Comparative study of Fe, Co & Ni.
- 5.1 Occurrence, extraction and uses of Fe (manufacture of steel not necessary).
- 5.2 Preparation, properties and uses of potassium ferrocyanide and potassium ferric cyanide.

### **Books for Study:**

- 1. Text book of inorganic chemistry - P.L.Soni, Sultan Chand & Sons, Reprint: 2004
- 2. Modern inorganic chemistry – R.D. Madan, S.Chand and company Ltd
- 3. Advanced inorganic chemistry - Vol. I Gurdeep Raj, Goel publishing house 24th edition 1998.

### **B.Sc. Chemistry**

#### **Semester VI**

#### **Part III Advanced learner's course III Dairy chemistry 612ALC**

**(For candidates admitted from 2012-2013 onwards)**

### **Module I – Composition of milk**

- 1.1 Milk
- 1.2 Definition, general composition of milk
- 1.3 Constituents of milk- lipids, proteins, carbohydrates, vitamins and minerals
- 1.4 Physical properties of milk- colour, odour, acidity, specific gravity, viscosity and conductivity
- 1.5 Factors affecting the composition of milk- adulterants, preservatives and neutralizer- examples and their detection
- 1.6 Estimation of fat, acidity and total solids in milk

### **Module II – Processing of milk**

- 2.1 Micro biology of milk- destruction of micro organisms in milk
- 2.2 Physico- chemical changes taking place in milk due to processing
- 2.3 Boiling, pasteurization- types of pasteurization- bottle, batch and HTST(high temperature short time), Vacuum pasteurization- ultra high temperature pasteurization

### **Module III –Major milk products**

- 3.1 Cream- definition- composition
- 3.2 Chemistry of creaming process- gravitational and centrifugal methods of separation of cream- estimation of fat in cream
- 3.3 Butter- definition, composition- theory of churning- desibutter- salted butter- estimation of acidity and moisture content in butter
- 3.4 Ghee- major constituents- common adulterants added to ghee and their detection- rancidity- definition- prevention- antioxidants and synergists- natural and synthetic

### **Module IV– Special milk**

- 4.1 Standardised milk- definition- merits
- 4.2 Reconstituted milk- definition

- 4.3 Flow diagram of manufacture- homogenized milk- flavoured milk- vitaminised milk- toned milk- incitation milk- vegetable toned milk- humanized milk- condensed milk- definition, composition and nutritive value

### **Module V– Fermented and other milk products**

- 5.1 Fermented milk products- fermentation of milk- definition, conditions
- 5.2 Cultured milk- definition of culture- examples, conditions- cultured cream- cultured butter milk
- 5.3 Bulgaxious milk- acidophilous milk- yoheer indigeneous products
- 5.4 Khoa and chahana definition- preparation of khoa and chahana sweets- gulabjamun, chana sweets, rassogalla
- 5.5 Ice-cream- definition- percentage composition- types ingredients- manufacture of ice-cream
- 5.6 Stabilizers- emulsifiers and their role
- 5.7 Milk powder- definition- need for making milk powder- drying process- types of drying
- 5.8 Dairy detergents- characteristics- classification- washing procedure- sterilization- chloramines T and hypochlorite solution.

### **Books for Study:**

- |                                    |   |
|------------------------------------|---|
| 1. Principles of dairy chemistry   | - Robert Jenness and Patom S,<br>Wiley, New york            |
| 2. Indian dairy products           | - Rangappa K.S and Acharya K.T                              |
| 3. Fundamentals of dairy chemistry | - Wond F.P, Springer  |
| 4. Modern dairy products           | - Lampert L.M Chemical publishing<br>company Inc., New york |
| 5. Principles of dairy processing  | - Warner, New york  |
| 6. Outlines of dairy technology    | - Sukumar De  |

**B.Sc. Chemistry**  
**Semester wise distribution with the scheme of evaluation**  
**(For 2011 – 2014 Batch students only)**

Sem	Courses	Credit	Duration of exam Hrs ESE	Marks		Total
				CIA	ESE	
III	Part I Language III	3	3	25	75	100
	Part II English III	3	3	25	75	100
	Part III Core III General Chemistry III	6	3	25	75	100
	Part III Core practical II Volumetric analysis	2	3	30	45	75
	Part III Allied III Mathematics I	5	3	25	75	100
	Part IV Non Major Elective	2	3		75	75
	Part IV Skill Based course I Dye chemistry I	3	2½	25	75	100
IV	Part I Language IV	3	3	25	75	100
	Part II English IV	3	3	25	75	100
	Part III Core IV General Chemistry IV	6	3	25	75	100
	Part III Core practical III Organic analysis	2	3	30	45	75
	Part III Allied IV Mathematics II	5	3	25	75	100
	Part IV General Awareness	2	2		75	75
	Part IV Skill Based course II Dye chemistry II	3	2½	25	75	100
	Part III Advanced Learners' Course II Metallurgy & applications of transition metals	3*	3		100	100
V	Part III Core V Advanced Inorganic Chemistry	4	3	25	75	100
	Part III Core VI Organic Chemistry	4	3	25	75	100
	Part III Core VII Essential aspects of spectroscopy	5	3	25	75	100
	Part III Core VII Essential aspects of spectroscopy	4	3	25	75	100
	Part III Elective I Applied Chemistry	5	3	25	75	100

	Part III Core practical IV Applied chemistry practical	2	3	40	60	100
	Part IV Skill Based course III Dye chemistry III	3	2½	25	75	100
VI	Part III Core VIII Biomolecules and pharmaceutical chemistry	5	3	25	75	100
	Part III Core IX Industrial Chemistry	4	3	25	75	100
	Part III Core X Electrochemistry and technology	4	3	25	75	100
	Part III Elective II Polymer Chemistry	5	3	25	75	100
	Part III Elective III Analytical Chemistry	5	3	25	75	100
	Part III Core practical V Gravimetric Analysis and physical chemistry experiments	4	6	60	90	150
	Part IV Skill Based course IV dye chemistry practical & Project	3	3	25	75	100
	Part III Advanced Learners' Course III Dairy chemistry	3*	3	1	100	100
	Part V Extension Activities	1				50
	Total	140				

Starred credits are treated as additional credits. Non- major elective course offered by the department – Consumer products for home needs. 30% of the Syllabus in each course is taught using OHP, LCD.

**Semester – IV**  
**Part III- Advanced learner's course II**  
**Metallurgy and applications of transition metal elements**  
**(For candidates admitted from 2012-2013 onwards)**

**411ALC**

**Preamble:**

To give enough exposure and awareness in the field of p- block elements, metallurgy and applications of transition metal elements in day today life.

**Module I: III A, VA & VI A group elements:**

- 1.1 Preparation, properties and structure of diborane, borax and sodiumborohydride
- 1.2 V A group
  - 1.21 Nitrogen- Nitrogen cycle and fixation of nitrogen
  - 1.22 Phosphorous- preparation and properties of orthophosphoric acid and pyrophosphoric acid
- 1.3 VI A group
  - 1.31 Preparation and properties of permonosulphuric acid, perdisulphuric acid and dithionic acid.

**Module II: IB & IIB group elements**

- 2.1 Occurrence, extraction and uses of Cu, Ag and Au.
- 2.2 Preparation, properties and uses of Cu (II) sulphate and silver nitrate.
- 2.3 Photographic processes - developing, printing and fixing (black and white).

**Module III: IIIB and IV B group elements**

- 3.1 Occurrence, extraction and uses of scandium.
  - 3.11 Preparation and properties of Sc<sub>2</sub>O<sub>3</sub> and ScCl<sub>2</sub>.
- 3.2 Occurrence, extraction and uses of Ti.
  - 3.21 Preparation, properties and uses of titanium dioxide.

**Module IV: VB and VIB group elements**

- 4.1 Occurrence, extraction and uses of vanadium.
- 4.2 Preparation and properties of vanadium pentoxide.
- 4.3 Occurrence, extraction and uses of chromium, molybdenum and tungsten.

**Module V: VIIB group elements - manganese and iron triads**

- 5.0 Comparative study of Fe, Co & Ni.
- 5.1 Occurrence, extraction and uses of Fe (manufacture of steel not necessary).
- 5.2 Preparation, properties and uses of potassium ferrocyanide and potassium ferric cyanide.

**Books for Study:**

1. Text book of inorganic chemistry - P.L.Soni, Sultan Chand & Sons, Reprint: 2004
2. Modern inorganic chemistry - R.D. Madan, S.Chand and company Ltd
3. Advanced inorganic chemistry - Vol. I Gurdeep Raj, Goel publishing house 24th edition 1998.

## B.Sc. Chemistry

### Semester VI

#### Part III Advanced learner's course III Dairy chemistry

611ALC

(For candidates admitted from 2011-2012 onwards)

#### Module I – Composition of milk

- 1.1 Milk
- 1.2 Definition, general composition of milk
- 1.3 Constituents of milk- lipids, proteins, carbohydrates, vitamins and minerals
- 1.4 Physical properties of milk- colour, odour, acidity, specific gravity, viscosity and conductivity
- 1.5 Factors affecting the composition of milk- adulterants, preservatives and neutralizer- examples and their detection
- 1.6 Estimation of fat, acidity and total solids in milk

#### Module II – Processing of milk

- 2.1 Micro biology of milk- destruction of micro organisms in milk
- 2.2 Physico- chemical changes taking place in milk due to processing
- 2.3 Boiling, pasteurization- types of pasteurization- bottle, batch and HTST(high temperature short time), Vacuum pasteurization- ultra high temperature pasteurization

#### Module III –Major milk products

- 3.1 Cream- definition- composition
- 3.2 Chemistry of creaming process- gravitational and centrifugal methods of separation of cream- estimation of fat in cream
- 3.3 Butter- definition, composition- theory of churning- desibutter- salted butter- estimation of acidity and moisture content in butter
- 3.4 Ghee- major constituents- common adulterants added to ghee and their detection- rancidity- definition- prevention- antioxidants and synergists- natural and synthetic

#### Module IV– Special milk

- 4.1 Standardised milk- definition- merits
- 4.2 Reconstituted milk- definition
- 4.3 Flow diagram of manufacture- homogenized milk- flavoured milk- vitaminised milk- toned milk- incitation milk- vegetable toned milk- humanized milk- condensed milk- definition, composition and nutritive value

#### Module V– Fermented and other milk products

- 5.1 Fermented milk products- fermentation of milk- definition, conditions
- 5.2 Cultured milk- definition of culture- examples, conditions- cultured cream- cultured butter milk
- 5.3 Bulgaxious milk- acidophilous milk- yoheer indigeneous products
- 5.4 Khoa and chahana definition- preparation of khoa and chahana sweets- gulabjamun, chana sweets, rassogalla
- 5.5 Ice-cream- definition- percentage composition- types ingredients- manufacture of

ice-cream

- 5.6 Stabilizers- emulsifiers and their role
- 5.7 Milk powder- definition- need for making milk powder- drying process- types of drying
- 5.8 Dairy detergents- characteristics- classification- washing procedure- sterilization- chloramines T and hypochlorite solution.

**Books for Study:**

- 1. Principles of dairy chemistry - Robert Jenness and Patom S,  
Wiley, New york
- 2. Indian dairy products - Rangappa K.S and Acharya K.T
- 3. Fundamentals of dairy chemistry - Wond F.P, Springer
- 4. Modern dairy products - Lampert L.M Chemical publishing  
company Inc., New york
- 5. Principles of dairy processing - Warner, New york
- 6. Outlines of dairy technology - Sukumar De



**B. Sc Zoology**  
**Scheme of Examination –CBCS pattern**  
**(For the students admitted from the academic year 2017- 2018 onwards)**

Sem	Course code	Course Title	Ins Hrs/ Week	Examination				Credits
				Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>I</b>	117TA1/ 117MY1/ 117HD1/ 117FR1	Part I- Language I	6	3	25	75	100	4
	117EN1	Part II – English I	6	3	25	75	100	4
	117Z01	Part III Core I –Non Chordates I	4	3	25	75	100	4
	117Z02	Core II–Non Chordates II	4	3	25	75	100	4
		Core Practical I	2	-	-	-	-	-
	117AZ1	Allied I – Chemistry I	4	3	25	50	75	3
		Allied Chemistry practical	2	-	-	-	-	-
	117EVS	Part IV- Environmental Studies	2	2	50	-	50	2
<b>II</b>	217TA2/ 217MY2/ 217HD2/ 217FR2	Part I- Language II	6	3	25	75	100	4
	217EN2	Part II – English II	6	3	25	75	100	4
	217Z03	Part III Core III – Chordates	8	3	25	75	100	4
	217ZP1	Core Practical I	2	3	40	60	100	4
	217AZ2	Allied II – Chemistry II	4	3	25	50	75	3
	217AZP	Allied Chemistry practical	2	3	20	30	50	2
	217VEC	Part IV- Value Education	2	2	50	-	50	2

Sem	Course code	Course Title	Ins Hrs/ Week	Examination				Credits
				Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>III</b>	317TA3/ 317MY3/ 317HD3/ 317FR3	Part I- Language I	6	3	25	75	100	4
	317EN3	Part II – English III	6	3	25	75	100	4
	317Z04	Part III Core IV – Cell Biology and Biochemistry	5	3	25	75	100	4
		Core Practical II	2	-	-	-	-	-
	317AZ3	Allied III –Botany I	4	3	25	50	75	3
		Allied Botany practical	2	-	-	-	-	-
	317NSC	Part IV – Non Major Elective – Sericulture	2	2	50	-	50	2
	<b>317NMC</b>	<b>Part IV – Non Major Elective – Mushroom Cultivation</b>	<b>2</b>	<b>2</b>	<b>50</b>	<b>-</b>	<b>50</b>	<b>2</b>
	317ZS1	Part IV – Skill Enhancement Course I – Apiculture	3	3	75	-	75	3
<b>IV</b>	417TA4/ 417MY4/ 417HD4/ 417FR4	Part I- Language IV	6	3	25	75	100	4
	417EN4	Part II – English IV	6	3	25	75	100	4
	417Z05	Part III Core V – Environmental Biology and Evolution	5	3	25	75	100	4
	417ZP2	Core Practical II	2	3	40	60	100	4
	417AZ4	Allied IV – Botany II	4	3	25	50	75	3
	417AZP	Allied Botany Practical	2	3	20	30	50	2
	417ZS2	Part IV - Skill Enhancement Course II – Ornamental Fishes	3	3	75	-	75	3
	417NGA	Part IV - General Awareness	-	1	50	-	50	2
	417GIS	Information Security	2	2	50	-	Grade	Grade
	<b>417ALZ</b>	<b>Advanced Learners Course I – Vermiculture</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>100</b>	<b>4*</b>
<b>Sem</b>	<b>Course code</b>	<b>Course Title</b>	<b>Ins Hrs/</b>	<b>Examination</b>				<b>Credits</b>

			Week	Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
V	517Z06	Part III Core VI – Physiology	4	3	25	75	100	4
	517Z07	Core VII – Biotechnology	4	3	25	75	100	4
	517Z08	Core VIII – Biostatistics, Bioinformatics and Computer Applications	5	3	25	75	100	4
	517Z09	Core IX – Microbiology	4	3	25	75	100	4
	517ZE1/ 517ZE2	Elective I – Clinical Laboratory Techniques / Elective II – Biological Instrumentation.	4	3	25	75	100	4
		Core Practical III	4	-	-	-	-	-
		Elective Practical I / Elective Practical II	2	-	-	-	-	-
	517ZS3	Part IV - Skill Enhancement Course III –Poultry farming	3	3	75	-	75	3
VI	617Z10	Part III Core X– Genetics	6	3	25	75	100	4
	617Z11	Core XI – Developmental Biology	5	3	25	75	100	4
	617Z12	Core X II– Group Project and Viva voce	5	3	50	50	100	4
	617ZE3/ 617ZE4	Elective III- Sericulture/ Elective IV – Pests and their control	5	3	25	75	100	4
	617ZP3	Core Practical –III	4	3	40	60	100	4
	617ZE5/ 617ZE6	Elective Practical I / Elective Practical II	2	3	20	30	50	2
	617ZS4	Part IV - Skill Enhancement Course IV – Internship ( Training Report and viva voce)	3	-	75	-	75	3
	617EX1/ 617EX2/ 617EX3/ 617EX4/ 617EX5	Part V – Extension activity	-	-	50	-	50	2
	617ALZ	Advanced Learners Course II- Insect, Vectors and Diseases.	-	3	-	100	100	4*
<b>Total</b>							<b>3500</b>	<b>140</b>

Starred credits are treated as additional credits Which Are optional.

**Part IV NON MAJOR ELECTIVE COURSE - I  
MUSHROOM CULTIVATION**

**317NMT**

**Credits: 2**

**(Hours :30)**

**UNIT I**

**(6 Hours)**

Introduction to mushroom cultivation: general characters, classification and structure of mushrooms – identification of mushrooms – Edible mushroom and poisonous mushroom (toadstools).

**UNIT II**

**(6 Hours)**

Use of mushroom: nutritive and food values and medicinal value – mushroom cultivation – Infrastructure: substrates – shelves – trays – mushroom shed – water sprayer.

**UNIT III**

**(6 Hours)**

Mushroom culture techniques: spawn preparation – medium preparation - spawn running – incubation – commercial methods.

**UNIT IV**

**(6 Hours)**

Post harvest operation: harvesting – storage and preservation – spoilage of mushroom – packing – marketing.

**UNIT V**

**(6 Hours)**

Mushroom recipes: mushroom soup, samosa, sandwich, gravy, omelette, mushroom chilly, Manchurian, biryani and pickle.

**Text Books:**

1. Mushroom Cultivation – S.G. Borkas Nishapatil. 2016, Daya publishing house. Astral International Pvt Ltd. New Delhi.

**Reference Books:**

1. Mushroom Production – V.N. Pathak, 2013, Agrobios publishers.
2. Hand book on Mushroom Cultivation and Processing – NIIR Board of consultants and Engineers, Asia Pacific Business Press, 2011.

**ADVANCED LEARNERS COURSE I– VERMICULTURE**

**417ALZ**

**Credits: 4**

**UNIT I**

1. Systematic position of Earthworm – Habit and habitat.
2. Commercial varieties of Earthworm for Vermicomposting.
3. Economic importance of Vermiculture.

**UNIT II**

1. Type study : Earthworm: Megascoclex sp.,
2. External character – Digestive system
3. Respiratory system
4. Excretory system
5. Reproductive system

**UNIT III**

1. Life cycle of Earthworm
2. Diseases and Predators of Earthworm
3. Control measures

#### **UNIT IV**

1. Types of soil
2. Biomass.
3. Biodegradable wastes
4. Nutrient content of Soil and Biomass

#### **UNIT V:**

1. Preparation of Vermibed
2. Maintenance of Composting pit
3. Collection of vermicompost
4. Nutrient value of vermicompost
5. Vermiwash
6. Marketing of vermicompost

#### **Text book**

1. A Manual of Zoology – Ekambaranatha Iyyer, (1990), Part I & II, Invertebrate, Revise edition, S. Viswanathan (Printers and Publishers).
2. Vermitechnology – M. Seethalakshmi., R. Shanthi, 2012, Saras publication.

#### **Reference Books**

1. Vermiculture & Vermicomposting, S.K.Singh, Sathyam publishers & distributors, 2014,first edition
2. Vermitechnology, A. Mary Violet Christy, MJP Publishers, 2008.

#### **Course Outcomes**

**On the successful completion of the course students will be able to**

**CO1:** understand the basic principles of Vermiculture

**CO2:** gain knowledge about the morphology of earthworm.

**CO3:** gain well versed knowledge on the life cycle of earthworm.

**CO4:** enable them to analyze the various types of soil and biodegradable waste.

**CO5:** develop skill in preparation of vermi bed, vermicompost, vermi wash and marketing.

B. Sc Zoology  
Scheme of Examination –CBCS pattern

(For the students admitted from the academic year 2016- 2017 only)

Sem	Course code	Course Title	Ins Hrs/ Week	Examination				Credits
				Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
I	115TA1/ 115MY1/ 115HD1/ 115FR1	Part I- Language I	6	3	25	75	100	4
	115EN1	Part II – English I	6	3	25	75	100	4
	115Z01	Part III- Core I –Non Chordates I	4	3	25	75	100	4
	115Z02	Core I I–Non Chordates II	4	3	25	75	100	4
		Core Practical I	2	-	-	-	-	-
	115AZ1	Allied I – Chemistry I	4	3	25	50	75	3
		Allied Chemistry practical	2	-	-	-	-	-
	115EVS	Part IV- Environmental Studies	2	2	50	-	50	2
II	215TA2/ 215MY2/ 215HD2/ 215FR2	Part I- Language II	6	3	25	75	100	4
	215EN2	Part II – English II	6	3	25	75	100	4
	215Z03	Part III- Core III – Chordates	8	3	25	75	100	4
	215ZP1	Core Practical I	2	3	40	60	100	4
	215AZ2	Allied II – Chemistry II	4	3	25	50	75	3
	215AZP	Allied chemistry practical	2	3	20	30	50	2
	215VEC	Part IV- Value Education	2	2	50	-	50	2
Sem	Course code	Course Title	Ins Hrs/	Examination				Credits

			Week	Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>III</b>	315TA3/ 315MY3/ 315HD3/ 315FR3	Part I- Language I	6	3	25	75	100	4
	315EN3	Part II – English III	6	3	25	75	100	4
	315Z04	Part III Core IV – Cell Biology and Biochemistry	5	3	25	75	100	4
		Core Practical II	2	-	-	-	-	-
	316AZ3	Allied III –Botany I	4	3	25	50	75	3
		Allied Botany practical	2	-	-	-	-	-
	315NSC	Non Major Elective– Sericulture	2	2	50	-	50	2
	<b>316NMT</b>	<b>Part IV – Non Major Elective – Mushroom Cultivation</b>	<b>2</b>	<b>2</b>	<b>50</b>	<b>-</b>	<b>50</b>	<b>2</b>
	315ZS1	Part IV – Skill Based Course I – Apiculture	3	3	75	-	75	3
<b>IV</b>	415TA4/ 415MY4/ 415HD4/ 415FR4	Part I- Language IV	6	3	25	75	100	4
	415EN4	Part II – English IV	6	3	25	75	100	4
	415Z05	Part III – Core V – Environmental Biology and Evolution	5	3	25	75	100	4
	<b>416ZP2</b>	<b>Core Practical II</b>	2	3	40	60	100	4
	416AZ2	Allied IV – Botany II	4	3	25	50	75	3
	416AZP	Allied Botany Practical	2	3	20	30	50	2
	415ZS2	Part IV - Skill Based Course II – Ornamental Fishes	3	3	75	-	75	3
	415NGA	General Awareness (online)	-	1	50	-	50	2
	415GIS	Information Security	2	2	50	-	Grade	Grade
<b>415ALZ</b>	<b>Advanced Learners Course I – Vermiculture</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>100</b>	<b>4*</b>	

Sem	Course Code	Course Title	Ins. Hrs/ Week	Examination				Credits
				Dur hrs	CIA Marks	ESE Marks	Total Marks	
V	515Z06	<b>Part III</b> Core VI –Physiology	4	3	25	75	100	4
	515Z07	Core VII – Biotechnology	4	3	25	75	100	4
	515Z08	Core VIII – Biostatistics, and Computer Applications	5	3	25	75	100	4
	515Z09	Core IX – Microbiology	4	3	25	75	100	4
	515ZE1	Elective I - Clinical Laboratory Techniques	4	3	25	75	100	4
		Core Practical-III	4	-	-	-	-	-
		Elective Practical	2	-	-	-	-	-
	515ZS3	<b>Part IV</b> Skill Based Course III- Animal Culture –Poultry Farming	3	3	75	-	75	3
	615Z10	<b>Part III</b> Core X- Genetics	6	3	25	75	100	4
	615Z11	Core XI- Developmental Biology	5	3	25	75	100	4
VI	615Z12	Core XII-Group Project and Viva voce	5	3	50	50	100	4
	615ZE2	Elective II - Sericulture	5	3	25	75	100	4
	615ZP3	Core Practical-III	4	3	40	60	100	4
	615ZEP	Elective Practical	2	3	20	30	50	2
	615ZS4	<b>Part IV</b> -Skill Based course Internship-Training report and Viva Voce	3	-	75	-	75	3
	615EX1/ EX2/ EX3/ EX4/ EX5	Part V Extension Activities	-	-	50	-	50	2
	615ALZ	Advanced Learners Course-II Fundamentals of Bioinformatics	-	-	-	100	100	4*
<b>Total</b>							<b>3500</b>	<b>140</b>



**Part IV NON MAJOR ELECTIVE COURSE - I  
MUSHROOM CULTIVATION**

**317NMT**

**Credits: 2**

**(Hours :30)**

**UNIT I**

**(6 Hours)**

Introduction to mushroom cultivation: general characters, classification and structure of mushrooms – identification of mushrooms – Edible mushroom and poisonous mushroom (toadstools).

**UNIT II**

**(6 Hours)**

Use of mushroom: nutritive and food values and medicinal value – mushroom cultivation – Infrastructure: substrates – shelves – trays – mushroom shed – water sprayer.

**UNIT III**

**(6 Hours)**

Mushroom culture techniques: spawn preparation – medium preparation - spawn running – incubation – commercial methods.

**UNIT IV**

**(6 Hours)**

Post harvest operation: harvesting – storage and preservation – spoilage of mushroom – packing – marketing.

**UNIT V**

**(6 Hours)**

Mushroom recipes: mushroom soup, samosa, sandwich, gravy, omelette, mushroom chilly, Manchurian, biryani and pickle.

**Text Books:**

2. Mushroom Cultivation – S.G. Borkas Nishapatil. 2016, Daya publishing house. Astral International Pvt Ltd. New Delhi.

**Reference Books:**

3. Mushroom Production – V.N. Pathak, 2013, Agrobios publishers.
4. Hand book on Mushroom Cultivation and Processing – NIIR Board of consultants and Engineers, Asia Pacific Business Press, 2011.

**B.SC.ZOOLOGY**

**Advanced Learners Course I– Vermiculture**

**415ALZ**

**Credits: 4**

**Objectives**

1. To prepare the students to acquire knowledge in vermiculture and vermicomposting to get self-employed.
2. To train and impart knowledge of earthworm, their culture practices, ecological and economic importance- maintenance and management of vermifarms.

**UNIT I**

Earthworms: Classification – morphological and anatomical characteristics – reproduction – Biology of composting earthworms *Eudrilus eugeniae* and *Lampito mauritii*.

## UNIT II

Ecological groups of earthworms – epiglic, endoglic, anlicic, saproplagus and geoplegus worms, humes form, less and humus feeders – earworm burrows – earthworm casts- An outline of earthworm importance in agriculture, fishing, therapeutics and pollution.

## UNIT III

Soil - physical, chemical and biological features – soil types – soil formation – soil organic matter – organic matter decomposition – humus formation.

## UNIT IV

Organic wastes sources – problems in traditional composting - vermicomposting definition – types – small scale and large scale pit method, heap method, window method, indoor method – factors affecting vermicomposting - pH , moisture , temperature, nutritional value of feed.

## UNIT V:

Application of vermicomposting in agricultural and horticultural practices – Economics of vermiculture- NABARD – Nationalised Banks, KUB supports for vermiculture.

## Reference Books

1. Biology of Earthworm, C.A. Edwards and Bother, 1996.
2. Vermicomposting technology – from soil health to human health - L.S.Ranganathan, 2006

## B.Sc. ZOOLOGY

### Part III -CORE VIII -BIO STATISTICS AND COMPUTER APPLICATIONS

515Z08

**Credits: 4**

**Hours (C-60, T-10, A-5)**

## UNIT I

**(12hrs)**

1. Biostatistics – Simple definition – Applications.
2. Organization of Statistical investigation.
3. Collection of data- primary and secondary data and sources of primary and secondary data.
4. Methods of data collection – Census and sampling methods (Brief account).
5. Processing of data – Classification – Tabulation - Organization.

## UNIT II

**(12 hrs)**

1. Diagrammatic representation – Bar diagrams, Pie diagrams.
2. Graphic representation – Rules for constructing graphs – Graphs on time series- Range chart – Band graph.
3. Graphs of frequency distribution – Histogram – Frequency polygon –Smoothed frequency curve – Ogive.

**UNIT III** (12 hrs)

**Measures of Central tendency - simple problems only.**

1. Simple Arithmetic mean – Direct method only.
2. Median
3. Mode
4. Merits and demerits of mean, median and mode
5. Graphic location of Median and Mode.

**UNIT IV** (12 Hrs)

1. Standard deviation, CV, Standard error.
2. Probability – Definition, basic concepts of probability, kinds and theorems of probability only (No problem)
3. Correlation – Definition and Types only
4. Karl Pearson's Co-efficient of correlation, Definition and Use.

Formula

$$\gamma = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \Sigma y^2}} \quad \text{only}$$

5. X<sup>2</sup> test: Definition, Characteristics and Applications (Simple problems only)

Formula

$$X^2 = \frac{\Sigma (O - E)^2}{E}$$

**UNIT V** (12 Hrs)

1. Definition of Computer – Basic components, input and output devices
2. CPU, Memory and its types.
3. Brief account on packages – MS Word & MS Excel.
4. Basic ideas about Internet – Website, E-mail.

**Textbooks**

1. Bio-Statistics -P. Ramakrishnan, 2005, Saras Publication, I Edition.
2. Statistics for Biologists - S. Palanichamy, 1994, Paramount Publication, Palani, I Edition.
3. MS office - Nellai kannan C., 2008, NELS Publications, Tirunelveli

**Reference Books:**

1. Statistical methods – S.P. Gupta, 1989, Sultan Chand & Sons, 10<sup>th</sup> Edition.
2. Bio-Statistics - Dr.P.N. Arora, 1996, Himalaya Publishing house, I Edition.
3. Bio-Statistics - T.K. Saha, 1995, Emkay Publication, II Edition.

**B.Sc. ZOOLOGY**  
**Part III - Elective II - SERICULTURE** **615ZE2**

**Credits: 4** **Hours (C-56, T-2, A-2)**

**UNIT I** (12hrs)

1. Definition and history of Sericulture
2. Economic importance of Sericulture
3. Architecture of mulberry plant
  - a) Plant height
  - b) Stem
  - c) Leaves
  - d) Inflorescence
4. Propagation - Methods of propagation
5. Frequency and methods of irrigation.

- UNIT II** (12 hrs)
1. Pruning – Types of pruning
  2. Harvesting of leaves, time of harvesting and preservation of leaves
  3. Varieties of silkworm
  4. Life cycle of *Bombyx mori*.

- UNIT III** (12 hrs)
- Morphology of silkworm - Structure of silk gland
1. Facilities of rearing – rearing house and rearing equipments.
  2. Optimum environmental conditions for rearing.
  3. Feeding – Bed cleaning – Spacing.

- UNIT IV** (12 hrs)
1. Rearing of young age and late age silkworms.
  2. Spinning - Mounting
  3. Harvesting of cocoons.
  4. Cocoon Marketing – Transport of cocoons – Physical characters of cocoons considered for commercial purposes – cocoon markets.
  5. Stifling of cocoons (sun drying, steam stifling only).

- UNIT V** (12 hrs)
1. Deflossing
  2. Reeling appliances – Country Chakra, Domestic basin, Cottage basin and Filatures
  3. Re-reeling (brief account)
  4. Diseases and pests of silk worm
    - a. Pebrine
    - b. Flacherie
    - c. Grasserie
    - d. Muscardine (White muscardine)
    - e. Uzifly

**Text book**

1. An Introduction to Sericulture - G.Ganga and J.Sulochana Chetty, 2005.

**Reference Books**

1. Sericulture manual 1, 2, 3 - Government of India, Oxford and IBH Publishing Company, Bombay, 1998.
2. A textbook of Sericulture - Madan Mohan Rao, 2005, B.S.publisher, Hyderabad.
3. Hand book of Sericulture Technologies - S.B Dandin, Jayant Jayaswal and K.Giridhar, 2003, CSB, Bangalore.

**B.Sc., ZOOLOGY**

**Part III –CORE XII- Group project and Viva voce**

**Credits: 4**

**615Z12  
(Hours: 75)**

**(5 students in a group)**

**Objectives:**

- To expose the students to recent trends in science.
- To create research skill in students.
- To enable the students to gain knowledge in literature collection and research skill.

Project will equip the students with basic knowledge in zoology and create interest in research. Group project will be done by the students related to topics in zoology and project report must be submitted by the students at the end of sixth semester.

❖ **A subject viva voce will be conducted by Internal and External Examiners.**

**B.SC.ZOOLOGY**  
**Advanced Learners Course II**  
**FUNDAMENTALS OF BIOINFORMATICS**

**615ALZ**

**Credits: 4**

**UNIT I**

1. Introduction
2. History of Bioinformatics
3. Bioinformatics and Internet: Internet browsing, web sites and pages, links – website addresses – entering an address into the internet explorer. Information in web – internet, file type, saving internet, saving text and pictures. E-mail, searching Altavista for images, Searching - the net Searching: tips and tricks.

**UNIT II**

1. Biological data base – introduction – types, primary and secondary databases
2. Nucleic acid sequence databases – sequence database formats – FASTA format – Genbank, DDBJ.
3. Protein sequence databases – (PIR) Protein Information Resource, (PDB) Protein Data Bank, EBI – NBD, Card Bank, specialized sequence databases.

**UNIT III**

1. Virtual library – online journals, literature databases – pubmed.
2. Multiple sequence alignment – Multiple alignment, best alignment, dynamic programming clustalW – PSI – Blast, Translated proteins, web servers that offers multiple alignment programs, key steps in multiple alignment, analysis of multiple alignment and extracting useful information.

**UNIT IV**

1. Gene finding – content based method, comparative method, side based method.
2. Problems in gene finding - gene finding tools and methods, - GRAIL, MZEF, Genscan, VEIL, testifying the tool performance.

**UNIT V**

1. Target searching and drug designing – target and lead, Time line for drug development, target, discovery of target and target modulators.
2. *In silico* gene expression, microarray, lead discovery, library of ligands, Active site analysis method and prediction of drug quality.

**Text Book**

1. Bioinformatics for beginners – Dr.K. Mani and N. Vijayaraj, 2003.

**Books for reference:**

1. Introduction to bioinformatics – T.K. Attwood and D.J. Purry Smith, 2004.
2. Bioinformatics – D.R. Westhead, J.H. Parish and R.M. Twyman Bio scientific publishers Ltd, 2003.

**B.Sc. ZOOLOGY**  
**SEMESTER V & VI**  
**Part III -Elective Practical IV (Elective I & II)**

**615ZEP**

**Credits: 2**

**Clinical Laboratory Techniques**

**Haematology**

- |                       |                       |                  |
|-----------------------|-----------------------|------------------|
| 1. RBC Count          | 2. WBC Count          | 3. Hb Estimation |
| 4. BT (Bleeding time) | 5. CT (Clotting time) |                  |

### Urine Analysis (Qualitative)

1. Specific gravity
2. Albumen
3. Sugar
4. Bile salt
5. Blood
6. Bile pigment – (Bilirubin and Urobilinogen)

### SPOTTERS

#### Clinical Laboratory Techniques

1. Albuminometer
2. Ryles tube
3. Haemocytometer
4. Folin -Wu tube
5. Westergren apparatus
6. Urinometer
7. Haemometer
8. Carwardine Saccharometer
9. Sphygmomanometer
10. Stethoscope

#### Sericulture

1. Bombyx mori
2. Life cycle of silk moth
3. Egg card
4. Cocoon
5. Mulberry Leaf
6. Mountage
7. Silk gland
8. Silk thread
9. Stand rearing
10. Rearing shed

## B. Sc Zoology

### Scheme of Examination –CBCS pattern

(For the students admitted from the academic year 2015- 2016 only)

Sem	Course code	Course Title	Ins Hrs/ Week	Examination				Credits
				Dur .Hrs	CIA Marks	ESE Marks	Total Marks	
I	115TA1/ 115MY1/ 115HD1/ 115FR1	Part I- Language I	6	3	25	75	100	4
	115EN1	Part II – English I	6	3	25	75	100	4
	115Z01	Part III Core I –Non Chordates I	4	3	25	75	100	4
	115Z02	Core II–Non Chordates II	4	3	25	75	100	4
		Core Practical I	2	-	-	-	-	-
	115AZ1	Allied I – Chemistry I	4	3	25	50	75	3
		Allied Chemistry practical	2	-	-	-	-	-
	115EVS	Part – IV Environmental Studies	2	2	50	-	50	2
II	215TA2/ 215MY2/ 215HD2/ 215FR2	Part I- Language II	6	3	25	75	100	4
	215EN2	Part II – English II	6	3	25	75	100	4
	215Z03	Part III Core III – Chordates	8	3	25	75	100	4
	215ZP1	Core Practical I	2	3	40	60	100	4
	215AZ2	Allied II – Chemistry II	4	3	25	50	75	3
	215AZP	Allied chemistry practical	2	3	20	30	50	2
	215VEC	Part IV- Value Education	2	2	50	-	50	2

Sem	Course code	Course Title	Ins Hrs/ Week	Examination				Credits
				Dur .Hrs	CIA Marks	ESE Marks	Total Marks	
III	315TA3/ 315MY3/ 315HD3/ 315FR3	Part I- Language I	6	3	25	75	100	4
	315EN3	Part II – English III	6	3	25	75	100	4
	315Z04	Part III Core IV – Cell Biology and Biochemistry	5	3	25	75	100	4
		Core Practical II	2	-	-	-	-	-
	315AZ3	Allied III –Botany I	4	3	25	50	75	3
		Allied Botany practical	2	-	-	-	-	-
	315NSC	Non Major Elective Course– Sericulture	2	2	50	-	50	2
	315NHT/ NLD	Part IV – Non Major Elective – Herbal Therapeutics/Landscape Gardening	2	2	50	-	50	2
	315ZS1	Part IV – Skill Based Course I – Apiculture	3	3	75	-	75	3
IV	415TA4/ 415MY4/ 415HD4/ 415FR4	Part I- Language IV	6	3	25	75	100	4
	415EN4	Part II – English IV	6	3	25	75	100	4
	415Z05	Part III Core V – Environmental Biology and Evolution	5	3	25	75	100	4
	415ZP2	Core Practical II	2	3	40	60	100	4
	415AZ2	Allied IV – Botany II	4	3	25	50	75	3
	415AZP	Allied Botany Practical	2	3	20	30	50	2
	415ZS2	Part IV - Skill Based Course II – Ornamental Fishes	3	3	75	-	75	3
	415NGA	General Awareness (online)	-	1	50	-	50	2
	415GIS	Information Security	2	2	50	-	Grade	Grade
	415ALZ	Advanced Learners Course I –Vermiculture	-	-	-	100	100	4*



Sem	Course Code	Course Title	Ins. Hrs/ Week	Examination				Credits
				Dur hrs	CIA Marks	ESE Marks	Total Marks	
V	515Z06	Part III Core VI –Physiology	4	3	25	75	100	4
	515Z07	Core VII – Biotechnology	4	3	25	75	100	4
	515Z08	Core VIII – Biostatistics, and Computer Applications	5	3	25	75	100	4
	515Z09	Core IX – Microbiology	4	3	25	75	100	4
	515ZE1	Elective I - Clinical Laboratory Techniques	4	3	25	75	100	4
		Core Practical-III	4	-	-	-	-	-
		Elective Practical	2	-	-	-	-	-
	515ZS3	Part IV Skill Based Course III- Animal Culture –Poultry Farming	3	3	75	-	75	3
	615Z10	Part III Core X- Genetics	6	3	25	75	100	4
615Z11	Core XI- Developmental Biology	5	3	25	75	100	4	
VI	<b>615Z12</b>	<b>Core XII-Group Project and Viva voce</b>	5	3	50	50	100	4
	615ZE2	Elective II - Sericulture	5	3	25	75	100	4
	<b>615ZP3</b>	<b>Core Practical-III</b>	4	3	40	60	100	4
	<b>615ZEP</b>	<b>Elective Practical</b>	2	3	20	30	50	2
	615ZS4	Part IV-Skill Based course Internship-Training report and Viva Voce	3	-	75	-	75	3
	615EX1/ EX2/ EX3/ EX4/ EX5	Part V Extension Activities	-	-	50	-	50	2
	<b>615ALZ</b>	<b>Advanced Learners Course- II Fundamentals of Bioinformatics</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>100</b>	<b>4*</b>
<b>Total</b>							<b>3500</b>	<b>140</b>

Starred credits are treated as additional credits Which Are optional.

**Credits: 4**

**Objectives**

3. To prepare the students to acquire knowledge in vermiculture and vermicomposting to get self-employed.
4. To train and impart knowledge of earthworm, their culture practices, ecological and economic importance- maintenance and management of vermifarms.

**UNIT I**

Earthworms: Classification – morphological and anatomical characteristics – reproduction – Biology of composting earthworms *Eudrilus eugeniae* and *Lampito mauritii*.

**UNIT II**

Ecological groups of earthworms – epiglic, endoglic, anlcic,saproplagus and geoplegus worms, humes form, less and humus feeders – earworm burrows – earthworm casts- An outline of earthworm importance in agriculture, fishing, therapeutics and pollution.

**UNIT III**

Soil - physical, chemical and biological features – soil types – soil formation – soil organic matter – organic matter decomposition – humus formation.

**UNIT IV**

Organic wastes sources – problems in traditional composting - vermicomposting definition – types – small scale and large scale pit method, heap method, window method, indoor method – factors affecting vermicomposting - pH , moisture , temperature, nutritional value of feed.

**UNIT V:**

Application of vermicomposting in agricultural and horticultural practices – Economics of vermiculture- NABARD – Nationalised Banks, KUB supports for vermiculture.

**Reference Books**

1. Biology of Earthworm, C.A. Edwards and Bother, 1996.
2. Vermicomposting technology – from soil health to human health - L.S.Ranganathan, 2006

**B.SC.ZOOLOGY**  
**Advanced Learners Course II**  
**FUNDAMENTALS OF BIOINFORMATICS**

**615ALZ**

**Credits: 4**

**UNIT I**

4. Introduction
5. History of Bioinformatics
6. Bioinformatics and Internet: Internet browsing, web sites and pages, links – website addresses – entering an address into the internet explorer. Information in web – internet, file type, saving internet, saving text and pictures. E-mail, searching Altavista for images, Searching - the net Searching: tips and tricks.

**UNIT II**

4. Biological data base – introduction – types, primary and secondary databases
5. Nucleic acid sequence databases – sequence database formats – FASTA format – Genbank, DDBJ.
6. Protein sequence databases – (PIR) Protein Information Resource, (PDB) Protein Data Bank, EBI – NBD, Card Bank, specialized sequence databases.

**UNIT III**

3. Virtual library – online journals, literature databases – pubmed.
4. Multiple sequence alignment – Multiple alignment, best alignment, dynamic programming clustalW – PSI – Blast, Translated proteins, web servers that offers multiple alignment programs, key steps in multiple alignment, analysis of multiple alignment and extracting useful information.

**UNIT IV**

3. Gene finding – content based method, comparative method, side based method.
4. Problems in gene finding - gene finding tools and methods, - GRAIL, MZEF, Genscan, VEIL, testifying the tool performance.

**UNIT V**

3. Target searching and drug designing – target and lead, Time line for drug development, target, discovery of target and target modulators.
4. *In silico* gene expression, microarray, lead discovery, library of ligands, Active site analysis method and prediction of drug quality.

**Text Book**

3. Bioinformatics for beginners – Dr.K. Mani and N. Vijayaraj, 2003.

**Books for reference:**

2. Introduction to bioinformatics – T.K. Attwood and D.J. Purry Smith, 2004.
4. Bioinformatics – D.R. Westhead, J.H. Parish and R.M. Twyman Bio scientific publishers Ltd, 2003.

## B. Sc Zoology

### Semester Wise Distribution with Scheme of Examination With Credits (For candidates admitted during the academic year 2012-2013 and onwards)

Semester	Courses	Credits	Duration of Exam Hrs (ESE)	Marks CIA	ESE	Total
I	Part I – Language – I	3	3	25	75	100
	Part II – English Course – I	3	3	25	75	100
	Part III – Core I – Non Chordates I	4	3	25	75	100
	Part III – Core II– Non Chordates II	4	3	25	75	100
	Part – III Allied– I – Chemistry – I	4	3	15	60	75
	Part IV – Environmental Studies	2	-	50	-	50

Semester	Courses	Credits	Duration of Exam Hrs (ESE)	Marks CIA	ESE	Total
II	Part I – Language– II	3	3	25	75	100
	Part – II English – II	3	3	25	75	100
	Part III – Core III – Chordates	5	3	25	75	100
	Core Practical – I	2	3	40	60	100
	Part-III Allied– I-Chemistry – II	4	3	15	60	75
	Allied Chemistry Practical	2	3	20	30	50
	Advanced learners Course – I - Vermiculture	3*	3	--	100	100
	Part IV Value Education – Yoga for Human Excellence	2	-	50	-	50

Semester	Courses	Credits	Duration of Exam Hrs (ESE)	Marks CIA	ESE	Total
III	Part I – Language – III	3	3	25	75	100
	Part II – English– III	3	3	25	75	100
	Part III – Core IV – Cell Biology and Biochemistry	5	3	25	75	100
	Allied – III – Botany – I	4	3	15	60	75
	Part IV Non major Elective -Sericulture	2	-	75	-	75
	Part IV – Non Major Elective – Herbal Therapeutics/Landscape Gardening	2	2	50	-	50
	Part IV – Skill based course in Animal culture - I- Apiculture	3	-	100	-	100

Semester	Courses	Credits	Duration of Exam Hrs (ESE)	Marks CIA	ESE	Total
IV	Part I – Language – IV	3	3	25	75	100
	Part – II English – IV	3	3	25	75	100
	Part III – Core V – Environmental Biology and Evolution	5	3	25	75	100
	Core Practical – II	2	3	40	60	100
	Allied – IV- Botany – II	4	3	15	60	75
	Allied -IV-Botany Practical	2	3	20	30	50
	Part IV - General awareness	2	-	75	-	75
	Part IV Skill based course in Animal culture –II – Ornamental fishes	3	-	100	-	100
	Part-III – Advanced learners course – II - Applied Biology	3*	-	--	100	100
	Part V – Extension activity	1	-	50	-	50

Semester	Courses	Credits	Duration of Exam Hrs (ESE)	Marks CIA	ESE	Total
V	Part III – Core– VI Physiology	5	3	25	75	100
	Core VII - Biotechnology	5	3	25	75	100
	Core VIII - Biostatistics	5	3	25	75	100
	Core IX - Microbiology	5	3	25	75	100
	Elective I - Clinical Laboratory Techniques	5	3	25	75	100
	Part IV Skill based course in Animal culture - III – Poultry Farming	3	-	100	-	100

Semester	Courses	Credits	Duration of Exam Hrs (ESE)	Marks CIA	ESE	Total
VI	Part III – Core – X Genetics	5	3	25	75	100
	Core – XI Developmental Biology	4	3	25	75	100
	Core – XII Immunology	5	3	25	75	100
	Elective II – Applied Biotechnology	5	3	25	75	100
	Core Course Practical – III	2	3	40	60	100
	Elective Practical	2	3	40	60	100
	Part IV Skill based Course –Internship Training report and viva voce	3	-	100	-	100
	Part-III Advanced learners course – III Fundamentals of Bioinformatics	3*	3	--	100	100

1. Starred credits are treated as additional credits Which Are Optional.
2. Non-major elective course offered by the department-Sericulture.
3. 30% of the teaching syllabus in each course should be handled using OHP, LCD and Projection microscope

**B.Sc.Zoology**  
**Advanced Learner's Course I– Vermiculture      212ALZ**

**Module I**

Earthworms: Classification – morphological and anatomical characteristics – reproduction – Biology of composting earthworms *Eudrilus lugeniae* and *Lampito mauritii*.

**Module II**

Ecological groups of earthworms – epiglic, endoglic, anlicic, saproplagus and geoplegus worms, humes form, less and humus feeders – earworm burrows – earthworm casts- An outline of earthworm importance in agriculture, fishing, therapeutics and pollution.

**Module III**

Soil physical, chemical and biological features – soil types – soil formation – soil organic matter – organic matter decomposition – humus formation.

**Module IV**

Organic wastes sources – problems in traditional composting- vermicomposting definition – types – small scale and large scale pit method, heap method, window method, indoor method – factors affecting vermicomposting: pH , moisture , temperature, nutritional value of feed, earthworm species – and microbes and earthworms.

**Module V:**

Application of vermicomposting in agricultural and horticultural practices – Economics of vermiculture- NABARD – Nationalised Banks. KUB supports for vermiculture.

**Reference Books**

1. Edwards , C.A. and Bother , 1996 Biology of Earthworm.
2. Lee G – Earthworm ecology
3. Stevenson – Biology of earthworms.
4. Ismail M.S. – Vermitechnology
5. Ranganathan, LS – 2006 – Vermicomposting technology – from soil health to human health.

**Advanced Learner's Course II – APPLIED BIOLOGY      412ALZ**

**Module I Sericulture**

1. History and Economic importance of Sericulture
2. Types of Silkworms- Mulberry and Nonmulberry (Tasar, Eri and Muga)
3. Morphology of Mulberry plant – Plant height – stem – leaves- inflorescence
4. Life cycle of Bombyx mori
5. Structure of silk gland

**Module II**

1. Rearinghouse facilities and rearing equipments
2. Feeding of silkworm, Bed cleaning, spacing
3. Rearing of young age and late age silkworms.
4. Mounting – harvesting of cocoons
5. Marketing

**Module III Prawn culture**

1. Types of prawns
2. Species of Prawns,
3. Food of prawn
4. Culture of Freshwater Prawn
5. Culture of Marine water prawn

#### **Module IV**

1. Preparation of farm
2. Methods of prawn fishing
3. Spoilage of prawn
4. Preservation and Processing of Prawn
5. Prawn Fishing
6. Pollution

#### **Module V: Dairy Farming**

1. Scope of Dairy Farming.
2. Breeds of dairy animals- Cows and buffaloes.
3. Feeding stuffs -Feeding of young stock.
4. Diseases. - Johne's disease, cowpox and leptospirosis
5. Milk Processing of milk, marketing and distribution, Prices, Milk products.

#### **Textbook**

Economic Zoology - G. Shukla, V.B. Upadhyay - Rastogi publications, IV Edition, 2003.

#### **Reference Books**

1. Vermi composting for sustainable Agriculture – Gupta Edition, 2005.
2. Applied Zoology & Biotechnology- Dr. Avinash Khanna, Manglam Publishers, 2007.
3. Applied Zoology - Nagendra S. Pawar, Adhyayan Publishers & distributors, 2008.
4. Composting Technology - Laxmi Lal and D.K. Gupta, Agrotech Publishing Academy,

### **Advanced Learners Course III FUNDAMENTALS OF BIOINFORMATICS 612ALZ**

**(For candidates admitted during the academic year 2012-2013 and onwards)**

#### **Preamble**

- To motivate the students to integrate technology in the field of biology and to use online tools and data bases for analysis.
- To equip the students with relevant genomic database distributed worldwide.
- To provide an overview of techniques used for extracting knowledge from the databases.

#### **Module I**

1. Introduction
2. History of Bioinformatics
3. Bio informatics and internet: Internet browsing, web sites and pages, links – website addresses – entering an address into the internet explorer. Information in web – internet, file type, saving internet, saving text and pictures. E-mail searching Altavista for images, Searching - the net Searching: tips and tricks.

#### **Module II**

1. Biological data base – introduction – types of databases, primary and secondary databases nucleic acid sequence databases – sequence database formats – FASTA format – Genbank DDBJ. Protein sequence databases – (PIR) protein information resource, (PDB) protein data bank, EBI – NBD, Card bank, specialized sequence databases.

#### **Module III**

1. Virtual library – online journals, literature databases – pubmed.
2. Multiple sequence alignment – Multiple alignment, best alignment, dynamic programming clustal W – PSI – Blast, Translated proteins, web servers that offers multiple alignment programs, key steps in multiple alignment, analysis of multiple alignment and extracting usefull informations.



**Module IV**

1. Gene finding – content based method, comparative method, side based method.
2. The problems in gene finding, gene finding tools and methods, - GRAIL, MZEF, Genscan, VEIL, testifying the tool performance.

**Module V**

1. Target searching and drug designing – target and lead, Time line for drug development, target, discovery of target and target modulators.
2. Insilico gene expression, microarray, lead discovery, library of ligands, Active site analysis method and prediction of drug quality.

**Text Book**

1. Bioinformatics for beginners – Dr.K. Mani and N. Vijayaraj, Edition – 2003.

**Books for reference:**

1. Introduction to bioinformatics – T.K. Attwood and D.J. Purry Smith Edition – 2004.
2. Bioinformatics – D.R. Westhead, J.H. Parish and R.M. Twyman Bio scientific publishers Ltd, Edition 2003.

**SRI G.V.G.VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**

Affiliated to Bharathiar University

Department of Commerce

Curriculum Design

Scheme of Examination - CBCS

(For the students admitted from the academic year 2017-2018 onwards)

Course Code	Course Title	Inst Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	TOTAL Marks	
117BT1/ 117MY1/ 117HD1/ 117FR1	<b>Semester – I</b> Part I – Language – I	6	3	25	75	100	4
117EN1	Part II – English – I	6	3	25	75	100	4
117B01/ 117R01/ 117N01	Part III - Core I- Financial Accounting – I	5	3	25	75	100	4
117B02/ 117R02	Core II- Business Organisation	5	3	25	75	100	4
117AB1	Allied I – Computer Application Tools -Practicals	6	3	40	60	100	4
117EVS	Part IV – Environmental Studies	2	2	50	-	50	2
217BT2/ 217MY2/ 217HD2/ 217FR2	<b>Semester – II</b> Part I – Language -II	6	3	25	75	100	4
217EN2	Part II – English – II	6	3	25	75	100	4
217B03/ 217R03/ 217N03	Part III - Core III – Financial Accounting – II	5	3	25	75	100	4
217B04/ 217R04/ 217V04	Core IV –Principles of Marketing	5	3	25	75	100	4
217AB2	Allied II – Business Economics	6	3	25	75	100	4
217VEC	Part IV – Value Education	2	2	50	-	50	2
317B05/ 317R05/ 317N05	<b>Semester – III</b> Part III-Core V–Corporate Accounting	5	3	25	75	100	4
317B06/	Core VI - Commercial Law	5	3	25	75	100	4

317V06							
317B07/ 317N07	Core VII- Principles of Management	5	3	25	75	100	4
317B08	Core VIII- Entrepreneurial Development	4	3	25	50	75	3
317AB3/ 317AR3/ 317AN3	Allied III – Mathematics in Business	6	3	25	75	100	4
317NED	Part IV – Non Major Elective -Entrepreneurial Development	2	2	50	-	50	2
317BS1/ 317NS1	Part IV- Skill Enhancement Course I – Business Application Tools: Image Editor – Practicals	3	3	75	-	75	3
417B09/ 417N09	<b>Semester – IV</b> Part III - Core IX - Company Law	5	3	25	75	100	4
417B10/ 417R10/ 417N10/	Core X - Cost Accounting	5	3	25	75	100	4
417B11/ 417R11	Core XI - Banking Law and Practice	5	3	25	75	100	4
417B12	Core XII-Auditing	4	3	25	75	100	4
417AB4/ 417AR4/ 417AN4	Allied IV- Statistics for Business	6	3	25	75	100	4
417NGA	Part IV – General Awareness	-	1	50	-	50	2
417BS2/ 417NS2	Part IV-Skill Enhancement Course II - Business Application Tools: Business Data Analytics using Excel-Practicals	3	3	75	-	75	3
417GIS	Information Security-Level I	2	2	50	-	Grade	Grade
417ALB	Advanced Learners Course I- Principles of Insurance	-	-	-	100	100	4*

**B.Com/B.Com (CA)**

**Semester I**

**Part III - Core II –Business Organisation 117B02/117R02**

**(For the students admitted from the academic year 2017-2018 onwards)**

**Course Objectives**

**(65 Hours)**

C<sub>1</sub>:To understand the basic concepts in business organisation.

C<sub>2</sub>:To impart knowledge on forms of organisation.

C<sub>3</sub>:To provide knowledge on privatisation.

C<sub>4</sub>:To understand optimum size and location of a business.

C<sub>5</sub>:To understand the features of modern business combination.

**Unit I**

Nature and scope of business - characteristics of business - objectives of business – role of profit in business - business risk – business ethics. **(13 Hours)**

**Unit II**

Forms of organisation: Sole Proprietorship: Characteristics – Advantages – Disadvantages.

Partnership: Characteristics – Kinds – Registration of Partnership – Partnership Deed – Advantages – Disadvantages – Rights and Obligations of Partners – Dissolution of a partnership firm. **(13 Hours)**

**Unit III**

Joint Stock Company: Characteristics – Kinds – shares-debentures-merits – demerits.

Co-operatives: Characteristics – Types.

Public Enterprises: Characteristics – Objectives – Forms — Problems of Public Enterprises.

Privatisation: Rationale. Public Utilities:Characteristics and Forms.**(13 Hours)**

**Unit IV**

Location of a business unit - Theories of location –factors influencing location – Localisation Vs Delocalisation.

Size of a unit and scale of operations- measuring size of a unit – Factors determining size – Optimum Firm-factors determining optimum size. **(13 Hours)**

**Unit V**

Business Combinations: Causes-Types-Forms-Advantages-Disadvantages.

Concentration of economic power: Causes-Consequences-Measures-Combination movement in India. **(13 Hours)**

<b>Book for Study</b>			
<b>Unit</b>	<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
Unit I - V	R.K.Sharma and Shashi, K.Gupta	Business Organisation and Office Management	Kalyani Publishers, NewDelhi, 3 <sup>rd</sup> Edition, Re-Print 2015.

<b>Books for Reference</b>		
<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
Y.K .Bhusan	Fundamentals of Business Organisation and Management	Sultan Chand and Sons, New Delhi, Edition –X, 2013
S.A Sherlekar	Modern Business Organisation and Management	Himalaya Publishing House, New Delhi, 2017

### **Course Outcomes**

On the completion of the course, the student will be able to:

CO<sub>1</sub>: Aware of the ethical, social and security issues of business.

CO<sub>2</sub>: Understand different forms of organisation.

CO<sub>3</sub>: Apply knowledge to determine optimum size of operation and suitable location for the business.

CO<sub>4</sub>: Understand rationale behind privatisation.

CO<sub>5</sub>: Acquire knowledge on business combinations and concentration of economic power.

### **Mapping**

<b>Course Outcomes</b>	<b>PO<sub>1</sub></b>	<b>PO<sub>2</sub></b>	<b>PO<sub>3</sub></b>	<b>PO<sub>4</sub></b>	<b>PO<sub>5</sub></b>	<b>PO<sub>6</sub></b>	<b>Knowledge Level</b>
CO <sub>1</sub>	M	L	H	M	L	L	K
CO <sub>2</sub>	H	L	H	M	L	L	U
CO <sub>3</sub>	H	M	H	M	M	L	A
CO <sub>4</sub>	H	L	H	H	L	M	U
CO <sub>5</sub>	H	L	M	M	L	L	K

Course Designed By : Mrs. P.Jayamary

Course Reviewed By : Dr. M.Kalavathi

Checked By : Dr.N.Lakshmi

## **B.Com**

### **Semester I**

#### **Allied I – Computer Application Tools – Practicals 117AB1**

**(For the students admitted from the academic year 2017-2018 onwards)**

### **Course Objectives**

**(75 Hours)**

CA<sub>1</sub>:To inculcate knowledge on the usage of computer application tools in office.

CA<sub>2</sub>:To provide hands on training in computer applications.

CA<sub>3</sub>:To develop skills in word processing and presentation.

CA<sub>4</sub>:To gain knowledge in web designing.

### **List of Practicals**

#### **Word**

- Formatting documents: formatting page and setting margin, font style, type, paragraph formatting, table creation, inserting clip arts, pictures, diagrams.

- Using table and drawing tools, preparation of time table/ invoice.
- Designing a cheque leaf.
- Creation of curriculum vitae without using wizard.
- Creation of curriculum vitae using wizard.
- Using mail merge prepare invitation for a department function/ opening of new branch/ special offer.
- Design an advertisement copy/ invitation card.
- Creation of flow chart reflecting organizational hierarchy.

### Power point

- Formatting a presentation, setting background, layouts, setting presentation style, adding effects to the presentation, slide transition.
  - Preparation of slides for paper presentation.
  - Preparation of slides for forms of organisation.
  - Presentation of slide show for department function/ College day celebration
  - Demonstration of product with custom animation.

### HTML

- HTML document: Dividing documents - Paragraphs, Titles, List, Managing Images in HTML - Table tags - Link tags - Managing forms.
  - Design a web page for a product advertisement using basic tags.
  - Design the application form for B.Com degree.
  - Design the invoice using forms.

### Course Outcomes

On the completion of the course, the student will be able to:

COA<sub>1</sub>: Gain knowledge to work with computer in office environment.

COA<sub>2</sub>: Gain word processing skill.

COA<sub>3</sub>: Skill to perform power point presentation.

COA<sub>4</sub>: Skill to create web page.

### Mapping

Course Outcomes	PO <sub>1</sub>	PO <sub>2</sub>	PO <sub>3</sub>	PO <sub>4</sub>	PO <sub>5</sub>	PO <sub>6</sub>	Knowledge Level
COA <sub>1</sub>	H	H	M	M	H	M	K
COA <sub>2</sub>	H	H	M	M	M	L	U
COA <sub>3</sub>	H	H	M	H	M	L	A
COA <sub>4</sub>	H	H	M	H	H	H	A

Course Designed By : Mrs.R.Surya Priya & Ms.S.Subhashree

Course Reviewed By : Dr.K.Umamaheswari

Checked By : Dr.N.Lakshmi

### B.Com/B.Com (CA)/B.Com (e-Commerce)

#### Semester II

Part III – Core III- Financial Accounting II 217B03/217R03/217N03

(For the students admitted from the academic year 2017-2018 onwards)

**Course Objectives (65 Hours)**

C<sub>1</sub>: To familiarise with the process involved in hire purchase and installment system.

C<sub>2</sub>: To acquaint knowledge on branch and departmental accounting.

C<sub>3</sub>: To understand the accounting rules applicable for partnership firm.

**Unit I**

Hire Purchase and Installment Purchase System – Hire Purchase trading account.

**(13 Hours)**

**Unit II**

Branch Accounting (excluding foreign branches) – Departmental Accounts.

**(13 Hours)**

**Unit III**

Partnership Accounts-Division of profits-Fixed and Fluctuating capital-Past adjustments and guarantee of profits.

**(13 Hours)**

**Unit IV**

Admission of a partner – Calculation of new profit sharing ratio – Revaluation of assets and liabilities – Valuation of goodwill - Treatment of Goodwill – Distribution of undistributed profits and losses – Proportionate capital adjustments.

**(13 Hours)**

**Unit V**

Retirement of partner – Revaluation of assets and liabilities – Death of a partner.

**(13 Hours)**

**Note:** Distribution of marks for Theory and Problem shall be 20% and 80% respectively.

<b>Book for Study</b>			
<b>Unit</b>	<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
Unit I – V	S.P.Jain and K.L.Narang	Advanced Accountancy	Kalyani Publishers, New Delhi, Ed. 2015.

<b>Books for Reference</b>		
<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
T.S.Reddy and A.Murthy	Financial Accounting	Margham Publishers, Chennai, Ed. 2017
R.S.N.Pillai and Bagavathi	Advanced Accountancy	Konark Publishers Pvt.Ltd. Delhi.Ed. 2015

**Course Outcomes**

On the completion of the course, the student will be able to:

CO<sub>1</sub>: Understand hire purchase and installment accounting.

CO<sub>2</sub>: Gain knowledge on branch and departmental accounts.

CO<sub>3</sub>: Apply knowledge on Partnership Act for preparation of partnership accounts.

## Mapping

Course Outcomes	PO <sub>1</sub>	PO <sub>2</sub>	PO <sub>3</sub>	PO <sub>4</sub>	PO <sub>5</sub>	PO <sub>6</sub>	Knowledge Level
CO <sub>1</sub>	H	L	M	M	M	L	U
CO <sub>2</sub>	H	L	L	M	H	M	K
CO <sub>3</sub>	H	M	M	H	H	H	A

Course Designed By : Dr. R.Vanamadevi

Course Reviewed By : Dr. M.Kalavathi

Checked By : Dr.N.Lakshmi

### B.Com/B.Com (CA)/BBA(CA)

#### Semester II

#### Part III - Core IV- Principles of Marketing 217B04/217R04/217V04

(For the students admitted from the academic year 2017-2018 onwards)

#### Course Objectives

(65 Hours)

C<sub>1</sub>: To provide a comprehensive understanding of the marketing concepts.

C<sub>2</sub>: To impart knowledge on marketing functions.

C<sub>3</sub>: To identify the marketing mix components.

C<sub>4</sub>: To provide knowledge on promotion mix activities.

C<sub>5</sub>: To understand the exchange process in the market.

#### Unit I

Marketing- Objectives – importance of modern marketing concept – Marketing mix.

Marketing functions: Functions of exchange. Buying – elements of buying – purchasing methods - Assembling – Selling- elements of selling – kinds of sales. (13 Hours)

#### Unit II

Functions of Physical Supply: Transportation: functions – classification of transport – merits – choice of mode of transportation. Storage – advantages. Warehousing: functions – kinds. Standardization and Grading: types. Marketing finance: kinds of finance. Marketing risk: causes – methods of handling risk. (13 Hours)

#### Unit III

Product– Product Life Cycle — New product planning – steps in new product planning.

Pricing: Objectives – factors affecting pricing decision – procedure for price determination- kinds of pricing. (13 Hours)

#### Unit IV

Promotion: Importance – objectives – forms of promotion. Sales promotion: objectives – advantages – kinds of sales promotion. Advertising: objectives – functions – objections. (13 Hours)

#### Unit V

Channels of Distribution: importance – types – classification of middlemen – Agent middlemen- Wholesaler, Retailer: Kinds - services rendered – elimination of middlemen.

(13 Hours)



<b>Book for Study</b>			
<b>Unit</b>	<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
Unit I – V	R.S.N. Pillai and Bagavathi	Modern Marketing Principles and Practice	S. Chand and Company, New Delhi. Ed. 2013.

<b>Book for Reference</b>		
<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
Dr. N. Rajan Nair and Sanjith R. Nair	Marketing	Sultan Chand and sons, New Delhi, Ed. 2016

### **Course Outcomes**

On the completion of the course, the student will be able to:

CO<sub>1</sub>: Understand core concepts of marketing.

CO<sub>2</sub>: Gain knowledge on marketing functions.

CO<sub>3</sub>: Gain knowledge on components of marketing mix.

CO<sub>4</sub>: Apply knowledge of promotion methods.

CO<sub>5</sub>: Understand channels of distribution.

### **Mapping**

<b>Course Outcomes</b>	<b>PO<sub>1</sub></b>	<b>PO<sub>2</sub></b>	<b>PO<sub>3</sub></b>	<b>PO<sub>4</sub></b>	<b>PO<sub>5</sub></b>	<b>PO<sub>6</sub></b>	<b>Knowledge Level</b>
CO <sub>1</sub>	H	M	H	M	H	M	K
CO <sub>2</sub>	H	M	H	M	H	M	U
CO <sub>3</sub>	H	M	H	M	H	M	U
CO <sub>4</sub>	H	M	M	H	H	M	A
CO <sub>5</sub>	H	M	M	M	H	M	U

Course Designed By : Dr. U.Thaslim Ariff & Ms.S.Subhashree

Course Reviewed By : Dr.R.Parameswari

Checked By : Dr.N.Lakshmi

### **B.Com/B.Com (CA)/B.Com (e-Commerce)**

#### **Semester III**

#### **Part III - Core V - Corporate Accounting 317B05/317R05/317N05**

**(For the students admitted from the academic year 2017-2018 onwards)**

### **Course Objectives**

**(65 Hours)**

C<sub>1</sub>: To expose to basic concepts in corporate accounting.

C<sub>2</sub>: To understand the methods for valuing shares and Goodwill.

C<sub>3</sub>: To provide knowledge on the construction of final accounts of companies.

C<sub>4</sub>: To impart basic knowledge on Reconstruction of companies.

**Unit I**

Issue of Shares and Debentures – Forfeiture and Re - issue of shares.

(13 Hours)

**Unit II**

Underwriting of shares and debentures.

Valuation of Goodwill and Shares.

(13 Hours)

**Unit III**

Preparation and Presentation of Final Accounts – Legal requirements. Calculation of Managerial Remuneration.

(13 Hours)

**Unit IV**

Accounting for Amalgamation: merger - purchase (excluding inter- company holdings).

(13 Hours)

**Unit V**

Reconstruction - Reduction and re-organization of share capital. (13 Hours)

**Note:** Distribution of marks for theory and problem shall be 20% and 80% respectively.

<b>Book for Study</b>			
<b>Unit</b>	<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
Unit I – V	S.P. Jain and K.L.Narang,	Advanced Accountancy	Kalyani Publishers, New Delhi Ed. 2014.

<b>Book for Reference</b>			
<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>	
T.S. Reddy and A. Murthy	Corporate Accounting	Margham Publishers, Chennai. 6 <sup>th</sup> Ed. 2016.	

**Course Outcomes**

On the completion of the course, the student will be able to:

CO<sub>1</sub>: Gain knowledge on the fundamentals of Corporate Accounting.

CO<sub>2</sub>: Understand methods of valuation of shares and goodwill.

CO<sub>3</sub>: Apply knowledge on the preparation of final accounts of companies.

CO<sub>4</sub>: Understand the accounting procedures for amalgamation and reconstruction.

**Mapping**

<b>Course Outcomes</b>	<b>PO<sub>1</sub></b>	<b>PO<sub>2</sub></b>	<b>PO<sub>3</sub></b>	<b>PO<sub>4</sub></b>	<b>PO<sub>5</sub></b>	<b>PO<sub>6</sub></b>	<b>Knowledge Level</b>
CO <sub>1</sub>	H	M	M	M	H	M	K
CO <sub>2</sub>	H	M	M	H	H	M	U
CO <sub>3</sub>	H	H	L	H	H	M	A
CO <sub>4</sub>	H	L	L	H	H	M	U

Course Designed By : Dr. R. Sathya  
Course Reviewed By : Dr.R. Parameswari  
Checked By : Dr.N.Lakshmi

**B.Com/B.Com(e-Commerce)**

**Semester III**

**Part III - Core VII–Principles of Management 317B07/317N07**

**(For the students admitted from the academic year 2017-2018 onwards)**

**Course Objectives**

**(65 Hours)**

C<sub>1</sub>:To understand the basic concepts of management.

C<sub>2</sub>:To understand the role of principles, concepts and techniques of management.

C<sub>3</sub>:To understand the various functions of management.

C<sub>4</sub>:To obtain the knowledge on leadership styles.

**Unit I**

Management: Definition –Characteristics- Functions - Importance–Difference between Management and Administration-Functions of a Manager- Role of a Manager-Principles of Management – Scientific Management- Span of Management. **(13 Hours)**

**Unit II**

Planning: Definition-Characteristics- Objectives-Importance – Steps in Planning- Methods of Planning- Advantages and Limitations –Management by Objectives.

Decision making: Characteristics-Decision making process-Principles of Decision making – Types of Decision. **(13 Hours)**

**Unit III**

Organisation: Nature and importance –Functions - Principles of Organisation– Classification of Organisation - Types of Organisation. **(13 Hours)**

**Unit IV**

Staffing: Functions of Staffing -Recruitment – Selection –Promotion.

Leadership: Need and Importance-Functions of a Leader- Qualities of Leadership-Types of Leadership-Leadership Styles. **(13 Hours)**

**Unit V**

Motivation: Nature-Importance-Types-Maslow’s Hierarchy of Needs – Motivational Techniques. Co-ordination: Need and Importance- Principles-Techniques-Types-Problems.

Controlling: Steps in Control Process – Requirements of effective control system - Techniques of Control. **(13 Hours)**

<b>Book for Study</b>			
<b>Unit</b>	<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
Unit I – V	T. Ramasamy	Principles of Management	Himalaya Publishing House, New Delhi. 6 <sup>th</sup> Ed 2014

<b>Books for Reference</b>		
<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
Dinkar Pagare	Principles of Management	Sultan Chand and Sons, New Delhi. 5 <sup>th</sup> Ed 2013.
R.K.Sharma and Shashi, K.Gupta	Business Organization and Office Management	Kalyani Publishers, Ludhiana, 3 <sup>rd</sup> Ed. 2015

### **Course Outcomes**

On the completion of the course, the student will be able to:

CO<sub>1</sub>: Understand the conceptual knowledge of management

CO<sub>2</sub>: Acquire knowledge on planning and decision making.

CO<sub>3</sub>: Able to understand organisation structure of a business establishment.

CO<sub>4</sub>: Understand the importance of leadership style and controlling techniques in business management.

### **Mapping**

<b>Course Outcomes</b>	<b>PO<sub>1</sub></b>	<b>PO<sub>2</sub></b>	<b>PO<sub>3</sub></b>	<b>PO<sub>4</sub></b>	<b>PO<sub>5</sub></b>	<b>PO<sub>6</sub></b>	<b>Knowledge Level</b>
CO <sub>1</sub>	H	H	H	M	H	H	U
CO <sub>2</sub>	H	H	H	H	H	H	K
CO <sub>3</sub>	H	L	H	M	H	H	A
CO <sub>4</sub>	H	H	H	H	H	H	U

Course Designed By : Mrs. P.Jayamary & Ms.S.Subhashree

Course Reviewed By : Dr.S.Bhuvaneshwari

Checked By : Dr.N.Lakshmi

### **B.Com/ B.Com (e-Commerce)**

#### **Semester IV**

#### **Part III - Core IX – Company Law 417B09/417N09**

**(For the Students admitted from the academic year 2017-2018 onwards)**

### **Course Objectives**

**(65 Hours)**

C<sub>1</sub>: To acquaint with the basic knowledge on company law.

C<sub>2</sub>: To provide knowledge on incorporation of a company.

C<sub>3</sub>: To impart knowledge on the basic documents in formation of company .

C<sub>4</sub>: To understand company management and administration.

### **Unit I**

Company: Definition – Characteristics -Kinds of companies.

Formation of company - Incorporation of company - Certificate of Incorporation – Promoter– Functions - Status.

**(13 Hours)**

## Unit II

Memorandum of Association: Contents, Alteration - Doctrine of Ultra Vires.

Articles of Association: Contents - alteration - Constructive notice of Memorandum and Articles - Doctrine of indoor Management. (13 Hours)

## Unit III

Prospectus: Definition –Matters to be stated in prospectus –Public offer and Private placement - liability for Misstatement in prospectus. (13 Hours)

## Unit IV

Company Management and Administration: Register of Members- Annual Return - Annual General Meeting –Extraordinary General Meeting – Notice of Meeting – Quorum – Proxy – Resolutions – Minutes. (13 Hours)

## Unit V

Appointment of Directors – Director Identification Number – Duties – Resignation and Removal – Disqualifications – Independent directors. (13 Hours)

Book for Study			
Unit	Author	Title	Publisher, Place of Publication, Edition, Year of Publication
Unit I – V	N.D. Kapoor	Elements of Company Law	Sultan Chand and Sons, New Delhi, 30 <sup>th</sup> Ed, 2015

Books for Reference		
Author	Title	Publisher, Place of Publication, Edition, Year of Publication
Dr.M.R.Srinivasan	Company Law	Margham Publication., Chennai., Ed 2013
Companies Amendment Bill 2016.		

## Course Outcomes

On the completion of the course, the student will be able to:

CO<sub>1</sub>: Understand the basic principles of Indian Corporate Law.

CO<sub>2</sub>: Apply knowledge on statutory provisions for formation of the company.

CO<sub>3</sub>: Acquire knowledge on company meeting.

CO<sub>4</sub>: Understand duties and liabilities of directors under Indian Companies Act.

## Mapping

Course Outcomes	PO <sub>1</sub>	PO <sub>2</sub>	PO <sub>3</sub>	PO <sub>4</sub>	PO <sub>5</sub>	PO <sub>6</sub>	Knowledge Level
CO <sub>1</sub>	H	M	L	M	H	M	K
CO <sub>2</sub>	H	M	M	M	H	M	A
CO <sub>3</sub>	H	M	M	M	H	M	U
CO <sub>4</sub>	H	M	M	M	H	M	U

Course Designed By : Mrs. P.Jayamary  
Course Reviewed By : Dr. C. Pushpalatha  
Checked By : Dr.N.Lakshmi

**B.Com**  
**Semester IV**

**Part IV-Advanced Learners Course I –Principles of Insurance 417ALB**  
**(For the students admitted from the academic year 2017-2018 onwards)**

**Course Objectives**

- CL<sub>1</sub>:To provide basic knowledge of insurance business.  
CL<sub>2</sub>:To impart the knowledge on risk.  
CL<sub>3</sub>:To acquaint with the knowledge on life insurance.  
CL<sub>4</sub>:To equip with the basic knowledge on general insurance.  
CL<sub>5</sub>:To enhance employability in insurance sector.

**Unit I**

Risk- Classification – Methods of handling risk- importance – Risk management objectives- Risk insurance management– scope– principles.

**Unit II**

Insurance –Characteristics of insurance contract- Functions – importance-benefits of insurance – essential elements of insurance – insurance documents.

**Unit III**

Life Insurance - essential elements of life assurance – Classification of Policies – Assignment of life policy-Nomination-Surrender value- payment of claims-advantages.

**Unit IV**

Marine Insurance – Characteristics – essential elements – double insurance- Kinds of marine policies – important clauses in marine policy –Marine losses and abandonment.

**Unit V**

Fire Insurance – principles – fire policy-types of fire policies –fire insurance claims .  
Miscellaneous Insurance: Fidelity guarantee insurance- Property insurance-Motor vehicle Insurance – Health Insurance.

<b>Book for Study</b>			
<b>Unit</b>	<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
Unit I – V	Dr. P. Periasamy	Principles and Practice of Insurance	Himalaya Publishing House, New Delhi, Ed. 2015

<b>Book for Reference</b>		
<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
M.N. Mishra and Dr. S.B. Mishra	Insurance Principles and Practice	S.Chand and Company Ltd, New Delhi. 10 <sup>th</sup> Ed. 2014

## Course Outcomes

On the completion of the course, the student will be able to:

COL<sub>1</sub>:Acquire knowledge on risk management in insurance.

COL<sub>2</sub>:Apply knowledge on elements of contracts in insurance.

COL<sub>3</sub>:Understand the concepts of life insurance and life insurance policies.

COL<sub>4</sub>:Gain knowledge on marine insurance policies.

COL<sub>5</sub>: Understand the benefits and claims under insurance.

## Mapping

Course Outcome	PO <sub>1</sub>	PO <sub>2</sub>	PO <sub>3</sub>	PO <sub>4</sub>	PO <sub>5</sub>	PO <sub>6</sub>	Knowledge Level
COL <sub>1</sub>	H	M	M	M	M	M	K
COL <sub>2</sub>	H	L	M	M	M	L	A
COL <sub>3</sub>	H	L	L	L	L	M	U
COL <sub>4</sub>	H	M	M	M	L	M	K
COL <sub>5</sub>	H	M	H	M	M	M	U

Course Designed By : Mrs.R.Surya Priya

Course Reviewed By : Dr.R.Parameswari

Checked By : Dr.N.Lakshmi

## Scheme of Examination - CBCS Pattern

### Programme - M.Com

(For the students admitted from the academic year 2017 - 2018 onwards)

Course Code	Course Title	Inst Hrs/ week	Exam			Credits	
			Dur Hrs	CIA Marks	ESE Marks		Total Marks
17MC01	<b>Semester I</b> Core I - Business Environment	5	3	25	75	100	4
17MC02	Core II - Marketing Management	5	3	25	75	100	4
17MC03	Core III - Financial Management	5	3	25	75	100	4
17MC04	Core IV- Computer Applications in Business- Practicals	5	3	40	60	100	4
17MC05	Core V- Executive Communication	5	3	25	75	100	4
17MCE1/	Elective I - International Business/	5	3	25	75	100	4
17MCE2	Security Analysis and Portfolio Management						

	<b>Semester II</b>						
17MC06	Core VI - Research Methodology	5	3	25	75	100	4
17MC07	Core VII - Human Resource Management	5	3	25	75	100	4
17MC08	Core VIII - Statistical Methods	5	3	25	75	100	4
17MC09	Core IX-Accounting in Computerised Environment-Practicals	5	3	40	60	100	4
17MGCS	Cyber Security-Level I	2	2	50	-	Grade	Grade
17MCIT	Institutional Training	3	-	-	50	50	2
17MCE3/	Elective II - International Marketing/	5	3	25	75	100	4
17MCE4	Stock Market Operations						
17MCA1	Advanced Learners Course - I	-	-	-	100	100	4*
	Online Course(s)(Self Learning)						
	<b>Semester III</b>						
17MC10	Core X - E Tools and Techniques for Research-Practicals	5	3	40	60	100	4
17MC11	Core XI - Organisational Behaviour	5	3	25	75	100	4
17MC12	Core XII - Applied Costing	5	3	25	75	100	4
17MC13	Core XIII - Services Marketing	5	3	25	75	100	4
17MCE5/	Elective III - Export Import Procedures and Documentation/	5	3	25	75	100	4
17MCE6	Financial Services						
	Project / Optional paper:						
17MCPV	Project	5	-	-	-	-	-
17MCRM	Optional paper I: Retail Management	5	3	25	75	100	4
	<b>Semester IV</b>						
17MC14	Core XIV - Managerial Economics	6	3	25	75	100	4
17MC15	Core XV- Entrepreneurial Development	6	3	25	75	100	4
17MC16	Core XVI - Advanced Corporate Accounting	6	3	25	75	100	4
17MCE7/	Elective IV - Institutional Support for International Trade/	6	3	25	75	100	4



17MCE8	Internship in Financial Sector Project / Optional paper:	6	-	-	100	100	4
17MCPV	Project	6	-	100	100	200	8
17MCIB	Optional paper II: Information Technology in Business	6	3	25	75	100	4
17MCA2	Advanced Learners Course - II Online Course(s)(Self Learning)	-	-	-	100	100	4*
	Total					2250	90

\*Starred Credits are treated as additional credits which are optional.

**M.Com  
Semester I**

**Core V- Executive Communication**

**17MC05**

**(For the students admitted from the academic year 2017-2018 onwards)**

**Course Objectives**

**(65 Hours)**

- To sharpen oral and written communication skills.
- To facilitate experiential learning through role plays, presentations, group discussion and mock interview.

**UNIT I**

Communication - Importance of effective communication in business - Objectives - Types-Media -Principles of Communication- Barriers to communication.

**(13 Hours)**

**UNIT II**

Non-verbal Communication: Characteristics- Sign language- Kinesics- Paralanguage- Artfactual communication- Proxemics- Chronemics- Listening-Functions of non-verbal communication- Positive and negative non-verbal clues- Guidelines for developing non-verbal communication.

Soft skills-importance –Kinds of soft skills: Corporate skills – Employability skills- Growth skills – Developing soft skills. Interpersonal communication- Characteristics- Importance- Developing inter - personal skills.

**(13 Hours)**

**UNIT III**

Job Application letter and preparation of resume: Personal analysis – Types of application letters -Preparation of resume/ bio-data/ curriculum vitae.

Inter-departmental communication-Memorandums - purpose - format- advantages-office orders. Circulars- Notices- Preparation of agenda and minutes.

**(13 Hours)**

**UNIT IV**

Reports: Importance- Types of business reports-Steps for preparing a report- Organisation of a report- Characteristics of a report-Report by individuals – Reports by committees.

**(13 Hours)**

## \* UNIT V

Oral and other forms of communication- Speech-Characteristics of good speech.

Telephone skills: making effective telephone calls - guidelines for effective use of telephone and answering telephone-voice mail.

Interview: Preparation for the interview -Facing interviews.

Presentation skills- Stages.

Group discussion- Participating in group discussion -Effective participation in a Group discussion. **(13 Hours)**

**Starred Unit is self- learning portion.**

<b>Book for Study</b>			
<b>Unit</b>	<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
I-V	Rajendra Paul and J.S.Korlahalli	Essentials of Business Communication	S Chand and Sons, New Delhi, Edition 2014.
<b>Books for Reference</b>			
<b>Author</b>		<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
Dr. C.B. Gupta		Basic Business Communication	Sultan Chand and Sons, New Delhi, Edition 2014.
Dr.V.K.Jain and Dr.Omprakash Biyani		Business Communication	Sultan Chand and Sons, New Delhi, Edition 2015.

Course Designed By : Dr.R.Vanamadevi

Course Reviewed By : Dr.C.Pushpalatha

Checked By : Dr.N.Lakshmi

## **M.Com**

### **Semester I**

#### **Elective I - International Business**

**17MCE1**

**(For the students admitted from the academic year 2017-2018 onwards)**

#### **Course Objectives**

**(65 Hours)**

- To provide knowledge on conceptual framework of international business.
- To acquaint knowledge on international business environment.

#### **UNIT I**

International Business: Definition-Nature and scope of international business- importance of international business- Gains from trade and terms of trade - Foreign Trade Policy of India - Composition and direction of India's foreign trade. **(13 Hours)**

#### **UNIT II**

Theories of International Trade-Absolute cost theory- Comparative cost theory - Opportunity cost theory - Factor endowment Theory - Complementary theories.

Trade blocs and Co-operation: Objectives- types of integration- European Union- South Co Operation -SAARC-SAPTA- Indo – Lanka Free Trade Agreement – Commodity agreements and State trading. **(13 Hours)**

**\*UNIT III**

Environment of International Business: Economic environment-Political and Regulatory environment-Legal environment - Demographic environment- Social environment- Cultural environment- Geographic environment. **(13 Hours)**

**UNIT IV**

Balance of Payment: Nature-Components - BOP disequilibrium - correction of disequilibrium-Financing of BOP-Trade and BOP of India. **(13 Hours)**

**UNIT V**

Foreign Exchange Market: Functions of Foreign exchange market- methods affecting International payments-Dealings on the Foreign exchange market-determination of Exchange rate-Exchange control - exchange rate system- exchange rate classification- convertibility of rupee- devaluation - limitations of devaluation- currency exchange risk and management – types of foreign exchange risk- strategies for managing exchange risk. **(13 Hours)**

**Starred Unit is self- learning portion.**

<b>Books for study</b>			
<b>Unit</b>	<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
I and III	Francis Cherunilam	International Business Environment	Himalaya Publishing House-Mumbai, Edition 2015.
I,II,IV and V	Francis Cherunilam	International Trade and Export Management	Himalaya Publishing House-Mumbai-Nineteenth revised Edition 2015.
<b>Books for Reference</b>			
<b>Author</b>		<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
Subba Rao P		International Business: Text and Cases	Himalaya Publishing House, New Delhi, Ed. 2013.
C.Jeevanandam		International Business	Sultan & Sons, New Delhi, Ed. 2014.
T.A.S. Balagopal		Export Management	Himalaya Publishing House, New Delhi, Ed. 2014.

Course Designed By : Dr.R.Vanamadevi  
 Course Reviewed By : Dr.K.Umameswari  
 Checked By : Dr.N.Lakshmi

**M.Com**  
**Semester II**

**Elective II - International Marketing**

**17MCE3**

**(For the students admitted from the academic year 2017-2018 onwards)**

**Course Objectives**

**(65 Hours)**

- To provide theoretical knowledge on managerial aspects of international marketing.
- To pursue careers in international marketing field.

**UNIT I**

International Marketing: Definition- reasons for International marketing - International stages - International Marketing decisions-Driving and restraining forces- Participants in International Marketing- Problems of International Marketing-Future of International marketing.

**(13 Hours)**

**\*UNIT II**

Market selection and market entry strategies: Market selection process- Determinants of market selection-Market profile and market segment selection. Methods of market entry strategies -Entry strategies of Indian firms.

**(13 Hours)**

**UNIT III**

International product decisions -Product and product decisions-Components and levels of product-Product mix-Product life cycle-Product life cycle and international marketing-New product development-Steps in new product development-Branding and branding decisions-Branding problems in International marketing-Scope for use of Indian brands. Packaging and labelling -Product strategies.

**(13**

**Hours)**

**UNIT IV**

International pricing-Pricing objectives-Factors affecting prices-steps in pricing-Export price structure-Export price quotations and INCOTERMS-Information requirements for export pricing.

**(13 Hours)**

**UNIT V**

International Distribution: International channel system-international logistics. International promotion-major decision in international marketing communication-Communication mix-trade fairs and exhibitions-personal selling- problems in international marketing communication.

**(13 Hours)**

**Starred Unit is self- learning portion.**

<b>Book for Study</b>			
<b>Unit</b>	<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
I - V	Francis Cherunilam	International Marketing (Text and Cases)	Himalaya Publishing House, New Delhi, Ed.2017.
<b>Books for Reference</b>			
<b>Author</b>		<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>

Francis Cherunilam	International Trade and export management	Himalaya Publishing House, New Delhi, 19 <sup>th</sup> revised edition, 2015.
Rothor B.S. and Rothor J.S.	Export Marketing	Himalaya Publishing House, New Delhi, 2014

Course Designed By : Dr.R.Vanamadevi  
Course Reviewed By : Dr.K.Umamageswari  
Checked By : Dr.N.Lakshmi

**M.Com**  
**Semester II**

**Elective II - Stock Market Operations 17MCE4**

**(For the students admitted from the academic year 2017-2018 onwards)**

**Course Objectives (65 Hours)**

- To give a comprehensive understanding of stock market operations.
- To provide knowledge on structure, trading operations, settlement procedures and instruments in stock market.

**UNIT I**

Depository Services: Depository participant- - functions - features of DEMAT account - - steps in dematerialisation process - Procedure for electronic settlement of trade - benefits - shortcomings of DEMAT system. NSDL - CDSL. **(13 Hours)**

**UNIT II**

Book Building: Characteristics, process of book building, advantages of book building. Prospectus.

New Issue Market: features- advantages- services - intermediaries in the NIM - methods of marketing securities - ASBA. **(13 Hours)**

**UNIT III**

Secondary Market: features - functions - difference between primary market and secondary market - factors influencing security prices.

Indian stock markets: Basic market concepts and mechanisms - trading members - clearing members - clearing house- National stock exchange - Bombay Stock exchange - listing of securities - online share trading - trading system - types of orders.

**(13 Hours)**

**\*UNIT IV**

Stock Market Index: features-importance – Sectoral indices – strategy indices – thematic indices – fixed income indices. BSE index: SENSEX, SENSEX 50, SENSEX NEXT 50, BSE 100, BSE MIDCAP, National index- 500. NSE index: NIFTY 50, NIFTY 100, NIFTY 500, NIFTY MIDCAP (Only). **(13 Hours)**

**UNIT V**

Derivatives: types of derivative instruments- forward contracts -futures contracts - options- swaps - factors contributing to growth of derivatives- participants in futures and options market-benefits of futures and options. **(13 Hours)**

**Starred Unit is self- learning portion.**

<b>Book for Study</b>			
<b>Unit</b>	<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
I-V	Dr.S.Gurusamy	Financial Markets and Institutions	Vijay Nicole Imprints Pvt Ltd, Chennai. 4 <sup>th</sup> Ed 2015.
III and V	E. Gordon and K.Natarajan	Financial Markets and Services	Himalaya Publishing House, Delhi. 9 <sup>th</sup> Ed- 2015.

<b>Books for Reference</b>		
<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
Preeti Singh	Investment Management : Security Analysis and Portfolio Management	Himalaya Publishing House, Mumbai, 19 <sup>th</sup> Edition, 2016.
V.A.Avadhani	Investment and Securities Markets in India	Himalaya Publishing House, Mumbai, 10 <sup>th</sup> Ed, 2017.
S. Kevin	Security Analysis and Portfolio Management	Prentice-Hall of India(P)Ltd, New Delhi, 12 <sup>th</sup> Printing 2014

Course Designed By : Dr.C.Pushpalatha  
 Course Reviewed By : Dr.R.Parameswari  
 Course Checked By : Dr. N. Lakshmi

**Advanced Learners Course - I Online Course(s) 17MCA1**

Students eligible for ALC can register for any of the self-learning online course(s) for a minimum period of 20 hours duration. After obtaining course completion certificate, a viva voce will be conducted by two internal examiners.

**M.Com**

**Semester III**

**Elective III - Export Import Procedures and Documentation 17MCE5**

**(For the students admitted from the academic year 2017-2018 onwards)**

**Course Objectives**

**(65 Hours)**

- To understand the export and import procedures.
- To gain knowledge on export import documentation.

**UNIT I**

Export -preliminaries for exports- Methods of exporting-Registration formalities -IEC number-RCMC-Export license- Export promotion measures in India-Duty drawback-ASIDE-MDA-MAI-EPCG.

**(13 Hours)**

## UNIT II

Export procedure and export contract - Pre shipment procedure-Shipment procedure-Post shipment procedure-Elements of export contract-FOB and CIF contract.

Customs clearance of export cargo: Objectives - Customs clearance of export shipment - Computerised customs clearance procedure. (13 Hours)

## \*UNIT III

Export finance and Export documentation: Pre-shipment finance - Features and types.

Post shipment finance: Features and types-Comparison of pre-shipment and post-shipment finance. Export documents-Commercial and regulatory documents.

(13Hours)

## UNIT IV

Import: Preliminaries for imports -Types of imports-categories of importers-Special schemes for importers- Import procedure-Pre import procedure-legal dimensions of import procedure-retirement of import documents. (13 Hours)

## UNIT V

Customs clearance of Import cargo: Procedure -ICES for clearance of imports-Import documentation-Transport documents-Bill of Entry-Airway bill-Certificate of Inspection-Certificate of Measurement. (13 Hours)

**Starred Unit is self- learning portion.**

<b>Books for Study</b>			
<b>Unit</b>	<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
I-V	Khushpat & S.Jain	Export Import Procedures & Documentation	Himalaya Publishing House, Mumbai. Ed., 2014.
III and V	C. Rama Gopal	Export Import Procedures & Documentation and Logistics	New age International Publishers-New Delhi, Ed., 2016.
<b>Books for Reference</b>			
<b>Author</b>		<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
Justin Paul		International Business	Prentice Hall India Learning Pvt Ltd., New Delhi, Ed. 2015
M.I.Mahajan		A Guide on Export Policy, Procedure and Documentation	Snow White Publications, Mumbai, 26 <sup>th</sup> Ed, 2015

Course Designed By : Dr.R.Vanamadevi  
 Course Reviewed By : Dr.K.Umamageswari  
 Checked By : Dr.N.Lakshmi

**M.Com**  
**Semester IV**

**Elective IV - Institutional Support for International Trade 17MCE7**  
**(For the students admitted from the academic year 2017-2018 onwards)**

**Course Objectives (75 Hours)**

- To impart knowledge on institutions facilitating international business.
- To gain knowledge on foreign direct investment.

**UNIT I**

Export promotion in India-Department of Commerce- Commodity organisations- Export Promotion Councils-Commodity boards-Service Institutions- FIEO-IIFT-IIP-ICA-ITPO-SEZs and EOUs. **(15 Hours)**

**UNIT II**

Role of RBI in export finance -Role of commercial banks-Small Industrial Development Bank of India (SIDBI) - Export and Import bank of India (EXIM) - Export Credit Guarantee Corporation of India (ECGC). **(15 Hours)**

**\*UNIT III**

World Trade Organisation -Functions- Principles of WTO- Organisational structure- WTO Agreements-GATS-TRIMS-TRIPS-WTO and anti dumping measures - Evaluation of WTO. **(15 Hours)**

**UNIT IV**

International Monetary Fund (IMF)-International Bank for Reconstruction and Development (IBRD) - International Development Association (IDA) - International Finance Corporation (IFC) - Asian Development Bank (ADB) - UNCTAD- UNIDO- International trade Centre. **(15 Hours)**

**UNIT V**

International investments: Types of foreign investments-Significance – Limitations – Factors affecting international investment – Growth of foreign direct investment – Dispersion of FDI – Portfolio investments – Cross borders, mergers and acquisitions – Foreign investment in India. **(15 Hours)**

**Starred Unit is self- learning portion.**

<b>Book for Study</b>			
<b>Unit</b>	<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
I -V	Francis Cherunilam	International Trade and export management	Himalaya Publishing House, New Delhi, 19 <sup>th</sup> Revised edition-2015.



<b>Books for Reference</b>		
<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
P. Subba Rao	International Business (Text & cases)	Himalaya Publishing House, New Delhi, 2013.
Justin Paul	International Business	Prentice Hall India Learning Pvt Ltd., New Delhi, Ed. 2015

Course Designed By : Dr.R.Vanamadevi  
 Course Reviewed By : Dr.K.Umameswari  
 Checked By : Dr.N.Lakshmi

**M.Com  
 Semester IV**

**Elective IV – Internship in Financial Sector 17MCE8**

**(For the students admitted from the academic year 2017-2018 onwards)**

**Course Objectives**

- To get practical exposure on the activities of financial services sector.
- To gain practical knowledge on financial instruments, financial services and investment decision making.

The student shall undergo the institutional training in any of the Financial Institutions for a period of four weeks.

A Report submitted by the student on the completion of the training would be subject to evaluation by internal examiners.

**Advanced Learners Course - II Online Course(s) 17MCA2**

Students eligible for ALC can register for any of the self - learning online course(s) for a minimum period of 20 hours duration. After obtaining course completion certificate, a viva voce will be conducted by two internal examiners.

**Curriculum Design**  
**SRI G.V.G.VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**  
**Affiliated to Bharathiar University**  
**Department of Commerce**  
**Scheme of Examination – CBCS Pattern**  
**Programme - M.Com**  
**(For the students admitted from the academic year 2015 – 2016 onwards)**

Course Code	Course Title	Inst Hrs/ week	Exam				Credits
			Dur Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester I</b>							
15MC01	Core I - Business Environment	5	3	25	75	100	4
15MC02	Core II - Marketing Management	5	3	25	75	100	4
15MC03	Core III - Financial Management	5	3	25	75	100	4
15MC04	Core IV- Computer Applications in Business	5	3	40	60	100	4
15MC05	Core V - Entrepreneurship	5	3	25	75	100	4
15MCE1	Elective I - Managerial Economics	5	3	25	75	100	4
<b>Semester II</b>							
15MC06	Core VI – Research Methodology	5	3	25	75	100	4
15MC07	Core VII – Human Resource Management	5	3	25	75	100	4
15MC08	Core VIII - Working Capital Management	5	3	25	75	100	4
15MC09	Core IX – Computerised Accounting	5	3	40	60	100	4
15MGCS	Cyber Security	2	2	50	-	Grade	Grade
15MCIT	Institutional Training	-	-	50	-	50	2
15MCE2	Elective II - Services Marketing	5	3	25	75	100	4
15MCA1	Advanced Learners' Course – I Subject Viva-Voce	-	-	-	100	100	4*
<b>Semester III</b>							
15MC10	Core X – E Tools and Techniques for Research	5	3	40	60	100	4
15MC11	Core XI - Security Analysis and Portfolio Management	5	3	25	75	100	4
15MC12	Core XII – Applied Costing	5	3	25	75	100	4
15MC13	Core XIII - Information Technology in Business	5	3	25	75	100	4
15MCE3	Elective III - Organisational Behaviour	5	3	25	75	100	4

15MCPV/ 15MCRM	Project / Optional paper: Retail Management	- 5	- 3	- 25	- 75	- 100	- 4
15MC14	<b>Semester IV</b> Core XIV – Strategic Management	5	3	25	75	100	4
15MC15	Core XV- Financial Services	5	3	25	75	100	4
15MC16	Core XVI – Advanced Corporate Accounting	5	3	25	75	100	4
15MCE4	Elective IV Export Management	5	3	25	75	100	4
15MCPV/ 15MCM1	Project / Optional paper Management Information System	- 5	- 3	100 25	100 75	200 100	8 4
15MCA2	Advanced Learners' Course II Subject Viva Voce	- -	- -	- -	100	100	4*
	<b>Total</b>					<b>2250</b>	<b>90</b>

\*Starred Credits are treated as additional credits which are optional.

**M.Com**  
**Semester IV**

**Core XVI - Advanced Corporate Accounting**

**15MC16**

**(For the students admitted from the academic year 2015-2016 onwards)**

**Preamble:**

**(65 Hours)**

The objectives of this course are:

To provide knowledge on corporate accounting.

To expose students on recent developments in corporate environment.

**Unit I**

Issue of Shares and Debentures – Forfeiture and Re-issue of shares.

**(13Hours)**

**Unit II**

Preparation of Final Accounts of Companies.

**(13 Hours)**

**Unit III**

Accounts of Holding Companies [excluding cross holdings and chain holdings]: Definition – Consolidated Balance sheet – Minority interest – Cost of control – Pre- acquisition reserves and profits – post-acquisition profit.

**(13 Hours)**

**Unit IV**

Financial Statements: Definition-nature-attributes-importance- limitations. Analysis of Financial Statements: objectives-types-Techniques: Comparative and common size Financial Statement Analysis- Trend Analysis –Fund Flow Analysis – Cash Flow Analysis – Ratio Analysis – limitations of Financial Statement Analysis.

**(13 Hours)**

## \* Unit V

Financial Reporting: Objectives-users of accounting information-statutory reporting and non-statutory reporting-approaches. Disclosure requirements: Directors' report- Auditors' report-recent trends in published accounts- interim financial reporting.

Environment Accounting: need- scope-forms- advantages- elements – mechanism.

Green Accounting:-need - benefits- limitations. **(13 Hours)**

### **Starred Unit is self- learning portion.**

Note: Distribution of marks for Theory and problem shall be 40% and 60% respectively.

#### Books for Reference

Advanced Accountancy VOL II : S.P.Jain and K.L.Narang,  
Kalyani Publishers, New Delhi 20th Ed. 2014.

Corporate Accounting : T.S. Reddy and A. Murthy,  
Margham Publishers, Chennai. 6thEd. 2015.

Course Designed By : Dr.K.Umameswari

Course Reviewed By : Dr.R.Parameswari

Checked By : Dr.N.Lakshmi

### **M.Com**

#### **Semester IV**

#### **Elective IV – Export Management**

**15MCE4**

**(For the students admitted from the academic year 2015 – 2016 onwards)**

#### **Preamble:**

**(65 Hours)**

The main objectives of this paper are

- To provide a conceptual framework of export trade.
- To help students gain practical knowledge about the subject.

#### **UNIT I**

Exports-Methods of exporting: direct exporting and indirect exporting-Registration formalities- obtaining IEC Number- RCMC and Export license - Selection of export products- Selection of markets for exports - Selection of overseas buyers. Composition and Direction of India's exports. **(13 hours)**

#### **\*UNIT II**

Foreign Trade Policy 2009-2014-Background-General objectives-Highlights of Foreign Trade Policy 2009-2014 - Special focus initiatives - Export promotion measures in India. Institutional framework of foreign Trade. . **(13 hours)**

#### **UNIT III**

Export Procedure and Documentation: Export procedure-steps in export procedure-Pre-shipment procedure- Shipment procedure-Post-shipment procedure-export contract-elements of export contract- Aligned Documentation System (ADS)-Commercial Documents-principal commercial documents and auxiliary commercial documents-Regulatory Documents. **(13 hours)**

#### **UNIT IV**

Export pricing and methods of payment- Factors affecting determination of export price-importance of export pricing-export pricing strategies-components of export pricing-INCOTERMS-methods of payments-Letter of credit- Procedure for opening letter of credit-types of letter of credit-advantages of letter of credit. **(13 hours)**

#### **UNIT V**

Export finance-need-Terms of payment-Pre-shipment finance-features-types-Post-shipment finance-features –types-comparison of pre-shipment finance and post-shipment finance-Role of RBI and Commercial banks in export finance-Export and Import Bank of India (EXIM)-Export Credit Guarantee Corporation of India. **(13 hours)**

**Starred Unit is self- learning portion.**

#### **Books for Reference:**

Export Import Procedures

and Documentation: : Khushpat S.Jain ,Himalaya Publishing  
House, 6th Ed. 2013, Mumbai

Export Management : T.A.S. Balagopal,  
Himalaya Publishing House, 20<sup>th</sup>Ed, 2010, Mumbai

International Trade and Export : Francis Cherunilam,  
Management: Himalaya Publishing House, 16<sup>th</sup> Ed 2014, Mumbai

Export Management : D.C.Kapoor,  
Vikas Publishing House, Edition 2007,  
New Delhi

Course Designed By : Dr.R.Vanamadevi

Course Reviewed By : Dr.G.Suguna

Checked By : Dr.K.Punithavalli

**Programme - B.Com**  
**Scheme of Examination - CBCS**  
**(For the students admitted from the academic year 2015-2016 onwards)**

Course Code	Course Title	Inst Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	TOTAL Marks	
115TA1/ 115MY1/ 115HD1/ 115FR1	<b>Semester – I</b> Part I – Language – I	6	3	25	75	100	4
115EN1	Part II – English – I	6	3	25	75	100	4
115B01/ 115R01/ 115N01/	Part III - Core I- Financial Accounting	5	3	25	75	100	4
115 B02/ 115R02/ 115N02/ 115V02	Core II- Business Management	5	3	25	75	100	4
115AB1/ 115AR1/ 115AN1/ 115AV1	Allied I – Office Automation Tools - Practicals	6	3	40	60	100	4
115EVS	Part IV – Environmental Studies	2	2	50	-	50	2
215TA2/ 215MY2/ 215HD2/ 215FR2	<b>Semester – II</b> Part I – Language -II	6	3	25	75	100	4
215EN2	Part II – English – I	6	3	25	75	100	4
215B03/ 215R03/ 215N03	Part III - Core III – Company Law	5	3	25	75	100	4
215 B04/ 215R04/ 215N04/ 215V04	Core IV – Marketing	5	3	25	75	100	4
<b>215AB2</b>	<b>Allied II – Business Economics</b>	<b>6</b>	<b>3</b>	<b>25</b>	<b>75</b>	<b>100</b>	<b>4</b>
215VEC	Part IV – Value Education	2	2	50	-	50	2
315B05/ 315R05/ 315N05	<b>Semester – III</b> Part III-Core V– Higher Financial Accounting	5	3	25	75	100	4

315 B06/ 315V06	Core VI - Commercial Law	5	3	25	75	100	4
315 B07	Core VII- Principles of Insurance	5	3	25	75	100	4
<b>315 B08</b>	<b>Core VIII- Entrepreneurial Development</b>	<b>4</b>	<b>3</b>	<b>25</b>	<b>50</b>	<b>75</b>	<b>3</b>
315 AB3/ 315AR3/ 315AN3	Allied III – Mathematics in Business	6	3	25	75	100	4
315NED	Part IV – Non Major Elective Course I - Entrepreneurial Development	2	2	50	-	50	2
314BS1/ 315 BS1	Part IV Skill Based Course I – Business Application Tools- Page Maker	3	3	75	-	75	3
415B09/ 415R09/ 415N09/ 415V09	<b>Semester – IV</b> Part III - Core IX - Business Communication	5	3	25	75	100	4
415B10/ 415R10/ 415N10/ 415V10	Core X - Cost Accounting	5	3	25	75	100	4
<b>415B11</b>	<b>Core XI - Banking Law and Practice</b>	<b>5</b>	<b>3</b>	<b>25</b>	<b>75</b>	<b>100</b>	<b>4</b>
415B12	Core XII-Auditing	4	3	25	75	100	4
415AB4/ 415AR4/ 415AN4	Allied IV- Statistics for Business	6	3	25	75	100	4
415NGA	Part IV – Non Major Elective Course II - General Awareness (online)	-	1	50	-	50	2
414BS2/ 415BS2	Part IV Skill Based Course II – Business Application Tools- Photo Shop	3	3	75	-	75	3
<b>415GIS</b>	<b>Information Security</b>	<b>2</b>	<b>2</b>	<b>50</b>	<b>-</b>	<b>Grade</b>	<b>Grade</b>
<b>415ALB</b>	<b>Advanced Learners Course I Subject Viva Voce</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>100</b>	<b>3*</b>
515B13/ 515RP5/ 515N13/ 515V13	<b>Semester – V</b> Part III – Core XIII- E Accounting	6	3	40	60	100	4
515B14/ 515R14/ 515N14/ 515V14	Core XIV- Income Tax	6	3	25	75	100	4
515B15/	Core XV- Business Finance	5	3	25	75	100	4

515R15/ 515N15/ 515V15							
515B16/ 515R16/ 515N16	Core XVI- Higher Corporate Accounting	5	3	25	75	100	4
515BE1	Elective I – Investment Management	5	3	25	75	100	4
514BS3/ 515BS3/ 515VS3	Part IV– Skill Based Course III – Business Data Analytics using EXCEL	3	3	75	-	75	3
615B17/ 615R17/ 615N17/ 615V17	<b>Semester – VI</b> Part III-Core XVII-Management Accounting	6	3	25	75	100	4
615B18/ 615R18/ 615N18	Core XVIII – E Commerce	6	3	25	75	100	4
615B19	Core XIX - Export Import Procedures	3	3	25	50	75	3
615BE2	Elective II – Capital Markets	6	3	25	75	100	4
615BE3/ 615RE3/ 615NE3	Elective III – Financial Services	6	3	25	75	100	4
614BS4/ 615BS4	Part IV – Skill Based Course IV – Export Import Documentation-Practicals	3	3	75	-	75	3
615ALB	Advanced Learners Course II Subject Viva Voce	-	-	-	100	100	3*
615EX1/ 615EX2/ 615EX3/ 615EX4/ 615EX5	Part V – Extension Activities	-	-	50	-	50	2
<b>Total</b>						<b>3500</b>	<b>140</b>

Starred Credits are treated as additional credits, which are optional.

**B.Com  
Semester II**

**Part III - Allied II – Business Economics 215AB1**

**(For the students admitted from the academic year 2015-2016 onwards)**

**Preamble**

**(75Hours)**

The objectives of this course are:

- To impart knowledge about business economics.
- To equip the students with the basic tools and methods of economic analysis.



## **Unit I**

Business economics: Meaning – Definition – Characteristics – Relationship with other subjects – Scope of Business Economics – Objectives of Business Economics – importance – Role and Responsibilities of Business Economist. **(15 Hours)**

## **Unit II**

Demand Function: Demand– Characteristics – Law of Demand – Demand Curve – Importance of Law of Demand– Demand Determinants – Elasticity of Demand – Price Elasticity of Demand – Income Elasticity of Demand – Cross Elasticity of Demand–Importance of Elasticity of Demand – Demand Function. **(15 Hours)**

## **Unit III**

Supply: Meaning – Law of Supply – Supply Function – Price Elasticity of Supply – Equilibrium of Demand and Supply. **(15 Hours)**

## **Unit IV**

Production – Factors of Production – Production Function – Types – Optimum Factor Combination of Factor of Production – Law of Returns to Scale - Economies of Large Scale Production – Diseconomies of Large Scale Production. **(15 Hours)**

## **Unit V**

Cost: Meaning – Cost Analysis – Kinds of Cost – Classification of Cost – Relationship between AC and MC Curves – Cost-Output Relationships – Break Even analysis. **(15 Hours)**

## **Book for Study**

Business Economics : Dr Radha, Prasana Publishers and Distributers, Chennai, Ed. 2013.

Course Designed By : Dr.M.Kalavathi

Course Reviewed By : Dr.N.Lakshmi

Checked By : Dr.K.Punithavalli

## **B.Com**

### **Semester III**

#### **Part III - Core VIII – Entrepreneurial Development 315B08**

**(For the students admitted from the academic year 2015-2016 onwards)**

**Preamble :** **(50 Hours)**

The objectives of this course are:

- To provide exposure to entrepreneurial environment.
- To guide students to setup and manage small units.

## **Unit I**

Entrepreneur: Meaning– Characteristics – skills for Entrepreneur- Functions - Types – Entrepreneurs and managers – Entrepreneur and Economic Development. **(10 Hours)**

## **Unit II**

Entrepreneurship– Entrepreneur Vs Entrepreneurship–Factors stimulating Entrepreneurship –Environment for Entrepreneurship-Factors affecting Entrepreneurship growth. **(10 Hours)**

## **Unit III**

Entrepreneurial Development Programmes- need – objectives –phases of EDP - Problems of EDP. Women Entrepreneurs –types-problems-remedial measures. **(10 Hours)**

#### **Unit IV**

Project Identification and project Appraisal (10 Hours)

#### **Unit V**

Micro Small and Medium Enterprises - Steps for starting MSME.

Institutional support to Entrepreneurs –Small Scale Industries Board-Small Industries Development Organization-Small Industries Service Institute-National Small Industries Corporation-Khadi and Village Industries Commission. (10 Hours)

#### **Book for study**

Entrepreneurship development : E. Gordon and K. Natarajan  
Himalayan Publishing House, New Delhi, Reprint 2013.

#### **Books for Reference**

Entrepreneurial development :C.B. Gupta and N.P. Srinivasan  
Sultan Chand and Sons, Delhi, Reprint 2014.

Course Designed By : Dr. R. Vanamadevi

Course Reviewed By :Dr. R. Parameswari

Checked By :Dr. K. Punithavalli

### **B.Com**

#### **Semester IV**

#### **Part III - Core XI – Banking Law and Practice 415B11**

(For the Students admitted from the academic year 2015-2016 onwards)

#### **Preamble (65 Hours)**

The objectives of this course are:

- To make the students to understand the banking system.
- To familiarize the students with the banking operations.

#### **Unit I**

Financial System - Definition -Features of Banking - Classification of Banks  
- Banking System - Banks and Economic Development.

Commercial Banks-Functions of Commercial Banks-Commercial Banks and Credit  
Creation . (13 Hours)

#### **Unit II**

Central Banking - Functions of the Central Bank- Credit Control - Methods  
of Credit Control: quantitative and qualitative.

Reserve Bank of India: functions. (13 Hours)

#### **Unit III**

Cheque: features of a Cheque- Distinction between Cheque and Bill of  
Exchange- Cheque vs. Draft-Proper Drawing of a Cheque.

Material Alteration- Effect of Material Alteration. (13 Hours)

#### **Unit IV**

Crossing-Kinds of Crossing. Endorsement-Kinds of Endorsement. Paying Banker:  
Precautions before honouring a Cheque-Circumstances for dishonour of cheque-Statutory  
Protection to a Paying Banker-Payment in Due Course-Holder in Due Course. (13 Hours)

## Unit V

Collecting Banker: Banker as a holder for value-statutory protection - Basis of Negligence-Duties of a Collecting Banker. KYC - E Banking - Importance of Technology in Banking Industry-ATM-Phone Banking-Internet Banking – RTGS – NEFT -SWIFT.  
(13 Hours)

### Book for Study:

Indian Banking : S.Natarajan and Dr. R.Parameswaran  
S.Chand & Co Ltd., New Delhi Ed 2012

Banking Theory Law : E.Gordon and K.Natarajan  
and Practice Himalaya Publishing House., Mumbai. Ed. 2014.

Course Designed By : Dr.C.Pushpalatha  
Course Reviewed By : Dr.K. Umamageswari  
Checked By : Dr.K. Punithavalli

## INFORMATION SECURITY

### B.Com.

#### Semester IV

**Advanced Learners Course I: Subject Viva Voce 415ALB**  
(For the Students admitted from the academic year 2015-2016 onwards)

A subject viva voce covering the courses of the fourth semester will be conducted and evaluated by course-in-charge and external examiner.

**B.Com/B.Com(CA)/B.Com(e-Commerce)**

#### Semester VI

**Part III - Core XVIII – E-Commerce 615B18/615R18/615N18**  
(For the Students admitted from the academic year 2015-2016 onwards)

**Preamble (75 Hours)**

The objectives of this course are:

- To impart knowledge on various facets of electronic commerce.
- To provide knowledge about applications of e-Commerce.

### Unit I

E-Commerce: Definition– E-Commerce Vs Traditional Commerce – Advantages– Factors Stressing the Need for E-Business.Evolution and Growth:– Driving Forces. (15 Hours)

### Unit II

E-Commerce : Classification– E-Commerce Frame Work - Application of E-Commerce in Various Industries:– Anatomy of E-Commerce Application.

E-Commerce: Planning and Essentials - E-Business Strategy – Essentials– E-Business Infrastructure – E-Commerce Manager.

(15 Hours)

### **Unit III**

Electronic Data Interchange: Process of EDI – EDI Components – Benefits of EDI – EDI Standards – Internet Based EDI – Value Added Networks – EDI Implementation.

Online Shopping : Advantages - Disadvantages– Advise to Online Merchants – Advise to Online Shoppers – Mercantile Process Model – Mercantile Model from the Customers Perspective – Electronic Contracts – Elements of E-Commerce Contracts.

**(15 Hours)**

### **Unit IV**

E-Payment: Benefits– Components of Electronic Systems – Electronic Fund Transfer –Electronic Payment Methods – Security Schemes in Electronic Payment Systems – Online Transaction Protocols.

**(15 Hours)**

### **Unit V**

E-Marketing and E-Advertising: Advantages– Market Segmentation-E-Marketing Mix – Marketing Strategies – E-Marketing Plan. E-Advertising – Format for Web Advertising – Intelligent Agents –E-Customer Relationship Management – Phases of E-CRM – E-CRM Work Model.

**(15Hours)**

### **Book for Study**

E-Commerce : Dr.K.Abirami Devi and Dr. M.Alagammai  
Margham Publications, Chennai, Reprint 2014.

### **Book for Reference**

E-Commerce E-Business : Dr.C.S. Rayudu  
Himalaya Publishing House, Delhi.Ed.2012  
Electronic Commerce : Bharat Bhasker  
Tata Mc Graw Hill Education Pvt Ltd., New Delhi  
Reprint 2012

Course Designed By : Dr. C.Pushpalatha

Course Reviewed By : Dr. M. Kalavathi

Checked By : Dr. K. Punithavalli

## **B.Com.**

### **Semester VI**

#### **Part III - Elective II – Capital Markets 615BE2**

**(For the Students admitted from the academic year 2015-2016 onwards)**

### **Preamble**

**(75 Hours)**

The objective of this course is

- To acquaint students with the basics knowledge on financial system and its components.

### **Unit I**

Financial System in India-Functions of the Financial System-Financial Assets-Financial Markets- Classification- Capital Market - Money market-Importance of capital market- Capital Market Vs. Money market-Financial Instruments-Characteristics. **(15 hours)**

### **Unit II**

New Issue Markets: Functions- Methods of floating new issues- steps of public issue-steps of private placement- steps involved in offer for sale- instruments of issue- Players in New Issue Market- SEBI guidelines for IPO- Characteristics of Book building. **(15 hours)**

### **Unit III**

Stock Market: Functions- Listing of securities- functions of stock brokers- kinds of brokers –. Distinction between New Issue Market and Stock market –Relationship between New Issue Market and Stock market. Methods of trading in a stock exchange- Settlement Procedure.

**(15 hours)**

### **Unit IV**

On Line Share Trading: procedure- merits-Types of orders- Types of Speculators- Speculative transactions- Stock indices of BSE and NSE.

**(15 hours)**

### **Unit V**

Depository system- process-benefits.

SEBI-Objectives – Functions –Powers.

**(15 hours)**

### **Books for Study**

Financial Markets and Services : E.Gordon and K.Natarajan  
Himalaya Publishing House,  
Mumbai. 9thEd. 2014.

### **Book for Reference**

Investment Management – Security : Preeti Singh  
Analysis and Portfolio Management Himalaya Publishing House,  
Mumbai. 18<sup>th</sup>Ed., 2013.

Personal Investment and Tax Planning : N.J.Yasaway,  
Vision Books Pvt Ltd.,  
New Delhi. 7<sup>th</sup>Ed.2010.

Security Analysis and Portfolio Management : S. Kevin PHI Learning Pvt Ltd, Delhi,  
12<sup>th</sup> Ed., 2014.

Course Designed By : Dr. N. Lakshmi

Course Reviewed By : Dr. G. Suguna

Checked By : Dr. K. Punithavalli

## **B.Com/B.Com(CA)/B.Com(e-Commerce)**

### **Semester VI**

#### **Part III- Elective III – Financial Services 615BE3/615RE3/615NE3**

**(For the Students admitted from the academic year 2015-2016 onwards)**

### **Preamble (75 Hours)**

The objective of this course is

- To enhance the employability of students in financial service sector.

### **Unit I**

Financial Services: Features –Importance- –Scope – Causes for Financial Innovations  
Financial services and promotion of industries- Innovative Financial Instruments–Challenges  
Facing Financial Service Sector. **(15 hours)**

### **Unit II**

Merchant Banking: Definition –Merchant Banks and Commercial Banks – Services of  
Merchant Banks – Qualities required for Merchant Bankers – Merchant Bankers as Lead  
Managers – Guidelines – Problem. **(15 hours)**

### **Unit III**

Venture Capital: Concept – Features – Stages of Venture Capital financing – Importance.  
Factoring: Meaning - Modus operandi – Functions – Types - Merits – Financial aspects of Factoring.

Forfeiting: Meaning - Modus operandi — Merits and Demerits- Factoring Vs. Forfeiting.

**(15 hours)**

### **Unit IV**

Mutual Funds:– Meaning – Unit Vs Share — Types of Funds – Importance of Mutual Funds – Organization of the Fund – Net Asset Value – Facilities available to Investors – Selection of a fund- Merits and demerits of investment in mutual fund.

**(15 hours)**

### **Unit V**

Credit Rating: Meaning – Functions of Credit Rating – Benefits of Credit Rating - Credit Rating Agencies in India: CRISIL – IICRA – CARE.

**(15 hours)**

### **Book for Study**

Financial Markets and Services : E.Gordon and K.Natarajan  
Himalaya Publishing House,  
Mumbai. 9th Ed. 2014.

### **Books for Reference**

- Financial Markets Institutions : Dr.S.Gurusamy,  
Tata Mc Graw Hill Education Pvt Ltd.,  
New Delhi, Ed.3 2012
- Financial Services and Markets : G.S.Batra  
Deep and Deep Publications Pvt Ltd.,  
New Delhi, Ed.2005
- Financial Services : E.Dharmaraj  
Sultan Chand and Sons,  
New Delhi. 1<sup>st</sup> Ed. 2008
- Financial Services : D.Joseph Anbarasu, V.K.Boominathan,  
P.Monaharan, G.Gnanaraj  
Sultan Chand and Sons,  
New Delhi. 2<sup>nd</sup> Ed. 2004
- Financial Markets,  
Institutions and Services : N. K. Gupta and Monika Chopra  
Ane Books India New Delhi. 2008
- Course Designed By : Dr. N. Lakshmi  
Reviewed & Checked By : Dr. K. Punithavall

## **B.Com.**

### **Semester VI**

#### **Advanced Learners Course II-Subject Viva-Voce 615ALB**

**(For the Students admitted from the academic year 2015-2016 onwards)**

A subject viva voce covering the courses of the sixth semester will be conducted and evaluated by subject in charge and an external examiner.

**Scheme of Examination – CBCS Pattern**

**Programme - M.Com**

**(For the students admitted from the academic year 2015 – 2016 onwards)**

Course Code	Course Title	Inst Hrs/ week	Exam				Credits
			Dur Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester I</b>							
15MC01	Core I - Business Environment	5	3	25	75	100	4
15MC02	Core II - Marketing Management	5	3	25	75	100	4
15MC03	Core III - Financial Management	5	3	25	75	100	4
15MC04	Core IV- Computer Applications in Business	5	3	40	60	100	4
15MC05	Core V - Entrepreneurship	5	3	25	75	100	4
15MCE1	Elective I - Managerial Economics	5	3	25	75	100	4
<b>Semester II</b>							
15MC06	Core VI – Research Methodology	5	3	25	75	100	4
15MC07	Core VII – Human Resource Management	5	3	25	75	100	4
15MC08	Core VIII - Working Capital Management	5	3	25	75	100	4
15MC09	Core IX – Computerised Accounting	5	3	40	60	100	4
15MGCS	Cyber Security	2	2	50	-	Grade	Grade
15MCIT	Institutional Training	-	-	50	-	50	2
15MCE2	Elective II - Services Marketing	5	3	25	75	100	4
15MCA1	Advanced Learners' Course – I Subject Viva-Voce	-	-	-	100	100	4*
<b>Semester III</b>							
15MC10	Core X – E Tools and Techniques for Research	5	3	40	60	100	4
15MC11	Core XI - Security Analysis and Portfolio Management	5	3	25	75	100	4
15MC12	Core XII – Applied Costing	5	3	25	75	100	4
15MC13	Core XIII - Information Technology in Business	5	3	25	75	100	4
15MCE3	Elective III - Organisational Behaviour	5	3	25	75	100	4
15MCPV/ 15MCRM	Project / Optional paper: Retail Management	- 5	- 3	- 25	- 75	- 100	- 4

	<b>Semester IV</b>						
15MC14	Core XIV – Strategic Management	5	3	25	75	100	4
15MC15	Core XV- Financial Services	5	3	25	75	100	4
15MC16	Core XVI – Advanced Corporate Accounting	5	3	25	75	100	4
15MCE4	Elective IV Export Management	5	3	25	75	100	4
15MCPV/	Project / Optional paper	-	-	100	100	200	8
15MCMII	Management Information System	5	3	25	75	100	4
	<b>Advanced Learners' Course II</b>						
15MCA2	Subject Viva Voce	-	-	-	100	100	4*
	<b>Total</b>					<b>2250</b>	<b>90</b>

\*Starred Credits are treated as additional credits which are optional.

### M.Com

#### Semester I

#### Core V –Entrepreneurship

#### 15MC05

(For the students admitted from the academic year 2015 – 2016 onwards)

#### Preamble:

(65 Hours)

The objectives of this course are:

- To give exposure to the students about entrepreneurship.
- To impart knowledge to identify the role of various institutions for developing entrepreneurship.

#### UNIT I:

Entrepreneur – characteristics-functions-Entrepreneurship- Entrepreneurship Vs Entrepreneur- Growth of Entrepreneurship in India- Theories of Entrepreneurship - Factors stimulating Entrepreneurship –factors affecting Entrepreneurship growth- qualities of Entrepreneurship - Role of Entrepreneurship in Economic Development. (13 Hours)

#### UNIT II:

Entrepreneurship Development Programme (EDP)- need for EDP-objective-phases-Institutions for Entrepreneurship Development –Problems of Entrepreneurship Development-role of the Government in Entrepreneurial growth. (13 Hours)

#### UNIT III:

Micro Small and Medium Enterprises (MSME)-Features-objectives-promotional measures-problems starting MSME.Business Idea –business idea generation techniques- Identification of business opportunities and selection – steps for setting up MSME– formulation of business plan. Growth strategies in small scale enterprises – types of growth strategies. (13 Hours)

#### UNIT IV:

Project appraisal-methods of project appraisal-general guidelines for project appraisal. Institutional Support to Entrepreneurs: Need-NSIC, SIDO, SSIB, SSID, SISI, DIC, industrial estates and TCO. (13 Hours)



**\*UNIT V:**

Intellectual Property Rights(IPR) and MSMEs: Patent: Meaning-types-process.

Copyrights: Meaning-objectives.

Trade Marks: Categories-registration of trademark- geographical indications- industrial designs- trade secrets- integrated circuits- significance of IPR.(13 Hours)

**Starred Unit is self- learning portion.**

**Books for Reference:**

1. Entrepreneurial Development : Dr.S.S. Khanka,  
S. Chand & Company PVT. Ltd.  
New Delhi, Revised Edition Edition 2012, Reprint,2013.
2. Entrepreneurial Development : Dr.C.B. Gupta & Dr. N.P. Srinivasan,  
Sultan Chand & Sons,  
New Delhi Revised Edition Edition 2013, Reprint,2014.
3. Entrepreneurship Development : E. Gordon & K. Natarajan  
Himalaya Publishing House,  
New Delhi Fourth Revised Edition 2012, Reprint 2013.
4. Entrepreneurial Development : Jayshree Suresh,  
MarghamPublications,  
Chennai, Reprint 2015

Course Designed By : Dr.S.Bhuvaneshwari

Course Reviewed By : Dr.R.Vanamadevi

Checked By : Dr.K. Punithavalli

**M.Com**

**Semester II**

**Core VIII - Working Capital Management**

**15MC08**

**(For the students admitted from the academic year 2015 – 2016 onwards)**

**Preamble:**

**(65 Hours)**

The objectives of this course are:

- To familiarize the students with the concept of working capital
- To impart knowledge about components of working capital

**Unit-I**

Working Capital Management – Concept – kinds – components – importance – aspects of working capital management – objectives of working capital management – need for working capital – Needfor adequate working capital– Working Capital Estimation.(13 Hours)

**Unit -II**

Cash Management – Motive for Holding Cash – Objectives for Cash Management – Facets of Cash Management – Factors influencing Cash Need –Cash Planning – Preparation of Cash Budget. (13Hours)

**Unit- III**

Receivables Management –Characteristics –Objectives – Cost of Receivables Management – Modes of payment - Factors influencing size of Receivables – Credit Policy – Credit Policy Variables – Monitoring accounts receivable. (13 Hours)

#### **Unit IV**

Inventory Management – Components of Inventory – Objectives of Inventory Management – Need for Balanced Investment in Inventory – Cost, Risk and Benefits of Holding Inventory - Inventory Control Techniques: EOQ, Level Setting. **(13 Hours)**

#### **\*Unit V**

Sources of Working Capital Finance – Financing of Short Term Working Capital: Trade Credit, Accruals, Deferred Income, Commercial Paper, Public Deposits, Inter-Corporate Deposit, Commercial Banks, Factoring. **(13 Hours)**

**Note: Distribution of Marks between Theory and Problem shall be 40% and 60% respectively**

**Starred Unit is self- learning portion.**

#### **Books For Reference:**

1. Financial Management : Dr. G. Sudarsana Reddy,  
Principles and Practice Himalaya Publishing House,  
Mumbai, Edition 2013.
2. Financial Management : IM Pandey, Vikas Publishing House, New Delhi,  
Edition 2013.
3. Financial Management : Khan and Jain, Tata McGraw Hill Publishing, Co., Ltd.,  
New Delhi, Edition 2006.
4. Financial Management : S.N.Maheswari, Sultan Chand and Sons,  
New Delhi, Edition 2014.

Course Designed By : Dr.C.Puspalatha  
Course Reviewed By : Dr.K.Umamageswari  
Checked By : Dr.K.Punithavalli

### **M.Com**

#### **Semester II**

**Core IX – Computerised Accounting 15MC09**

**(For the students admitted from the academic year 2015 – 2016 onwards)**

**Preamble: (65 Hours)**

The objectives of this course are:

- This course aims to expose the students on the practical applications of computer in accounting.
- To enable students to gain expertise in working with accounting package.

#### **List of Practicals**

1. Company , account category creation and alteration.
2. Creating and Display of Ledger accounts.
3. Entering financial transactions in vouchers.
4. Adjustment entries creation.
5. Altering statutory, taxation and inventory features.
6. Creation and alteration: measures of units, stock group, stock item, godown, cost centre, tax masters.
7. Display list of books, Stock Summary, Trial Balance.
8. Creation of payroll masters, pay heads, deductions and processing pay roll.

9. Display of reports: Profit & Loss a/c and Balance Sheet.

10. Display of Ratio, Fund flow and cash flow.

## **CYBER SECURITY**

### **Advanced Learners Course I15MCLI**

A subject viva voce covering the courses of second semester will be conducted and evaluated by the course-in-charge and an external examiner.

**M.Com**

**Semester III**

**Core X – E Tools and Techniques for Research – Practicals 15MC10**

**(For the students admitted from the academic year 2015 – 2016 onwards)**

**Preamble:**

**(65 Hours)**

The objectives of this course are:

- To provide knowledge of the applications of computers in research activities.
- To enlighten on the statistical tools applicable for research in business and management.

1. Preparation of a questionnaire.
2. Coding and Preparation of Master Table.
3. Measures of Central Value: Mean, Quartiles and Percentiles.
4. Measures of Variation: Range, Quartile deviation, Standard deviation, Coefficient of Variation.
5. Correlation Analysis: simple correlation, rank correlation.
6. Regression analysis.
7. Hypothesis Testing for Mean.
8. Hypothesis Testing for Variance
9. Hypothesis Testing: Chi-square test.
10. Diagrammatic and graphic representation.

Course Designed By : Dr.N.Lakshmi

Course Reviewed and Checked By : Dr.K. Punithavalli

**M.Com**

**Semester III**

**Core XII – Applied Costing**

**15MC12**

**(For the students admitted from the academic year 2015 – 2016 onwards)**

**Preamble:**

**(65 Hours)**

The objectives of this course are:

- To expose students to accounting techniques and practices.
- To familiarize students with innovations in accounting.

**UNIT I:**

Cost Management –Strategic Cost Management – Activity Based Costing –  
Target Costing – Life Cycle Costing – Value Chain Analysis. **(13 Hours)**

**UNIT II:**

Cost Volume Profit Analysis – Marginal Costing – Break Even Analysis – Applications of Marginal Costing and Cost Volume Profit Analysis – Cost Analysis for Decision Making – Differential Cost – Practical Applications of Differential Costs. **(13 Hours)**

**UNIT III:**

Standard Costing – Analysis of Variances: Material Variance – Labour Variance – Overhead Variance – Sales Variance. **(13 Hours)**

**UNIT IV:**

Budget – Budget and Budgetary Control: Preparation of sales budget – production budget – cost of production budget – flexible budget - master budget. **(13 Hours)**

**\*UNIT V:**

ERP: features - need – scope.

MRP: system inputs – outputs.

Cost Control and Cost Reduction – Productivity and Value Analysis. **(13**

**Hours)**

**Note:** Distribution of marks between theory 40% (only from I & V Module) and problems 60% respectively.

**Starred Unit is self- learning portion.**

**Books for Reference:**

Advanced Cost Accounting : S.P. Jain and K.L. Narang

Kalyani Publishers, New Delhi. Edn. 2012

Cost Management : Liming Guan, R Hansen, Maryanne. M. Mowen

Cengage Learning India Pvt Ltd, New Delhi 2013

Course Designed By : Dr.N. Lakshmi

Course Reviewed By : Dr.G. Suguna

Checked By : Dr.K. Punithavalli

**M.Com****Semester III****Core XIII – Information Technology in Business 15MC13**

**(For the students admitted from the academic year 2015 – 2016 onwards)**

**Preamble: (65 Hours)**

- To inculcate the knowledge among the students about information technology and its applications in Business.
- To expose them with the Processing and Management of computer based information.

**Unit I:**

Information technology: Characteristics- Uses- Flow of information in organisation- Categories of information.

Computer Applications in Business: Personal department, Finance department, Marketing department, Production department and Office automation. **(13 Hours)**

**Unit II:**

Data processing: Concepts-Data processing cycle- objectives-steps of data processing- practical data processing applications in business- data processing operations- database-database management system- methods of data processing-transaction processing.

Network: Meaning-types. **(13Hours)**

### **Unit III:**

E-Commerce and Internet: Meaning- Reasons for the growth- features- importance- objectives- types.

Internet: Evolution-services of internet.

Intranet: Features-services-advantages. Extranet: Uses. **(13 Hours)**

### **Unit IV:**

Computer based information system: Need. Transaction processing system: characteristics-models- advantages.

Management information system: characteristics- designing of MIS- benefits.

Decision support system: Definition- characteristics- difference between MIS and DSS- benefits of DSS. Group decision support system- Expert system: Components-Traditional vs Knowledge based expert system- development of expert system- merits. **(13 Hours)**

### **\*Unit V:**

Information Technology Act 2000: definitions-digital signature and electronic signature- electronic governance-attribution, acknowledgement and despatch of electronic records- regulation of certifying authorities- electronic signature certificates- duties of subscribers- penalties, compensation and adjudication- cyber appellate tribunal- offences.**(13 Hours)**

**Starred Unit is self- learning portion.**

### **Books for Reference:**

A TextBook of Information Technology: R. Sarvana Kumar, R.Parameswaran  
and T.Jayalakshmi.  
S.Chand & Company Ltd.  
NewDelhi, Edition 2014

Information Technology and its

Business Applications

: S.Chakraborty

Books and Allied (P) Ltd,

Kolkata, Edition 2009

Course Designed By : Dr.M.Kalavathi

Course Reviewed By : Dr.N.Lakshmi

Checked By : Dr.K. Punithavalli

## **M.Com**

### **Semester IV**

#### **Core XVI - Advanced Corporate Accounting**

**15MC16**

**(For the students admitted from the academic year 2015-2016 onwards)**

### **Preamble:**

**(65 Hours)**

The objectives of this course are:

To provide knowledge on corporate accounting.

To expose students on recent developments in corporate environment.

### **Unit I**

Issue of Shares and Debentures – Forfeiture and Re-issue of shares.

**(13Hours)**

### **Unit II**

Preparation of Final Accounts of Companies.

**(13 Hours)**

### **Unit III**

Accounts of Holding Companies [excluding cross holdings and chain holdings]: Definition – Consolidated Balance sheet – Minority interest – Cost of control – Pre- acquisition reserves and profits – post-acquisition profit. **(13 Hours)**

### **Unit IV**

Financial Statements: Definition-nature-attributes-importance- limitations. Analysis of Financial Statements: objectives-types-Techniques: Comparative and common size Financial Statement Analysis- Trend Analysis –Fund Flow Analysis – Cash Flow Analysis – Ratio Analysis – limitations of Financial Statement Analysis. **(13 Hours)**

### **Unit V**

Financial Reporting: Objectives-users of accounting information-statutory reporting and non-statutory reporting-approaches. Disclosure requirements: Directors’ report- Auditors’ report-recent trends in published accounts- interim financial reporting.

Environment Accounting: need- scope-forms- advantages- elements – mechanism.

Green Accounting:-need - benefits- limitations. **(13 Hours)**

### **Starred Unit is self- learning portion.**

Note: Distribution of marks for Theory and problem shall be 40% and 60% respectively.

#### Books for Reference:

Advanced Accountancy VOL II : S.P.Jain and K.L.Narang,  
Kalyani Publishers, New Delhi 20th Ed. 2014.

Corporate Accounting : T.S. Reddy and A. Murthy,  
Margham Publishers, Chennai. 6thEd. 2015.

Course Designed By : Dr.K.Umameswari

Course Reviewed By : Dr.R.Parameswari

Checked By : Dr.N.Lakshmi

### **Advanced Learners’ Course II**

**15MCL2**

A subject viva voce covering the courses of fourth semester will be conducted and evaluated by the course-in-charge and an external examiner.

**Scheme of Examination - CBCS**  
(For the Students admitted from the academic year 2014-2015 onwards)

Course Code	Course Title	Inst Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	TOTAL Marks	
314 BS1	Skill Based Course I – Business Application Tools- Page Maker	3	3	75	-	75	3
414BS2	Skill Based Course II – Business Application Tools- Photo Shop	3	3	75	-	75	3
514BS3	Skill Based Course III –Business Data Analytics using EXCEL	3	3	75	-	75	3
614BS4	Skill Based Course IV – Export Import Documentation	3	3	75	-	75	3

**B.Com**  
**Semester III**

**Part IV Skill Based Course I –Business Application Tools – Pagemaker**  
**314BS1/315BS1**

(For the students admitted from the academic year 2014-2015 onwards)

**List of Practical:**

(35 Hours)

1. Resize an object and modify text.
2. Design a product using drawing tool.
3. Import an image and make alignment.
4. Place graphic in page maker.
5. Design a business card.
6. Design an invitation for inauguration of an organisation.
7. Design a newsletter.
8. Design a banner for a function with pictures.
9. Design a cover page of a magazine.
10. Design an advertisement copy.

Course Designed By : Mrs.R.Suryapriya

Course Reviewed By : Mrs.R.Jayalakshi

Checked By : Dr.K.Punithavalli

**B.Com**  
**Semester IV**

**Part IV Skill Based Course II –Business Application Tools – Photoshop**  
**414BS2/415BS2**

(For the students admitted from the academic year 2014-2015 onwards)

**List of Practical:**

(35 Hours)

1. Change an image using Brush.
2. Make colour balance adjustment.

3. Make Curve adjustment on an image.
4. Basic image correction, minor retouches.
5. Apply filter to an image.
6. Create, modify and transform an image.
7. Merge two or more images.
8. Design a logo with 3D effect.
9. Create light effect on an image for web poster.
10. Animate Images.

Course Designed By : Mrs.R.Suryapriya  
 Course Reviewed By : Mrs.R.Jayalakshi  
 Checked By : Dr.K.Punithavalli

### **B.Com/BBA (CA)**

#### **Semester V**

#### **Part IV Skill Based Course III –Business Data Analytics using EXCEL**

**514BS3/515BS3/515VS3**

**(For the students admitted from the academic year 2014-2015 onwards)**

#### **List of Practicals:**

**(35 Hours)**

1. Sort data in ascending and descending order.
2. Prepare employee payroll.
3. Design Mark Sheet.
4. Prepare chart for analysing students result.
5. Summarise and present data using pivot table.
6. Calculate mean, median and standard deviation.
7. Analyse the data using correlation.
8. Analyse the data using regression.
9. Calculate Time Value of money - NPV, IRR, ROI, using FV, NPER, PMT, PV, TYPE functions.
10. Calculate interest using financial functions.

Course Designed By : Mrs.R.Suryapriya  
 Course Reviewed By : Mrs.R.Jayalakshi  
 Checked By : Dr.K.Punithavalli

### **B.Com**

#### **Semester VI**

#### **Part IV-Skill Based Course IV-Export and Import Documentation-Practicals**

**614BS4/ 615BS4**

**(For the students admitted from the academic year 2014-2015 onwards)**

#### **Preamble:**

**(35 Hours)**

To give practical exposure to the students by filling up the documents relating to export and import formalities.

1. Application form for Obtaining Importer and Exporter Code Number (IEC)
2. Application form for modification of existing IEC number.
3. Obtaining bank certificate for obtaining of IEC.



4. Application for Registration cum Membership (RCMC) Certificate.
5. Commercial invoice.
6. Packing list.
7. Mates receipt.
8. Bill of Lading.
9. Certificate of Origin.
10. Shipping bill
11. Shipment Advice
12. Guaranteed Remittance (GR) form
13. Export license.
14. Preparing bill of Entry

Course Designed By : Dr.R.Vanamadevi  
 Course Reviewed By : Dr.C.Pushpalatha  
 Checked By : Dr.K.Punithavalli

**Scheme of Examination – CBCS Pattern  
 Programme - M.Com**

**(For the students admitted from the academic year 2014 – 2015 only)**

Semester	COURSE	Inst Hrs / week	Exam				Credits
			Dur Hrs	CIA Marks	ESE Marks	Total Marks	
I	Core I- Business Environment	5	3	25	75	100	5
	Core II- Managerial Economics	5	3	25	75	100	5
	Core III- Financial Management	5	3	25	75	100	5
	Elective I - Marketing	5	3	25	75	100	3
	Management	4	3	100	-	100	3
	Diploma Paper I - Ms Office - Practicals						
II	Core IV - Research	5	3	25	75	100	5
	Methodology	5	3	25	75	100	5
	Core V- Managerial Accounting	5	3	25	75	100	5
	Core VI - Human Resource	-	-	100	-	100	3
	Management	5	3	25	75	100	3
	Institutional Training	4	3	100	-	100	3
	<b>Elective II- Retail Management</b>						
	Diploma Paper II – HTML & DHTML				100	100	4*
	<b>Advanced Learners' Course - I</b> <b>Services Marketing</b>						
Core VII – Statistical Methods	5	3	25	75	100	5	
Core VIII Security Analysis and	5	3	25	75	100	5	

III	Portfolio Management						
	Core IX- Export Management	5	3	25	75	100	5
	Elective III- Organisational Behaviour	5	3	25	75	100	3
	Project / Optional Paper: Internet & E Commerce	5	-	-	-	-	-
		5	3	25	75	100	4
	Diploma Paper III – Data Analysis using Ms Excel	4	3	100	-	100	3
IV	Core X– Strategic Management	5	3	25	75	100	5
	Core XI- Financial Services	5	3	25	75	100	5
	Elective IV Logistics Management	5	3	25	75	100	3
		5	-	100	100	200	8
	Project / Optional Paper: Management Information System	5	3	25	75	100	4
		4	3	100	-	100	3
	Diploma Paper IV - Photoshop Advanced Learners' Course II		3	-	100	100	4*
	Income Tax						

\*Starred Credits are treated as Additional Credits which are optional.

**M.Com**  
**Semester II**  
**Elective II - Retail Management** **14MCE02**  
**(For students admitted from 2014-2015 onwards)**

**Preamble:** (65 Hours)

The objectives of this course are:

- To understand the concepts in retail management
- To promote the practitioners of retail trade

**Module I**

Retailing- Characteristics - Drivers of retailing in India-Functional activities- Steps in Retail Management-Trends in retail Formats. (13 Hours)

**Module II**

Retail Location- Selecting the right location- steps: Regional Analysis- Trading area analysis - Actual Site Analysis- Features of the site – Retail location opportunities – Location and Retail strategy. (13 Hours)

**Module III**

Retail Pricing- Concept of pricing- Pricing strategies – factors affecting retail pricing strategies- Classification of potential Pricing objectives – Determining Pricing strategy and policies. (13 Hours)

**Module IV**

Retail Sales Promotion- Advertising – Types of Advertising – Selecting specific media vehicles- Sales Promotion- Objectives- Personal Selling – Process in Personal Selling. (13 Hours)

### **Module V**

Retail Customer Service - Service objectives – Customer service process – Customer service activities – customer retention – Approaches – Customer Response Management – Implementing CRM programmes – GAPS model. (13 Hours)

### **Books for Reference:**

- 1.Modern Retail Management, J.N.Jain P.P. Singh  
Principles and Techniques Regal Publications ,New Delhi, 2012
2. Retail Management in New Dimension Kuldeep Singh  
Global Vision Publishing House, 2011
3. Retailing Management,Text &Cases Swapna Pradhan  
Tata Mc-Graw Hill Publishing Company  
New Delhi, Edition 2010.

## **M.Com**

### **Semester II**

#### **Advanced Learners' Course I**

#### **Services Marketing14MCA1**

**(For students admitted from 2014-2015 and onwards)**

#### **Preamble :**

To expose the students to the dynamics of services marketing.

To develop the ability to understand the marketing practices of all major services.

#### **Module I**

Introduction – services: concept – goods and services – salient features of marketing services – concept of services marketing – need – significance of services marketing – Behavioural profile of users – Marketing Information System – emerging key services.

#### **Module II**

Marketing mix in service marketing: Introduction – concept of marketing mix – The seven Ps: Product decisions, Pricing – Strategies and Tactics, Promotion of services and placing - distribution methods for services. Additional dimension in services marketing – People, Physical Evidence and Process – Capacity planning – capacity scheduling – Internal Marketing.

#### **Module III**

Transport Marketing: concept – uses of Transport services – behavioural profile of users – marketing segmentation for transportation – marketing management of Rail Transportaion – market segmentation for Railways – significance of segmentation – formulation of marketing mix for the Indian Railways – Marketing management of Road Transportation - Marketing management of Civil Aviation – Product Planning and development – formulation of Marketing Mix for the Air Transportation – transport marketing in the Indian perspective.

## **Module IV**

Tourism Marketing : Tourism – the concept – tourism marketing – the concept – user of tourism services – behavioural profile of users – product planning and development – marketing segmentation for tourism – Marketing Information System for tourism – marketing mix for tourism – Tourism Marketing in Indian perspective.

Hotel Marketing : Hotel – concept – Hotel and its typology – Hotel marketing – concept – users of Hotel services – Market Segmentation for Hotels – behavioural profile of users – MIS for Hotels – Product planning and development – marketing mix for Hotels – Hotel marketing in Indian perspective.

## **Module V**

Personal care Marketing: The concept – users of personal care services – behavioral profile of users – marketing segmentation for the personal care organizations – MIS for the personal care organizations – formulation of Marketing mix to the personal care organization Personal care Marketing in Indian perspective.

Hospital Marketing: Introduction – types of hospitals – emerging trends in medicine – Marketing medicare – Justifications for marketing medicare – strategic thrust areas for medicine – services Marketing for Hospitals. Product planning and development.

## **Books for reference:**

Services Marketing : S.M. Jha , Himalaya Publishing house, Mumbai. Edition 2008

Services Marketing : B. Balaji, S. Chand and Co.

and Management New Delhi, Edition 2006

Services Marketing : Ravi Shankar, Anurag Jain for Excel Books,  
New Delhi, Edition 2002.

Course Designed By : K. Umamageswari

Course Reviewed By : G. Suguna

Checked By : K. Punithavalli

## **M.Com**

### **Semester III**

### **Optional Paper I - Internet and E-Commerce 14MCIE**

**(For students admitted from 2014 – 2015 only)**

## **Preamble:**

**(65 Hours)**

The objectives of this course are:

- To impart knowledge on various aspects of e-Commerce and internet
- To provide knowledge about applications of e-Commerce and internet

## **Unit I:**

E-Commerce: Meaning-Definition -Features-Need-Elements-Levels of e-commerce - e-commerce procedures-Critical factors for e-commerce success- e-commerce system-Launching an online store- Advantages and disadvantages of e-commerce.

## **Unit II:**

Electronic Data Interchange: Types of Business Data Transfer System-Definition of EDI-

Features and importance of EDI- Objectives of EDI-EDI services – Uses and applications of EDI- \*Advantages and Limitations of EDI.

**Unit III:**

Internet and World Wide Web: Meaning of Networking –Elements of network infrastructure-Software Tools-Network infrastructure installation.

Security Concepts- Risk in usage of internet-Firewalls-benefits- components-cryptography.

**Unit IV:**

E-Commerce process and payment solutions: Need for solutions –Essentials of good solutions – advantages of e-commerce solutions – Technology standards for e-commerce – e-business solutions matrix- shopping cart- types of merchant account- classifications of payment system – payment methods – processing of financial transactions .

**Unit V:**

E- Banking: Meaning- Electronic Fund Transfers- E-cheque-Steps for online banking- Advantages and disadvantages of online banking -Security of internet banking.

Mobile Computing Framework-Applications of Mobile computing- Advantages and disadvantages of mobile computing.

**Books for Reference:**

- E-Commerce E-Business : Dr.C.S. Rayudu  
Himalaya Publishing House, Delhi.Ed.2012
- E-commerce : Puja Walia Mann and Nidhi  
MJP Publishers, Chennai. Ed.2009Electronic Commerce-
- A Manager's Guide : Ravi Kalakota and Andrew B. Whinston  
Addison Wesley. Ed. 2009.

**Course Designed By :** Dr.C.Pushpalatha

**Course Reviewed By :** Dr.N.Lakshmi

**Checked By :** Dr.K.Punithavalli

**M.Com**

**Semester IV**

**Elective IV – Logistics Management**

**14MCE4**

**(For students admitted from 2014 – 2015 only)**

**Preamble:**

**(65 Hours)**

The objectives of this course are:

- To know the concepts and role of logistic management.
- To understand the importance of customer service in logistics management.

**UNIT I**

Supply Chain and Competitive performance- Marketing and Logistics Interface- work of logistics-Inventory Management policy-operating objectives of integrated logistics-barriers of internal integration. **(13 Hours)**

**UNIT II**

Principles of Logistics Information – Principles of Designing –logistics information architecture- application of information technology.

Forecasting: forecasting process - characteristics of forecast components-forecast approaches-inventory planning - type-inventory functionality-conceptual framework of inventory-inventory categorization-costs associated with an inventory - EOQ Model-ABC analysis and CVA analysis. **(13Hours)**

### **UNIT III**

Inventory management policies-Inventory control procedures - inventory planning methods - conceptual design of a combined DRP/MRP system -transportation-transport functionally and principles-principles of transportation -participants in transportation decisions-modal characteristics – intermodal operators-transport economics. **(13Hours)**

### **UNIT IV**

Materials handling and packaging-types of material handling system-packaging-containerization and material handling - warehousing-role of warehousing in logistical system-principles of warehouse design - types of warehouses-warehousing strategies-warehouse functions - logistics costing-concept of total logistics cost logistics performance evaluation - outsourcing considerations - issues of outsourcing decision. **(13 Hours)**

### **UNIT V**

Logistical organization-development of logistical organization - storehouse operations and control - objectives of stores functions-stores location and layout –storekeeping - stores accounting-integrated global logistics - basics of global logistics - global intermediaries - barriers to global logistics - cargo insurance and claims procedures-procedure and documentation. **(13 Hours)**

### **Books for Reference**

- Logistics Management : Satish C.Ailawadi  
Rakesh P. Singh  
PHI Learning Private Limited  
Delhi 2nd edition 2013
- Logistic Management : D. Ilangovan &S. Soosai John Rosario  
United publishers, Mangalore First Ed.2011
- Logistics Management : Sussna K. Miller  
Random Exports New Delhi
- Logistics Management : V. V. Sople  
Dorling Kindersley Pvt Ltd South Asia
- Logistics and supply chain : Dr. S. Rathore  
Advance Learner Press New Delhi First Ed.2013.
- Course Designed By : Dr. R.Vanamadevi
- Course Reviewed By : Dr.N.Lakshmi
- Checked By : Dr.K.Punithavalli

**M.Com**  
**Semester IV**  
**Optional Paper II -Management Information System 14MCMII**  
**(For students admitted from 2014 – 2015 only)**

**Preamble:** **(65 Hours)**

The objectives of this course are:

- To impart knowledge on the management information system.
- To know about the structure of various information systems.

**Unit I**

Management Information System: Evolution of MIS – Growth of MIS – Theories of evolution of MIS – Characteristics of MIS – Subsystems of MIS – Executive Information System – Information Resource Management – Role of MIS – Enterprise Information System. **(13 Hours)**

**Unit II**

System Concepts – Types of Systems – Structure of MIS: Organizational Function and Information Requirement – Extent of Integration of Information System – Man-Machine Interaction – Information Network. Transaction Processing System: Transaction Processing Cycle – Features of TPS – Transaction Document – Transaction Processing Modes – Functional TPS. **(13 Hours)**

**Unit III**

Decision Support Systems: Types of DSS – Characteristics of DSS – Components of DSS – DSS tools for different level of management – DSS Capabilities – Group Decision Support Systems. Expert Systems: Components of ES – Advantages of ES – Limitation of ES – Planning for MIS. **(13 Hours)**

**Unit IV**

Systems Development: Systems Development Methodologies – People involved in Systems Development – Tools for System Development – Software Development Process. Systems Analysis: Structured Systems Analysis – Systems Analysts. System Design: Input Design – Procedure Design – File Design – Database Design – Design Documentation. **(13 Hours)**

**Unit V**

Program Development: Techniques of Program Development – Modular Programming – Structured Programming – Dataflow Diagram – Data Dictionary – Decision Table – Decision Tree – Flowcharts. Systems Implementation: Steps in Systems Implementation – Factors for Successful Implementation – Causes of Implementation Failures – Project Management. **(13 Hours)**

**Book for Study**

1. Management Information System : P.Mohan

Himalaya Publishing House  
Mumbai. Edition 2007.

**Book for reference**

1. Management Information System : Amanjindal , Kalyani Publication, Edition 2012.
2. Management Information System : Rajagopalan SP, Margham Publication, Edition 2014.

**Course Designed By : Dr.M.Kalavathi**

**Course Reviewed By : Dr.N.Lakshmi**

**Checked By : Dr.K.Punithavalli**

**M.Com**

**Semester IV**

**Advanced Learners' Course II**

**Income Tax 14MCA2**

**(For students admitted from 2014 – 2015 only)**

**Preamble :**

The objectives of this course are :

- To acquaint the students with the detailed knowledge of Income tax.
- To provide practical knowledge of income tax calculation.

**Module I :**

Provisions of the Income Tax Act 1961 relating to : Previous year, assessment year, Scope of Total Income – Residential Status – Incomes which do not form part of the Total Income – Agricultural Income – Tax free Income and Incomes entitled to Rebate and Relief.

**Module II :**

Income from Salaries – Income from House Property – Income from Other Sources.

**Module III :**

Profits and Gains of Business or Profession – Capital Gains.

**Module IV :**

Aggregation of Income – Set off and Carry forward of losses.

**Module V :**

Deductions in Computation of Total Income - Computation of Total Income.

**Note :** Distribution of Marks between theory and problems will be 40% and 60% respectively.

**Books for Reference :**

Income Tax Law and Practice : V.P. Gaur and D.B. Narang,  
Kalyani Publishers, Ludhiana.

Course Designed By : K. Umamageswari

Course Reviewed By : N. Lakshmi

Checked By : K. Punithavalli



**B.Com.**

**Semester wise Distribution with scheme of Examination**

**(For the candidates admitted during the academic year 2012-2013 & onwards)**

Semester	COURSE	Credits	Duration of Exam Hrs (ESE)	Marks		TOTAL
				CIA	ES E	
I	Part I – Language - I	3	3	25	75	100
	Part II – English - I	3	3	25	75	100
	Part III - Core I- Accountancy-I	4	3	25	75	100
	Core II- Business Organisation	4	3	25	75	100
	Allied I - Computer Applications in Business	5	3	25	75	100
	Part IV – Environmental Studies	2	-	50	-	50
II	Part I– Language -II	3	3	25	75	100
	Part II – English - II	3	3	25	75	100
	Part III - Core III –Accountancy - II	4	3	25	75	100
	Core IV - Marketing	4	3	25	75	100
	Allied II – Computer Applications in Business Practical	5	3	40	60	100
	Part IV – Value Education	2	-	50	-	50
	<b>Advanced Learners' Course I</b>					
	<b>Advertisement Management</b>	<b>3*</b>	<b>3</b>	<b>-</b>	<b>100</b>	<b>100</b>
III	Part III-Core V– Principles of Management	4	3	25	75	100
	Core VI -Commercial Law	4	3	25	75	100
	Core VII-Accountancy-III	4	3	25	75	100
	Core VIII- Export Import Procedures and Documentation	3	3	25	75	100
	Allied III – Mathematics in Business	5	3	25	75	100
	Part IV – Non Major Elective	2	-	75	-	75
	<b>Skill Based Course I – Entrepreneurial Development I</b>	<b>3</b>	<b>-</b>	<b>100</b>	<b>-</b>	<b>100</b>
IV	Part III - Core IX-Business Communication	4	3	25	75	100
	Core X-Company Law	4	3	25	75	100
	Core XI-Accountancy - IV	4	3	25	75	100
	Core XII- Auditing	3	3	25	75	100
	Allied IV-Statistics for Business	5	3	25	75	100
	Part IV – General Awareness	2	-	75	-	75
	<b>Skill Based Course II– Entrepreneurial Development II</b>	<b>3</b>	<b>-</b>	<b>100</b>	<b>-</b>	<b>100</b>
	<b>Advanced Learners' Course II</b>					
<b>Principles of Insurance</b>	<b>3*</b>	<b>3</b>	<b>-</b>	<b>100</b>	<b>100</b>	

	Part V – Extension Activities	1	-	-	50	50
V	Part III – Core XIII- Cost Accounting	4	3	25	75	100
	Core XIV- Income Tax	4	3	25	75	100
	Core XV- Financial Management	4	3	25	75	100
	Subject Viva Voce	2	3	25	75	100
	Elective I – Basics of Banking	5	3	100	-	100
	Part IV – Skill Based Course III – Entrepreneurial Development Practical	3	-	100	-	100
VI	Part III-Core XVI-Management Accounting	4	3	25	75	100
	Core XVII – Accountancy –V	4	3	25	75	100
	Core XVIII - Investment Management	4	3	25	75	100
	Elective II- Banking Operations	5	3	100	-	100
	Elective III- Computerised Accounting- Tally	5	3	40	60	100
	Part IV – Skill Based Course IV- Project Advanced Learners' Course III	3	-	100	-	100
	Working Capital Management	3*	3	-	100	100

Total Credits **140**

Starred Credits are treated as additional credits.

30 percent of the syllabus in each course should be taught using LCD and OHP.

Paper to be handled by Commerce Department :

Allied III: Principles of Accountancy for B.Sc Mathematics in the III Semester.

**B.Com.**  
**Semester II**  
**Advanced Learners' Course I** **212ALB**  
**Advertisement Management**  
**(For students admitted from 2012-2013 and onwards)**

**Preamble:**

The objectives of this course are:

- To provide a foundation relating to the concepts of advertising.
- To enhance the employability of the students in the field of advertising.

**Module I:**

Advertising – Meaning – purpose – merits – attacks –Issues relating to advertising – economic, social, ethical and legal aspects of advertising.

**Module II:**

Types of advertising: Product- Service-Business-Trade-Professional-Geographic-Purpose-Institutional-corporate-Public relation-Financial-Advertising campaign development.

**Module III:**

Advertisement copy-Meaning-Salient features-preparation of a advertisement copy-Advertising appeal.

**Module IV:**

Advertising media-media decision-Types of media-Print media-Electronic media-other media.

**Module V:**

Advertising Agency-Meaning-functions of advertising agencies- Types of advertising services-creative services-support services- compensation of advertising agencies-Selection of agency.

**Books For Reference:**

An Introduction to Advertising: Chunawalla Reddy and Appannaiah,  
And Marketing Research Himalaya Publishing House, Mumbai, Edition 2005.  
Salesmanship and Advertising : C.N. Sontakki and R.G. Deshpande,  
Kalyani Publishers, New Delhi, Edition. 2000.

**Evaluation Technique:** Written Examination.

Course Designed By : K. Umamageswari  
Course Reviewed By : G. Suguna  
Checked By : K. Punithavalli

**B.Com.****Semester III****312BS1****Skill Based Course I – Entrepreneurial Development I  
(For Students admitted from 2012-2013 and onwards)**

**Preamble :** (38Hours)

The Objectives of this course are:

- To give exposure to the students to entrepreneurial culture.
- To guide the students to setup and manage small units.

**Module I:**

Entrepreneur: Meaning– Characteristics – Functions - Types – Entrepreneurs and managers – Entrepreneur and Economic Development. (8 Hours)

**Module II:**

Entrepreneurship– Characteristics – Factors stimulating Entrepreneurship –Environment for Entrepreneurship-Factors affecting Entrepreneurship growth. (8Hours)

**Module III:**

Entrepreneurial Development Programmes: Need – objectives – phases of EDP (7 Hours)

**Module IV:**

Women Entrepreneurs –types-problems-remedial measures. (8 Hours)

**Module V:**

Micro Small and Medium Enterprises(MSME) - Steps for starting Micro Small and Medium Enterprises (7 Hours)

**Book for study:**

Entrepreneurship development : E. Gordon and K. Natarajan  
Himalayan Publishing House, Delhi, Ed, 2009.

**Books for Reference:**

Entrepreneurial development : C.B. Gupta and N.P. Srinivasan  
Sultan Chand and Sons, Delhi. Edition, 2005.  
Fundamentals of entrepreneurship : Renu arora and S.K. Sood  
and small business : Kalyani Publishers, New Delhi. Edition, 2004.

Course Designed By : R. Vanamadevi  
Course Reviewed By : R. Parameswari  
Checked By : K. Punithavalli

**B.Com.**

**412BS2**

**Semester IV**

**Skill Based Course II –Entrepreneurial Development II**

**(For students admitted from 2012-2013 and onwards)**

**(38 Hours)**

**Preamble:**

The Objectives of this course are:

- To familiarize the students with the preparation of feasibility report
- To give exposure to the students about financial support

**Module I**

Project Identification : Meaning – Definition- Project classification- Project life cycle- Steps in project identification (8 hours)

**Module II**

Project Report: Contents – Importance- Guidelines in preparing a project report- Reasons for the failure of a project report (7 hours)

**Module III**

Project Appraisal: Meaning – Definition – Kinds of analysis. (7hours)

**Module IV**

Institutional Support to Entrepreneurs : SIDO- SISI-NSIC-NRDC-SIDC-TCO-DIC. (8 hours)

**Module V**

Institutional Finance to Entrepreneurs: SFC-TIIC-SIDBI- Commercial banks. (8 hours)

**Book for study:**

Entrepreneurship development : E. Gordon and K. Natarajan  
Himalayan Publishing House, Delhi, Ed 2009.

**Books for Reference:**

Entrepreneurial development : C.B. Gupta and N.P. Srinivasan  
Sultan Chand and Sons, Delhi. Ed 2005.  
Fundamentals of entrepreneurship : Renu arora and S.K. Sood  
and small business Kalyani Publishers, New Delhi. Ed 2004.

Course Designed By : R. Vanamadevi  
Course Reviewed By : R. Parameswari  
Checked By : K. Punithavalli

**B.Com.**  
**Semester IV**  
**Advanced Learners' Course II** **412ALB**  
**Principles of Insurance**  
**(For students admitted from 2012-2013 and onwards)**

**Preamble :**

The objectives of this course are:

- To provide a basic knowledge of insurance business.
- To enhance the employability of the students in insurance sector.

**Module I:**

Insurance – Definition – Functions – Nature – Principles – Kinds of Insurance – Role and Importance of Insurance – Insurance Contract – Types of Insurance Contract.

**Module II:**

Life Insurance Policies – Classification of Policies – Conventional and Non Conventional Policies – Annuities – Policy Conditions – Surrender Value – Life Insurance for the Under Privileged.

Risk – Selection of Risk – Factors Affecting Risk – Sources of Risk Information – Classes of Risk – Methods of Risk Classification – Measurement of Risk and Mortality Table – Features – Treatment of Sub-Standard Risk.

**Module III:**

Marine Insurance – Definition – Elements of Marine Insurance Contract – Kinds of Policies - Policy Conditions – Payment of Claims.

**Module IV:**

Fire Insurance – Definition – Elements of Fire Insurance Contract – Kinds of Policies - Policy Conditions – Payment of Claims.

**Module V:**

Miscellaneous Insurance – Motor Insurance – Burglary Insurance –Rural insurance - Personal Accident Insurance – Re insurance.

**Book for Study:**

Insurance Principles and Practice. : M.N. Mishra  
S.Chand and Company Ltd,  
New Delhi. Edition 2008

**Books for Reference:**

Principles and Practice of Insurance: Dr. P. Periasamy  
Himalaya Publishing House, New Delhi  
Edition 2005.

Insurance Principles and Practices : Inderjit Singh, Rakesh Katyal and SanjayArora,  
Kalyani Publishers, Chennai. Ed 2003

Course Designed By : R. Parameswari  
Course Reviewed By : N. Lakshmi  
Checked By : K. Punithavalli

**B.Com.****Semester V****Part III - Subject Viva Voce**

Preamble :

- To enable the student to take up the placement interviews

A subject viva voce is to be taken up by the candidate covering all the subjects covered in all the earlier semesters. The viva voce is to be conducted by the three internal examiners for 100 marks.

**B.Com.****Semester V 512BE1****Part III - Elective I – Basics of Banking**

(For students admitted from 2012-2013 and onwards)

**Preamble :**

The objective of this course are :

- To expose the students to the basics of banking and banking operations.

**Module I:**

Evolution of Money-Evolution of Banking-Banking in India.

**Module II:**

Overview of Banking: Definition of Banking-Roles of Banks-Banking, a Business of Trust-Banking Services and Products-Banking Channels.

**Module III:**

Types of Customers: Introduction-Modes of Operation- Individuals-Proprietorship- Partnership-Joint stock Company-Trusts, Societies, Clubs-Government bodies-others.

**Module IV:**

Banker Customer relationship: Definition of a customer-Relationship between banker and customer-Rights and obligations of Banker.

**Module V:**

Types of Deposits: Demand and Term Deposits, Two in one accounts, Recurring deposits.

**Courseware:** e learning platform offered by ICICI Bank under the title Fundamentals of Banking. An Online Practical Test offered by ICICI Bank will be completed by the students.

**Book for Reference:**

Banking Principles & Operations : M.Gopinath,  
Snow White Publishers, Mumbai, First Ed 2008.

**B.Com.****512BS3****Semester V****Part IV - Skill Based Course III – Entrepreneurial Development Practical**

The course allows students to have experiential learning through hands-on-training to meet the real-world needs and simultaneously serve as a valuable adjunct to traditional instruction provided in Skill Based Course I & II. This helps the learners to develop skills which give scope for initial self employment upon graduation. The students will be provided with practical classes in some of the micro ventures. The performance in the program would be the basis for evaluation.

**List of Practical**

Artificial Jewellery making  
Flower arrangement-Artificial  
Flower arrangement-Natural  
Sanskar Bharathi Rangoli  
Door Decoratives  
Function Plate Decorations  
Photos with 3D Effects  
Bridal Makeup

**B.Com.****Semester VI 612BE2****Part III - Elective II- Banking Operations****Preamble :**

The objective of this course is:

- To expose the students to the banking operations.

**Module I:**

Account opening: KYC and AML guidelines,KYC Policy-KYC documents-Opening Accounts of Individuals-Opening accounts of firms, companies, societies, trusts-General precaution.

**Module II:**

Account Operations: Negotiable Instruments-Payment and collection of cheques-Special Requests-Special Situations-Anti Money Laundering.

**Module III:**

Cheque Collection Services: Clearing of local cheques-National Clearing-ECS.

**Module IV:**

Payment and Remittance Services: Payorders, Drafts-Features,issue, payment, cancellation, issue of duplicate, revalidation, legal aspects-Electronic Funds transfer.

**Module V:**

Finacle: Banking Software-Introduction- Menu options- Basic transactions-cash, remittances, inquiries and account modifications.

**Courseware:** e learning platform offered by ICICI Bank under the title Fundamentals of Banking. An Online Practical Test offered by ICICI Bank will be completed by the students.

**Book for Reference:**

- Banking Principles & Operations: M.Gopinath, Snow White Publishers, Mumbai, First Ed 2008.

**B.Com.****Semester VI****Part IV - Skill Based Course IV - Project****612BS4**

(For students admitted from 2012-2013 and onwards)

A project report is to be submitted by each candidate covering any one of the entrepreneurial ventures or issues. The report carries 75 marks and viva voce carries 25 marks.

**B.Com.****Semester VI 612ALB****Advanced Learners' Course III****Working Capital Management**

(For students admitted from 2012– 2013 and onwards)

**Preamble:**

The objectives of this course are:

- To acquaint the students with the conceptual frame work of working capital.
- To provide a detailed knowledge of the components of working capital.

**Module I:**

Working capital – meaning – Need for working capital – permanent and variable working capital – Operating cycle – Determinants of working capital.



**Module II:**

Sources of Working capital – Bank finance for working capital – Trade credit – Commercial papers.

**Module III:**

Receivables Management - Credit Policy – Optimum Credit Policy – Credit procedures.

**Module IV:**

Inventory management – Need for holding inventories – Objectives of inventory management – Inventory Management Techniques.

**Module V:**

Cash management – Motives for Holding cash – Cash Planning –Forecasting and budgeting - Determining Optimum cash balance.

**Books for Reference:**

- 1. Financial Management** : I.M.Pandey  
Vikas Publishing House Pvt Ltd.,  
New Delhi, Edition 2010.
- 2. Financial Management** : Dr.S.N.Maheswari  
Sultan Chand Sons,  
New Delhi, Edition 2006.
- 3. Management Accounting** : Sharma and Shasi K Gupta  
Kalyani Publishers,  
New Delhi Edition 2009
- Course Designed By : K. Umamageswari  
Course Reviewed By : R. Parameswari  
Checked By : K. Punithavalli

## M.Com

### Semester wise Distribution with Scheme of Examination (For students admitted from 2012– 2013 and onwards)

Semester	COURSE	Duration of Exam Hrs (ESE)	Marks		Total	Credits
			CIA	ESE		
I	Core I- Business Environment	3	25	75	100	5
	Core II- Managerial Economics	3	25	75	100	5
	Core III- Financial Management	3	25	75	100	5
	Elective I- Marketing Management	3	25	75	100	4
	Diploma Course Paper I	3				2
II	Core IV –Research Methodology	3	25	75	100	5
	Core V- Managerial Accounting	3	25	75	100	5
	Core VI- MS Office- Practical	3	40	60	100	5
	Institutional Training	3	40	60	100	3
	Elective II- Organisational Behaviour	3	25	75	100	4
	Diploma Course Paper II	3				3
	Advanced Learners' Course I Services Marketing	3	-	100	100	4*
III	Core VII – Statistical Methods	3	25	75	100	5
	Core VIII Security Analysis and Portfolio Management	3	25	75	100	5
	Core IX- Export Management Project	3 -	25 -	75 -	100 -	5 -
	Elective III- Human Resource Management	3 3	25	75	100	4 2
	Diploma Course Paper III					
IV	Core X– Strategic Management	3	25	75	100	5
	Core XI- Financial Services	3	25	75	100	5
	Project	-	100	100	200	6
	Elective IV Internet & e-Commerce	3	25	75	100	4
	Diploma Course Paper IV	3				3
	Advanced Learners' Course II Direct Taxes	3	-	100	100	4*

Total Credits

**90**

\*Starred Credits are treated as additional credits

**M.Com**  
**Semester II**  
**Core V –Managerial Accounting** **12MC05**  
**(For students admitted from 2012-2013 and onwards)**

**Preamble:** **(75 Hours)**

The objectives of this course are:

- To expose students to accounting techniques and practices
- To familiarize the students with innovations in accounting.

**Module I:**

Preparation and presentation of Company Final accounts. (15 Hours)

**Module II:**

Ratio Analysis: Analysis of Liquidity, Solvency and Profitability.  
Construction of Balance Sheet. (15 Hours)

**Module III:**

Cost Volume Profit Analysis – Marginal Costing – Break Even Analysis –  
Applications of Marginal Costing and Cost Volume Profit Analysis – Cost Analysis for Decision  
Making – \*Differential Cost – Practical Applications of Differential Costs.  
(15 Hours)

**Module IV:**

Standard Costing – Analysis of Variances: Material Variance – Labour  
Variance – Overhead Variance – Sales Variance. (15 Hours)

**Module V:**

Cost Management –Strategic Cost Management – Activity Based Costing – Target Costing –  
Life Cycle Costing – Value Chain Analysis.  
- \*Cost Control and Cost Reduction – Productivity and Value Analysis. (15 Hours)

**Note:** Distribution of marks between theory 20% (only from V Module) and problems 80% respectively.

**Self Study: Starred and Underlined Portions.**

**Books for Reference:**

- Advanced Cost Accounting : S.P. Jain and K.L. Narang  
Kalyani Publishers, New Delhi.Edn.2007
- Cost Management : Liming Guan, R Hansen, Maryanne. M. Mowen  
Cengage Learning India Pvt Ltd, New Delhi 2009
- Advanced Accountancy : S.P. Jain and K.L. Narang,  
Kalyani Publishers, New Delhi, Edition 2009.
- Accountancy : S.Kr. Paul, Vol – I and Vol - II  
New Central Book Agency Pvt. Ltd., Calcutta,  
Edition 2005.

Course Designed By : N. Lakshmi  
Course Reviewed By : G. Suguna  
Checked By : K. Punithavalli

**M.Com**  
**Semester II**  
**Advanced Learners' Course I**  
**Services Marketing12MCA1**  
**(For students admitted from 2012-2013 and onwards)**

**Preamble :**

- To expose the students to the dynamics of services marketing.
- To develop the ability to understand the marketing practices of all major services.

**Module I**

Introduction – services: concept – goods and services – salient features of marketing services – concept of services marketing – need – significance of services marketing – Behavioural profile of users – Marketing Information System – emerging key services.

**Module II**

Marketing mix in service marketing: Introduction – concept of marketing mix – The seven Ps: Product decisions, Pricing – Strategies and Tactics, Promotion of services and placing - distribution methods for services. Additional dimension in services marketing – People, Physical Evidence and Process – Capacity planning – capacity scheduling – Internal Marketing.

**Module III**

Transport Marketing: concept – uses of Transport services – behavioural profile of users – marketing segmentation for transportation – marketing management of Rail Transportaion – market segmentation for Railways – significance of segmentation – formulation of marketing mix for the Indian Railways – Marketing management of Road Transportation - Marketing management of Civil Aviation – Product Planning and development – formulation of Marketing Mix for the Air Transportation – transport marketing in the Indian perspective.

**Module IV**

Tourism Marketing : Tourism – the concept – tourism marketing – the concept – user of tourism services – behavioural profile of users – product planning and development – marketing segmentation for tourism – Marketing Information System for tourism – marketing mix for tourism – Tourism Marketing in Indian perspective.

Hotel Marketing : Hotel – concept – Hotel and its typology – Hotel marketing – concept – users of Hotel services – Market Segmentation for Hotels – behavioural profile of users – MIS for Hotels – Product planning and development – marketing mix for Hotels – Hotel marketing in Indian perspective.

**Module V**

Personal care Marketing: The concept – users of personal care services – behavioral profile of users – marketing segmentation for the personal care organizations – MIS for the personal care organizations – formulation of Marketing mix to the personal care organization Personal care Marketing in Indian perspective.

Hospital Marketing: Introduction – types of hospitals – emerging trends in medicine – Marketing medicare – Justifications for marketing medicare – strategic thrust areas for medicine – services Marketing for Hospitals. Product planning and development.

**Books for reference:**

Services Marketing : S.M. Jha , Himalaya Publishing house, Mumbai. Edition 2008

Services Marketing : B. Balaji, S. Chand and Co.  
and Management New Delhi, Edition 2006

Services Marketing : Ravi Shankar, Anurag Jain for Excel Books,  
New Delhi, Edition 2002.

Course Designed By : K. Umamageswari

Course Reviewed By : G. Suguna

Checked By : K. Punithavalli

**M.Com**

**Semester IV**

**Advanced Learners' Course II Direct Taxes 11MCA2**

**(For students admitted from 2011 – 2012 onwards)**

**Preamble :**

The objectives of this course are :

- To acquaint the students with the detailed knowledge of Income tax.
- To provide practical knowledge of income tax calculation.

**Module I :**

Provisions of the Income Tax Act 1961 relating to : Previous year, assessment year, Scope of Total Income – Residential Status – Incomes which do not form part of the Total Income – Agricultural Income – Tax free Income and Incomes entitled to Rebate and Relief.

**Module II :**

Income from Salaries – Income from House Property – Income from Other Sources.

**Module III :**

Profits and Gains of Business or Profession – Capital Gains.

**Module IV :**

Aggregation of Income – Set off and Carry forward of losses.

**Module V :**

Deductions in Computation of Total Income - Computation of Total Income.

**Note :** Distribution of Marks between theory and problems will be 40% and 60% respectively.

**Books for Reference :**

Income Tax Law and Practice : V.P. Gaur and D.B. Narang,  
Kalyani Publishers, Ludhiana.

Course Designed By : K. Umamageswari

Course Reviewed By : N. Lakshmi

Checked By : K. Punithavalli

**Curriculum Design**  
**SRI GVG VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**

Affiliated to Bharathiar University  
 Department of Computer Science  
 Scheme of Examination - CBCS Pattern  
**Programme: B.Sc Computer Science**

(For the students admitted from the academic year 2017 - 2018 onwards)

Course Code	Course Title	Ins. Hrs/ Week	Examination				Credits
			Dur Hrs	CIA Marks	ESE Marks	Total Marks	
117BT1/ 117MY1/ 117HD1/ 117FR1	<b>Semester I</b> Part I - Language I	6	3	25	75	100	4
117EN1	Part II - English I	6	3	25	75	100	4
117S01	Part III: Core I - C Programming	3	3	25	75	100	4
117S02	Core II - Computer Fundamentals and Digital Logic	3	3	25	50	75	3
117SP1	Core Practical I- C Programming	4	3	40	60	100	4
117AS1	Allied I - Basic Mathematics and Statistics	6	3	25	75	100	4
117EVS	Part IV: Environmental Studies	2	2	50	-	50	2
217BT2/ 217MY2/ 217HD2/ 217FR2	<b>Semester II</b> Part I - Language II	6	3	25	75	100	4
217EN2	Part II - English II	6	3	25	75	100	4
217S03	Part III: Core III - C++ Programming	3	3	25	75	100	4
217S04	Core IV - Data Structures	3	3	25	50	75	3
217SP2	Core Practical II - C++ Programming	4	3	40	60	100	4
217AS2	Allied II -Discrete Mathematics	6	3	25	75	100	4
217VEC	Part IV: Value Education	2	2	50	-	50	2

	<b>Semester III</b>						
	Part III:						
317S05	Core V - Operating System	5	3	25	50	75	3
317S06	Core VI - Visual Programming	4	3	25	50	75	3
317S07	Core VII - Relational Database Management System	5	3	25	75	100	4
317SP3	Core Practical III - Visual Programming and RDBMS	5	3	40	60	100	4
317AS3	Allied III - Operations Research	6	3	25	75	100	4
	Part IV:						
317NDT	Non Major Elective - Desktop Publishing	2	2	50	-	50	2
317SS1	Skill Enhancement Course I: Web Technology - Web Development	3	3	75	-	75	3
	<b>Semester IV</b>						
	Part III:						
417S08	Core VIII - Java Programming	4	3	25	75	100	4
417S09	Core IX - Computer Graphics with Multimedia	5	3	25	50	75	3
417S10	Core X - Software Engineering	5	3	25	50	75	3
417SP4	Core Practical IV - Java Programming and Computer Graphics	5	3	40	60	100	4
417AS4	Allied IV - Principles of Accountancy	6	3	25	75	100	4
	Part IV:						
417NGA	General Awareness	-	1	50	-	50	2
417SS2	Skill Enhancement Course II: Web Technology - Web Graphics	3	3	75	-	75	3
417GIS	Information Security	2	2	50	-	Grade	Grade
417ALS	Advanced Learners Course I - Client Server Technologies	-	3	-	100	100	4*

	<b>Semester V</b>						
	Part III:						
517S11	Core XI - Computer Networks	6	3	25	75	100	4
517S12	Core XII - PHP with MySQL	5	3	25	50	75	3
517S13	Core XIII - Cloud Computing	5	3	25	50	75	3
517SP5	Core Practical V - PHP with MySQL	5	3	40	60	100	4
517KE1/	Elective I :Information Storage and Management/						
517GE1	Compiler Design	6	3	25	75	100	4
	Part IV:						
517SS3	Skill Enhancement Course III: Web Technology - Web Animation	3	3	75	-	75	3
	<b>Semester VI</b>						
	Part III:						
617S14	Core XIV - Data Mining	5	3	25	50	75	3
617S15	Core XV - Linux and Shell Programming	5	3	25	50	75	3
617SP6	Core Practical VI - Linux and Shell Programming	5	3	40	60	100	4
617KE2/	Elective II: Basics of IoT/						
617SE2	Mobile Computing	6	3	25	75	100	4
617SPV	Project & Viva Voce	6	3	25	75	100	4
	Part IV :						
617SS4	Skill Enhancement Course IV: Web Technology - JavaScript Programming	3	3	75	-	75	3
617EX1/ 617EX2/ 617EX3/ 617EX4/ 617EX5	Part V: Extension Activity	-	-	50	-	50	2
617ALS	Advanced Learners Course II - Web Services	-	3	-	100	100	4*
<b>TOTAL</b>						<b>3500</b>	<b>140</b>

➤ Single starred credits are treated as additional credits which are optional.



**Curriculum Design**  
**SRI GVG VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**  
 Affiliated to Bharathiar University  
 Department of Computer Science  
 Scheme of Examination - CBCS Pattern  
**Programme: B.Sc Computer Science**  
 (For the students admitted from the academic year 2015 - 2016 onwards)

Course Code	Course Title	Ins. Hrs/ Week	Examination				Credits
			Dur Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester I</b>							
115BT1/ 115MY1/ 115HD1/ 115FR1 115EN1	Part I - Language I	6	3	25	75	100	4
115S01	Part II - English I Part III: Core I - Fundamentals of Computers and C Programming	6	3	25	75	100	4
115SP1	Core Practical I - Office Automation Tools and C Programming	5	3	40	60	100	4
115AS1	Allied I - Basic Mathematics	6	3	25	75	100	4
115EVS	Part IV: Environmental Studies	2	2	50	-	50	2
<b>Semester II</b>							
215BT2/ 215MY2/ 215HD2/ 215FR2 215EN2	Part I - Language II	6	3	25	75	100	4
215S02	Part II - English II Part III: Core II - Object Oriented Programming with C++	6	3	25	75	100	4
215SP2	Core Practical II- Object Oriented Programming with C++	5	3	40	60	100	4
215AS2	Allied II - Discrete Mathematics	6	3	25	75	100	4
215VEC	Part IV: Value Education	2	2	50	-	50	2

	<b>Semester III</b>						
	Part III:						
315S03	Core III - Visual Basic	4	3	25	75	100	4
315S04	Core IV - Relational Database Management System	5	3	25	75	100	4
315S05	Core V - Data Structures	5	3	25	75	100	4
315SP3	Core Practical III - Visual Basic and RDBMS Programming	5	3	40	60	100	4
315AS3	Allied III - Operations Research	6	3	25	75	100	4
	Part IV:						
315SS1	Skill Based Course I - Web Designing	3	3	75	-	75	3
315NDT	Non Major Elective Course I - Desktop Publishing	2	2	50	-	50	2
	<b>Semester IV</b>						
	Part III:						
415S06	Core VI - Java Programming	4	3	25	75	100	4
415S07	Core VII - Computer Graphics	5	3	25	75	100	4
415S08	Core VIII - Operating Systems	5	3	25	75	100	4
415SP4	Core Practical IV - Java Programming and Computer Graphics	5	3	40	60	100	4
415AS4	Allied IV - Principles of Accountancy	6	3	25	75	100	4
	Part IV:						
415SS2	Skill Based Course II - Image Designing and Graphics Tools	3	3	75	-	75	3
415NGA	Non Major Elective Course II - General Awareness(Online)	-	1	50	-	50	2
415GIS	Information Security	2	2	50	-	Grade	Grade
415ALS	Advanced Learners Course I - Grid Computing	-	-	-	100	100	4*

	<b>Semester V</b>						
	Part III:						
515S09	Core IX - .NET Technologies	5	3	25	75	100	4
515S10	Core X - Data Communication and Networks	6	3	25	75	100	4
515S11	Core XI - Software Engineering	5	3	25	50	75	3
515SP5	Core Practical V- .NET Technologies	6	3	25	75	100	4
515SE1	Elective I- Principles of Compiler Design	5	3	40	60	100	4
515SS3	Part IV: Skill Based Course III - Image Editor	3	3	75	-	75	3
	<b>Semester VI</b>						
	Part III:						
615S12	Core XII - Microprocessor	5	3	25	75	100	4
615S13	Core XIII - Web Services	5	3	25	50	75	3
615S14	Core XIV - Network Security and Administration	5	3	25	75	100	4
615SE2	Elective II - Multimedia	6	3	25	75	100	4
615SPV	Project & Viva Voce	6	3	25	75	100	4
615SS4	Part IV : Skill Based Course IV- Animation	3	3	75	-	75	3
615EX1/ 615EX2/ 615EX3/ 615EX4/ 615EX5	Part V: Extension	-	-	50	-	50	2
615ALS	Advanced Learners Course II - Mobile Computing	-	-	-	100	100	4*
<b>TOTAL</b>						<b>3500</b>	<b>140</b>

➤ Single starred credits are treated as additional credits which are optional.

**Curriculum Design**  
**SRI GVG VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**  
 Affiliated to Bharathiar University  
 Department of Computer Science  
 Scheme of Examination - CBCS Pattern  
**Programme: B.Sc Computer Science**  
 (For the students admitted during the academic year 2014 - 2015 only)

Semester	Courses	Duration of Exams (ESE)	Marks		Total	Credits
			CIA	ESE		
<b>I</b>	Part I - Language I	3	25	75	3	100
	Part II - English I	3	25	75	3	100
	Part III: Core I - Fundamentals of Computers and C Programming	3	25	75	4	100
	Core Practical I - Office Automation Tools and C Programming	3	40	60	2	100
	Allied I - Basic Mathematics	3	25	75	5	100
	Part IV: Environmental Studies	3	50	-	2	50
	<b>II</b>	Part I - Language II	3	25	75	3
Part II - English II		3	25	75	3	100
Part III: Core II - Object Oriented Programming with C++		3	25	75	4	100
Core Practical II- Object Oriented Programming with C++		3	40	60	3	100
Allied II - Discrete Mathematics		3	25	75	5	100
Part IV: Value Education		3	50	-	2	50
Advanced Learner's Course I - Management Information Systems		3	-	100	3*	100
<b>III</b>	Part III: Core III - Visual Basic	3	25	75	4	100
	Core IV - Relational Database Management Systems	3	25	75	4	100
	Core V - Data Structures	3	25	75	4	100
	Core Practical III - Visual Basic and RDBMS Programming	3	40	60	3	100
	Allied III - Operations Research	3	25	75	5	100
	Part IV: Skill Based Course I - HTML, DHTML & Dreamweaver	3	100	-	3	100
	Non Major Elective	3	75	-	2	75

<b>IV</b>	Part III: Core VI - Java Programming Core VII - Computer Graphics Core VIII - Operating Systems Core Practical IV - Java Programming & Computer Graphics Allied IV - Principles of Accountancy Part IV: Skill Based Course II - PageMaker and CorelDraw General Awareness Part V: Extension Advanced Learner's Course II - Grid Computing	3 3 3 3 3 3 3 - 3	25 25 25 40 25 100 75 50 -	75 75 75 60 75 - - 100	4 4 5 3 5 3 2 1 3*	100 100 100 100 100 100 75 50 100
<b>V</b>	Part III: Core IX - .NET Technologies Core X - Data Communication and Networks Core XI - Software Engineering Core Practical V- .NET Technologies Elective I- Principles of Compiler Design Part IV: Skill Based Course III - Image Editor	3 3 3 3 3 3	25 25 25 40 25 100	75 75 75 60 75 -	4 5 4 3 5 3	100 100 100 100 100 100
<b>VI</b>	Part III: Core XII - Microprocessor Core XIII - Web Services Core XIV- Network Security and Administration Elective II - Multimedia Project & Viva Voce Part IV : Skill Based Course IV - Animation Advanced Learner's Course III - Mobile Computing	3 3 3 3 3 3 3	25 25 25 25 25 100 -	75 75 75 75 75 - 100	4 4 4 5 5 3 3*	100 100 100 100 100 100 100
	<b>TOTAL</b>				<b>140</b>	<b>3700</b>

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 Scheme of Examination - CBCS Pattern  
**Programme: M.Sc Computer Science**  
 (For the students admitted from the academic year 2017 - 2018 onwards)

Course Code	Course	Ins. Hrs/Week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester I</b>							
17MS01	Core I - Advanced Java Programming	5	3	25	75	100	4
17MS02	Core II - Object Oriented Analysis and Design with UML	5	3	25	75	100	4
17MS03	Core III - Data Mining and Warehousing	5	3	25	75	100	4
17MS04	Core IV - Software Project Management	5	3	25	75	100	4
17MSP1	Core Practical I - Advanced Java Programming	4	3	40	60	100	4
17MSE1/ 17MSE2	Elective I- Enterprise Resource Planning/ Parallel Processing	6	3	25	75	100	4
<b>Semester II</b>							
17MS05	Core V - Python Programming	4	3	25	75	100	4
17MS06	Core VI - Software Testing	4	3	25	75	100	4
17MS07	Core VII- Internet of Things	5	3	25	75	100	4
17MS08	Core VIII - Design and Analysis of Algorithms	4	3	25	75	100	4
17MSP2	Core Practical II - Python Programming	3	3	40	60	100	4
17MSP3	Core Practical III - Software Testing	2	3	40	60	100	4
17MSE3/ 17MSE4	Elective II Embedded Systems/ Network Security and Cryptography	6	3	25	75	100	4
17MGCS	Cyber Security	2	2	50	-	Grade	Grade
17MSA1	Advanced Learners Course I - Nano Computing	-	3	-	100	100	4*

	<b>Semester III</b>						
17MS09	Core IX -Wireless Communication	5	3	25	75	100	4
17MS10	Core X - Digital Image Processing	5	3	25	75	100	4
17MS11	Core XI - Android Programming	4	3	25	75	100	4
17MS12	Core XII - Big Data Analytics	5	3	25	75	100	4
17MSP4	Core Practical IV - Digital Image Processing	3	3	40	60	100	4
<b>17MSP5</b>	<b>Core Practical V - Android Programming</b>	2	3	40	60	100	4
17MSE5/ <b>17MSE6</b>	Elective III Soft Computing/ <b>Data Compression</b>	6	3	25	75	100	4
	<b>Semester IV</b>						
17MSPV <b>17MSA2</b>	Project and Viva - Voce <b>Advanced Learners Course II - Wireless Sensor Networks</b>	-	-	100	150	250	10
		-	3	-	100	100	4*
<b>Total Credits</b>						<b>2250</b>	<b>90</b>

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 (For the students admitted from the academic year 2015 - 2016 onwards)

Course Code	Course	Ins. Hrs/ Week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
	<b>Semester I</b>						
15MS01	Core I - Advanced JAVA	5	3	25	75	100	4
15MS02	Core II - Object Oriented Analysis & Design with UML	4	3	25	75	100	4
15MS03	Core III - Distributed Systems and Components	5	3	25	75	100	4
15MS04	Core IV - PHP with MySQL	5	3	25	75	100	4
15MSE1	Elective I - Human Resource Management	6	3	25	75	100	4
15MSP1	Core Practical I - Advanced Java Programming and PHP	5	3	40	60	100	4
	<b>Semester II</b>						
15MS05	Core V - Parallel Processing	5	3	25	75	100	4
15MS06	Core VI - Python Programming	5	3	25	75	100	4
15MS07	Core VII- Data Mining and Data Warehousing	5	3	25	75	100	4
15MS08	Core VIII - Software Testing	4	3	25	75	100	4
15MSE2	Elective II - Design and Analysis of Algorithms	5	3	25	75	100	4
15MSP2	Core Practical II - Python Programming	4	3	40	60	100	4
15MGCS	Cyber Security	2	2	50	-	Grade	Grade
15MSA1	Advanced Learners Course I - Nano Computing	-	-	-	100	100	4*



	<b>Semester III</b>						
15MS09	Core IX - Image Processing	6	3	25	75	100	4
15MS10	Core X - Open Source Technologies	5	3	25	75	100	4
15MS11	Core XI -Wireless Communication	4	3	25	75	100	4
15MS12	Core XII - Cloud Computing	5	3	25	75	100	4
15MSE3	Elective III - Embedded Systems	6	3	25	75	100	4
15MSP3	Core Practical III - Digital Image Processing and Open Source Technologies	4	3	40	60	100	4
	<b>Semester IV</b>						
<b>15MS13</b>	<b>Core XIII - Software Project Management</b>	5	3	25	75	100	4
15MSE4	Elective IV - Neural Networks and Fuzzy Logic	6	3	25	75	100	4
15MSPV	Project and Viva - Voce	-	-	100	150	250	10
<b>15MSA2</b>	<b>Advanced Learners Course II - Unix</b>	-	-	-	100	100	4*
<b>Total Credits</b>						<b>2250</b>	<b>90</b>

- Single Starred Credits are treated as additional credits which are optional

**M.Sc. Computer Science**  
**Semester wise distribution with Scheme of Examination**  
**(For the Candidates admitted during the academic year 2014-2015 & Onwards)**

Semester	Courses	Credits	Duration of Exam(ESE)	Marks		Total
				CIA	ESE	
I	Core I – J2EE	5	3	25	75	100
	Core II- Object Oriented Analysis and Design with UML	5	3	25	75	100
	Core III – Soft Computing	5	3	25	75	100
	Elective I – Distributed Systems and Components	3	3	25	75	100
	Elective II –Human Resource Management	3	3	25	75	100
	Core Practical I: J2EE	4	3	40	60	100
	II	Core IV – Parallel Processing	5	3	25	75
Core V – DB2		5	3	25	75	100
Core VI - Data mining and Data Warehousing		5	3	25	75	100
Core VII – Software Testing		5	3	25	75	100
Elective III – Design and Analysis of Algorithms		3	3	25	75	100
Core Practical II: Software Testing		3	3	40	60	100
Advanced Learners I – Nano Computing		4*	3	-	100	100
III	Core VIII – Image Processing	5	3	25	75	100
	Core IX – Open Source Technologies	5	3	25	75	100
	Core X – Network Security	5	3	25	75	100
	Core XI – Wireless Communication	5	3	25	75	100
	Elective IV – Embedded Systems	3	3	25	75	100
	Core Practical III- Digital Image Processing Using MATLAB	4	3	40	60	100
	Core Practical IV – Open Source Technologies	4	3	40	60	100
IV	Project and Viva-voce	8	3	100	200	300
	Advanced Learners II – Cloud Computing	4*	3	-	100	100

Total Credits

90

**Curriculum Design**  
**SRI G.V.G VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**  
 Affiliated to Bharathiar University  
 Department of Computer Science  
 Scheme of Examination - CBCS Pattern  
**Programme: Post Graduate Diploma in Computer Applications**  
 (For the students admitted from the academic year 2017 - 2018 onwards)

Course Code	Course Title	Ins. Hrs/ Week	Examination				Credits
			Dur Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester I</b>							
17PD01	Core I - Digital Fundamentals and Computer Architecture	3	3	25	75	100	4
17PD02	Core II - C Programming	3	3	25	75	100	4
17PD03	Core III - Operating System	3	3	25	75	100	4
17PD04	Core IV - Web Designing	3	3	25	75	100	4
17PDPI	Core Practical I - C Programming and Web Designing	3	3	40	60	100	4
<b>Semester II</b>							
17PD05	Core V - Visual Programming	3	3	25	75	100	4
17PD06	Core VI - Database Management Systems	3	3	25	75	100	4
17PD07	Core VII - Software Engineering	3	3	25	75	100	4
17PD08	Core VIII – Data Structures	3	3	25	75	100	4
17PDP2	Core Practical II – Visual Programming and Database Management Systems.	3	3	40	60	100	4
<b>TOTAL</b>						<b>1000</b>	<b>40</b>

## Curriculum Design

SRI G.V.G VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)

Affiliated to Bharathiar University

Department of Computer Science

Scheme of Examination - CBCS Pattern

**Programme: Post Graduate Diploma in Computer Applications**

(For the students admitted from the academic year 2016 - 2017 onwards)

Course Code	Course Title	Ins. Hrs/ Week	Examination				Credits
			Dur Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester I</b>							
16PD01	Core I - Digital Logic and Computer Architecture	3	3	25	75	100	4
16PD02	Core II - Office Automation and Web Designing	3	3	25	75	100	4
16PD03	Core III - Operating System	3	3	25	75	100	4
16PD04	Core IV - C Programming	3	3	25	75	100	4
16PDP1	Core Practical I - Office Automation Tools, HTML and C Programming	3	3	40	60	100	4
<b>Semester II</b>							
16PD05	Core V - Visual Programming	3	3	25	75	100	4
16PD06	Core VI - Database Management Systems	3	3	25	75	100	4
16PD07	Core VII - Software Engineering and Testing	3	3	25	75	100	4
16PD08	Core VIII - Computer Networks	3	3	25	75	100	4
16PDP2	Core Practical II - Database Management Systems and Visual Programming	3	3	40	60	100	4
<b>TOTAL</b>						<b>1000</b>	<b>40</b>

**POST GRADUATE DIPLOMA IN COMPUTER APPLICATIONS (PGDCA)**  
**Semester wise Distribution with Scheme of Examination**  
**(For the Candidates admitted during the academic year 2013-2014 & Onwards)**

Semester	Subject	Credits	Instruction Hours	Duration of Exams (ESE)	Marks		Total
					CIA	ESE	
<b>I</b>	Core I – Introduction to Information Technology	4	6	3	25	75	100
	Core II - Office Automation Tools	4	6	3	25	75	100
	Core III – C Programming	4	6	3	25	75	100
	Core IV – Digital Fundamentals and Computer Architecture	4	6	3	25	75	100
	Core Practical I - C Programming & Office Automation Tools	4	6	3	40	60	100
<b>II</b>	Core V - Visual Basic	4	6	3	25	75	100
	Core VI - Oracle	4	6	3	25	75	100
	Core VII – Software Testing	4	6	3	25	75	100
	Core VIII – Information Security	4	6	3	25	75	100
	Core Practical II – Visual Basic with Oracle and Software Testing	4	6	3	40	60	100

## Curriculum Design

SRI G.V.G VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)

Affiliated to Bharathiyar University

Department of Computer Applications

Scheme of Examination-CBCS Pattern

Programme: B.C.A

(For the students admitted from the academic year 2017-2018 onwards)

Course Code	Course Title	Ins. Hrs/ week	Examination				Credits
			Dur Hrs	CIA Marks	ESE Marks	Total Marks	
117BT1/ 117MY1/ 117HD1/ 117FR1 117EN1 117K01 117KP1 117AK1 117EVS	<b>Semester I</b>						
	<b>Part I:</b> Language-I	6	3	25	75	100	4
	<b>Part II:</b> English I	6	3	25	75	100	4
	<b>Part III</b>						
	Core I – Programming in C with Data Structure	5	3	25	75	100	4
	Core Practical I – Programming in C with Data Structure	5	3	40	60	100	4
	Allied I – Basic Mathematics and Statistics	6	3	25	75	100	4
	<b>Part IV:</b> Environmental Studies	2	2	50	-	50	2
217BT2/ 217MY2/ 217HD2/ 217FR2 217EN2 217K02 217K03 217KP2 217AK2 217VEC	<b>Semester II</b>						
	<b>Part I:</b> Language - II	6	3	25	75	100	4
	<b>Part II:</b> English II	6	3	25	75	100	4
	<b>Part III</b>						
	Core II – Object Oriented Programming	3	3	25	75	100	4
	Core III – Digital Fundamentals and Computer Architecture	3	3	25	50	75	3
	Core Practical II – Object Oriented Programming	4	3	40	60	100	4
	Allied II – Discrete Mathematics	6	3	25	75	100	4
<b>Part IV:</b> Value Education	2	2	50	-	50	2	

	<b>Semester III</b>						
	<b>Part III</b>						
317K04	Core IV– Programming in Java	4	3	25	75	100	4
317K05	Core V – Computer Graphics and Multimedia	5	3	25	50	75	3
317K06	Core VI – Principles of Operating System	5	3	25	50	75	3
317KP3	Core Practical III– Programming in Java	5	3	40	60	100	4
317AK3	Allied III–Operations Research	6	3	25	75	100	4
	<b>Part IV</b>						
317NFM	Non Major Elective: Basics of Internet	2	2	50	-	50	2
317KS1	Skill Enhancement Course I : Interactive Media – Surfing Techniques	3	3	75	-	75	3
	<b>Semester IV</b>						
	<b>Part III</b>						
417K07	Core VII – Visual Programming	4	3	25	75	100	4
417K08	Core VIII –Relational Database Management System	4	3	25	75	100	4
417K09	Core IX– Software Engineering and Testing	5	3	25	50	75	3
417KP4	Core Practical IV– Visual Programming and RDBMS	6	3	40	60	100	4
417AK4	Allied IV –Principles of Accountancy	6	3	25	75	100	4
	<b>Part IV</b>						
417NGA	General Awareness	-	1	50	-	50	2
417KS2	Skill Enhancement Course II : Interactive Media - Web Designing	3	3	75	-	75	3
417GIS	Information Security	2	2	50	-	Grade	Grade
417ALK	Advanced Learners Course I – Cloud Computing	-	3	-	100	100	4*
	<b>Semester V</b>						
	<b>Part III</b>						
517K10	Core X – VB.Net	5	3	25	75	100	4
517K11	Core XI – Data Communication Network	5	3	25	75	100	4
517K12	Core XII – Data Mining and Warehousing	5	3	25	50	75	3
517KP5	Core Practical V – VB.Net	6	3	40	60	100	4
517KE1 /517GE1	Elective I : Information Storage and Management / Compiler Design	6	3	25	75	100	4
	<b>Part IV</b>						
517KS3	Skill Enhancement Course III : Interactive Media - Animation Techniques	3	3	75	-	75	3

<b>Semester VI</b>							
<b>Part III</b>							
617K13	Core XIII – ASP.Net	4	3	25	75	100	4
617K14	Core XIV – Programming in PHP	5	3	25	50	75	3
617KP6	Core Practical VI - ASP.Net and PHP	6	3	40	60	100	4
Elective II:							
617KE2	Basics of IoT	6	3	25	75	100	4
/ 617SE2	/ Mobile Computing						
617KPV	Project and Viva Voce	6	3	25	75	100	4
<b>Part IV:</b>							
617KS4	Skill Enhancement Course IV : Interactive Media - Multimedia Systems	3	3	75	-	75	3
<b>Part V:</b>							
617EX1/ 617EX2/ 617EX3/ 617EX4/ 617EX5	Extension Activity	-	-	50	-	50	2
617ALK	Advanced Learners Course II - Big Data Analytics with R and Hadoop	-	3	-	100	100	4*

Total

3500

140

- Starred Credits are treated as additional credits, which are optional.



**Bachelor of Computer Applications**  
**Semester IV**  
**Advanced Learners Course I - Cloud Computing** **417ALK**  
**(For the students admitted from the academic year 2017 - 2018 onwards)**

**Objectives**

- To identify the various technological drivers of cloud computing
- To familiarize with the latest developments in each of these enabling technologies
- To understand how each of these technological components contributes to the success of cloud computing.

**Unit I**

Introduction to Cloud Computing: Cloud Computing in a Nutshell – Roots of Cloud Computing – Layers and Types of Clouds – Desired Features of a Cloud – Cloud Infrastructure Management –Infrastructure as a Service Providers - Platform as a Service Providers – Challenges and Risks.

**Unit II**

Migrating into a Cloud: Introduction – Broad Approaches to Migrating into the Cloud – The Seven-Step Model of Migration into a Cloud – Conclusions. The Enterprise Cloud Computing Paradigm: Introduction - Background – Issues for Enterprise Applications on the Cloud – Transition Challenges - Enterprise Cloud Technology and Market Evolution – Business Drivers Toward a Market place for Enterprise Cloud Computing – The Cloud Supply Chain.

**Unit III**

On the Management of Virtual Machines for Cloud Infrastructures: The Anatomy of Cloud Infrastructures – Distributed Management of Virtual Infrastructure – Scheduling Techniques for Advance Reservation of Capacity – Capacity Management to meet SLA Commitments – Conclusions and Future Work. Enhancing Cloud Computing Environments Using a Cluster as a Service: Introduction- Related work – Cluster as a Service: The Logical Design – Proof of Concept. Secure Distributed Data Storage in Cloud Computing: Introduction – Cloud Storage: from LANs to WANs – Technologies for Data Security in Cloud Computing.

**Unit IV**

An Architecture for Federated Cloud Computing: Introduction – The Basic Principles of Cloud Computing – A model for Federated Cloud Computing – Security Considerations.SLA Management in Cloud Computing: A Service Provider’s Perspective: Inspiration – Types of SLA – Life Cycle of SLA – SLA Management in Cloud. Data Security in the cloud: An Introduction to the idea of Data Security – The current state of Data Security in the cloud – Homo Sapiens and Digital Information – Cloud Computing and Identity – The cloud, Digital, Identity and Data security.

**Unit V**

Best Practices in Architecting Cloud Applications in the AWS Cloud – Introduction – Cloud Concepts – Cloud Best Practices – Future Research Directions. Legal Issues in Cloud Computing: Introduction – Data Privacy and Security Issues – Cloud Contracting models – Commercial and Business Considerations–A Cloud User’s Viewpoint. Achieving Production Readiness for Cloud Services: Introduction – Service Management – Producer-Consumer Relationship – Cloud Service Life Cycle – Assessing Production Readiness

**Books for Study**

Rajkumar Buyya, James Broberg, Andrzej Goscinski “Cloud Computing: Principles and Paradigms” Wiley Publication, Reprint 2013.

**Books for References**

1. Barrie Sisinsky, “Cloud Computing Bible”, Wiley India Pvt. Ltd., First Edition, 2013.

2. David Crookes, “Cloud Computing in Easy Steps”, Tata McGraw Hill Publishing Company Ltd., 2012.

**Course Outcomes:**

**Upon successful completion, Students will be able to**

<b>CO</b>	<b>Description</b>
<b>CO1</b>	Familiar with basic concepts of cloud computing and its types.
<b>CO2</b>	Acquire the core issues of cloud computing such as security, privacy, and interoperability.
<b>CO3</b>	Analyze the benefits of cloud computing storage and data security.
<b>CO4</b>	Examine the appropriate cloud computing solutions and applications used.
<b>CO5</b>	Understand the data privacy factors used in business applications.

**Mapping of Course Outcomes with Programme Outcomes**

	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>KnowledgeLevel</b>
<b>CO1</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>L</b>	<b>K</b>
<b>CO2</b>	<b>H</b>	<b>M</b>	<b>H</b>	<b>M</b>	<b>M</b>	<b>U</b>
<b>CO3</b>	<b>H</b>	<b>M</b>	<b>H</b>	<b>M</b>	<b>M</b>	<b>U</b>
<b>CO4</b>	<b>H</b>	<b>H</b>	<b>M</b>	<b>M</b>	<b>H</b>	<b>U</b>
<b>CO5</b>	<b>M</b>	<b>M</b>	<b>H</b>	<b>M</b>	<b>M</b>	<b>U</b>

## Curriculum Design

SRI G.V.G VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)

Affiliated to Bharathiyar University

Department of Computer Applications

Scheme of Examination-CBCS Pattern

Programme : B.C.A

(For the students admitted from the academic year 2015-2016 onwards)

Course Code	Course Title	Ins. Hrs/ week	Examination				Credits
			Dur Hrs	CIA Marks	ESE Marks	Total Marks	
115BT1/ 115MY1/ 115HD1/ 115FR1 115EN1 115K01 115KP1 115AK1 115EVS	<b>Semester I</b>						
	<b>Part I:</b> Language-I	6	3	25	75	100	4
	<b>Part II:</b> English I	6	3	25	75	100	4
	<b>Part III</b>						
	Core I – Programming in C with Data Structure	5	3	25	75	100	4
	Core Practical I – Programming in C with Data Structure	5	3	40	60	100	4
	Allied I–Basic Mathematics	6	3	25	75	100	4
	<b>Part IV:</b> Environmental Studies	2	2	50	-	50	2
215BT2/ 215MY2/ 215HD2/ 215FR2 215EN2 215K02 215K03 215KP2 215AK2 215VEC	<b>Semester II</b>						
	<b>Part I:</b> Language - II	6	3	25	75	100	4
	<b>Part II:</b> English II	6	3	25	75	100	4
	<b>Part III</b>						
	Core II – Programming in C++	3	3	25	75	100	4
	Core III – Digital Fundamentals and Computer Architecture	3	3	25	50	75	3
	Core Practical II – Programming in C++	4	3	40	60	100	4
	Allied II – Discrete Mathematics	6	3	25	75	100	4
<b>Part IV:</b> Value Education	2	2	50	-	50	2	
315K04 315K05 315K06 315KP3 315AK3 315KS1	<b>Semester III</b>						
	<b>Part III</b>						
	Core IV– Programming in Java	4	3	25	75	100	4
	Core V – Operating System	5	3	25	50	75	3
	Core VI – Computer Graphics and Multimedia	5	3	25	50	75	3
	Core Practical III– Programming in Java	5	3	40	60	100	4
	Allied III–Operations Research	6	3	25	75	100	4
<b>Part IV</b>							
<b>Skill Based Course I : Interactive</b>	3	3	75	-	75	3	

315NFM	Media - Working Principles of Internet Non Major Elective Course I : Front Office Management	2	2	50	-	50	2
<b>Semester IV</b>							
<b>Part III</b>							
415K07	Core VII – Visual Basic	4	3	25	75	100	4
415K08	Core VIII –Relational Database Management System	4	3	25	75	100	4
415K09	Core IX– Software Engineering	5	3	25	50	75	3
415KP4	Core Practical IV– Visual Basic and RDBMS	6	3	40	60	100	4
415AK4	Allied IV –Accounting for Management	6	3	25	75	100	4
<b>Part IV</b>							
415KS2	Skill Based Course II : Interactive Media - Web Designing	3	3	75	-	75	3
415NGA	Non Major Elective Course II : General Awareness (Online)	-	1	50	-	50	2
415GIS	Information Security	2	2	50	-	Grade	Grade
415ALK	Advanced Learners Course I – Cloud Computing	-	3	-	100	100	4*
<b>Semester V</b>							
<b>Part III</b>							
515K10	Core X – VB.Net	5	3	25	75	100	4
515K11	Core XI – Computer Networks	5	3	25	75	100	4
515K12	Core XII – Enterprise Resource Planning	5	3	25	50	75	3
515KP5	Core Practical V – VB.Net	6	3	40	60	100	4
515KE1	Elective I – Data Mining	6	3	25	75	100	4
<b>Part IV</b>							
515KS3	Skill Based Course III : Interactive Media - Animation Techniques	3	3	75	-	75	3
<b>Semester VI</b>							
<b>Part III</b>							
615K13	Core XIII – ASP.Net	5	3	25	75	100	4
615K14	Core XIV - Client/Server Technology	5	3	25	50	75	3
615KP6	Core Practical VI - ASP.Net	5	3	40	60	100	4
615KE2	Elective II - Information Storage and Management	6	3	25	75	100	4
615KPV	Project and Viva Voce	6	3	25	75	100	4
<b>Part IV: Skill Based Course IV :</b> Interactive Media - Multimedia Systems		3	3	75	-	75	3

615EX1/ 615EX2/ 615EX3/ 615EX4/ 615EX5	<b>Part V: Extension</b>	-	-	50	-	50	2
615ALK	<b>Advanced Learners Course II - Big Data Analytics with R and Hadoop</b>	-	3	25	75	100	4*
<b>Total</b>						<b>3500</b>	<b>140</b>

- Starred Credits are treated as additional credits, which are optional.

**Bachelor of Computer Applications  
Semester III**

**Part IV - Skill Based Course I: Interactive Media - Working Principles of Internet      315KS1**  
(For the students admitted from the academic year 2015 - 2016 onwards)

**Total Hours: 38**

**List of Programs**

1. Create an email-id and
  - a) Compose a mail.
  - b) With or without attaching a document.
2. Send a mail to a large number of recipients using cc and bcc options.
3. Forward a mail and to reply for a mail.
4. Download the attached document of a mail received.
5. Browse using a search engine.
6. Open and read newspaper sites, TV program schedules using the Internet.
7. Verify a University and College details by opening their websites.
8. Upload your resume with any one job portal.
9. Purchase any products in Online.
10. Book a ticket in any one travel / IRCTC.
11. To Register and study any course in Online Educational website.
12. To store a documents using google drive.

**II UG Course  
Semester III**

**Part IV – Non Major Elective Course I: Front Office Management      315NFM**  
(For the students admitted from the academic year 2015 - 2016 onwards)

**Total Hours: 25**

**List of Programs**

**Word Processor**

1. Prepare a Timetable.
2. Create a document and perform
  - i. Aligning and Use Bulleting
  - ii. Add Page Numbers, Date and Time

- iii. Find and Replace
- iv. Change case
- v. Insert header and footer
- 3. Prepare a Resume.
- 4. Using the concept of Mail Merge
  - i) Blood donation Camp
  - ii) Seminar Organisation
- 5. Prepare an Advertisement for Clean India.

#### **Spreadsheet**

- 6. Prepare a mark list for 5 subjects for a class and consolidate by using the formula:  
Sum, Average, Max, Min, Count.
- 7. Create Employee details using Sort and Filter.
- 8. Prepare Student Information.

#### **Presentation**

- 9. Prepare Power point slides regarding Sports Day (Use Hyperlink)
- 10. Prepare slides using Custom Animation.

#### **Internet**

- 11. Create an E-Mail Account and Send a mail by attaching files.
- 12. Store and Surf the documents in Google drive.

### **Bachelor of Computer Applications Semester IV**

**Part IV - Skill Based Course II: Interactive Media – Web Designing      415KS2**  
**(For the students admitted from the academic year 2015 - 2016 onwards)**

**Total Hours: 38**

#### **List of Programs**

- 1. Design a web page which displays text in physical & logical styles.
- 2. Create a web page with external and internal links.
- 3. Design a timetable using HTML tags.
- 4. Design a web page for hospital.
- 5. Create a web page with links between two frames.
- 6. Write a HTML program using image and list tags.
- 7. Create a web page in DHTML using Cascading Style Sheets (use all attributes).
- 8. Design a web page in DHTML using class in external style sheets.
- 9. Creating a JavaScript, which checks the contents entered in a form's Text element. If the text entered is in lower case, convert to upper case.
- 10. Creating a web page, which accepts user information and user comments on the web site to check if all the Text fields have being entered with data else display an alert.

### **Bachelor of Computer Applications Semester IV**

**Advanced Learners Course I-Cloud Computing      415ALK**  
**(For the students admitted from the academic year 2015 - 2016 onwards)**

#### **Preamble**

- To identify the various technological drivers of cloud computing
- To familiarize with the latest developments in each of these enabling technologies
- To understand how each of these technological components contributes to the success of cloud computing.

## **Unit I**

Introduction to Cloud Computing: Cloud Computing in a Nutshell – Roots of Cloud Computing – Layers and Types of Clouds – Desired Features of a Cloud – Cloud Infrastructure Management – Infrastructure as a Service Providers - Platform as a Service Providers – Challenges and Risks.

## **Unit II**

Migrating into a Cloud: Introduction – Broad Approaches to Migrating into the Cloud – The Seven-Step Model of Migration into a Cloud – Conclusions. The Enterprise Cloud Computing Paradigm: Introduction - Background – Issues for Enterprise Applications on the Cloud – Transition Challenges - Enterprise Cloud Technology and Market Evolution – Business Drivers Toward a Market place for Enterprise Cloud Computing – The Cloud Supply Chain.

## **Unit III**

On the Management of Virtual Machines for Cloud Infrastructures: The Anatomy of Cloud Infrastructures – Distributed Management of Virtual Infrastructure – Scheduling Techniques for Advance Reservation of Capacity – Capacity Management to meet SLA Commitments – Conclusions and Future Work. Enhancing Cloud Computing Environments Using a Cluster as a Service: Introduction- Related work – Cluster as a Service: The Logical Design – Proof of Concept. Secure Distributed Data Storage in Cloud Computing: Introduction – Cloud Storage: from LANs to WANs – Technologies for Data Security in Cloud Computing.

## **Unit IV**

An Architecture for Federated Cloud Computing: Introduction – The Basic Principles of Cloud Computing – A model for Federated Cloud Computing – Security Considerations.SLA Management in Cloud Computing: A Service Provider’s Perspective: Inspiration – Types of SLA – Life Cycle of SLA – SLA Management in Cloud. Data Security in the cloud: An Introduction to the idea of Data Security – The current state of Data Security in the cloud – Homo Sapiens and Digital Information – Cloud Computing and Identity – The cloud, Digital, Identity and Data security.

## **Unit V**

Best Practices in Architecting Cloud Applications in the AWS Cloud – Introduction – Cloud Concepts – Cloud Best Practices – Future Research Directions. Legal Issues in Cloud Computing: Introduction – Data Privacy and Security Issues – Cloud Contracting models – Commercial and Business Considerations–A Cloud User’s Viewpoint. Achieving Production Readiness for Cloud Services: Introduction – Service Management – Producer-Consumer Relationship – Cloud Service Life Cycle – Assessing Production Readiness

## **Books for Study**

Rajkumar Buyya, James Broberg, Andrzej Goscinski “Cloud Computing: Principles and Paradigms” Wiley Publication 2011, Reprint 2013.

## **Bachelor of Computer Applications**

### **Semester V**

### **Part IV - Skill Based Course III: Interactive Media – Animation Techniques 515KS3**

**(For the students admitted from the academic year 2015 - 2016 onwards)**

**Total Hours: 38**

## **List of Programs**

1. Draw a butterfly using Oval tool, Circle tool and Pencil tool.
2. Create a shape with Pencil tool (Using Straight smooth and free form lines).
3. Draw a Pentagon using Vector Graphics Method.
4. Create a Drop Shadow effect with depth.
5. i) Create a text along a curved path.

- ii) Draw a 3D ring.
- 6. Create a 3D Tunnel
- 7. Draw a picture in multiple frame using Onion Skin Effect.
- 8. Create a animated button with a gradient in the upstate and a text over it.
- 9. Create folders in the library with names, eyes, heads, mouth and nose. Create symbols with different types of eyes, head etc., and store in the corresponding folders. Using those symbols assemble different types of Faces.
- 10. Using multiple motion tweening effect, draw a pendulum.

## **Bachelor of Computer Applications**

### **Semester VI**

#### **Part III - Elective II- Information Storage and Management 615KE2** (For the students admitted from the academic year 2015 - 2016 onwards)

**Total Hours: 75**

#### **Preamble**

- To improve the knowledge in Storage and Management of Corporate Information.
- Provides an overview of virtualization.

#### **Unit I**

**[15 Hrs]**

Introduction to Information Storage and Management: Information Storage – Evolution of Storage Technology and Architecture – Data Center Infrastructure. Data Center Environment: Storage - Disk Drive Components – Disk Drive Performance – Host Access to Data – Storage Design Based on Application Requirements and Disk Performance.

#### **Unit II**

**[15 Hrs]**

Data Protection: RAID: RAID Implementation Methods – RAID Array Components – RAID Levels – RAID Comparison. Intelligent Storage System: Components of an Intelligent Storage System – Types of Intelligent Storage Systems.

#### **Unit III**

**[15 Hrs]**

Fiber Channel Storage Area Networks: Fiber Channel: Overview – The SAN and Its Evolution – Components of SAN – FC Connectivity – Switched Fabric Ports – Fiber Channel Architecture – FC SAN Topologies.

#### **Unit IV**

**[15 Hrs]**

Network-Attached Storage: General-Purpose Servers vs. NAS Devices – Benefits of NAS – File Systems and Network File Sharing – Components of NAS – NAS File-Sharing Protocols – Factors Affecting NAS Performance. Object-Based and Unified Storage: Content-Addressed Storage.

#### **Unit V**

**[15 Hrs]**

Securing the Storage Infrastructure: Information Security Framework – Risk Triad – Storage Security Domains – Security Implementations in Storage Networking.

#### **Book for Study**

Wiley, “Information Storage and Management”, EMC Education Services, Second Edition.

## **Bachelor of Computer Applications**

### **Semester VI**

#### **Part IV - Skill Based Course IV: Interactive Media –Multimedia Systems 615KS4** (For the students admitted from the academic year 2015 - 2016 onwards)

**Total Hours: 38**

#### **List of Programs**

##### **Desktop Publishing**

1. Create a Program using Drawing Tools



2. Create a logo using Corel Draw.
3. Create an invitation for College day.

### **Image Editing**

4. Create a GIF transparency.
5. Design a 3D text.
6. Use the heal brush and make changes in an image.
7. Build a glow effect with stroke path.
8. Merge two or more layers with different effects.
9. Create type masking.
10. Build a filter based GIF animation.

## **Bachelor of Computer Applications**

### **Semester VI**

#### **Advanced Learners Course II - Big Data Analytics with R and Hadoop 615ALK**

**(For the students admitted from the academic year 2015 - 2016 onwards)**

### **Preamble**

- To gain the analytical knowledge using Big Data.

### **Unit I**

Getting Ready to Use R and Hadoop: Understanding the features of R language – Installing Hadoop – Understanding Hadoop features.

### **Unit II**

Writing Hadoop MapReduce Programs: Understanding the basics of MapReduce – Introducing Hadoop MapReduce – Understanding the Hadoop MapReduce fundamentals – Learning the different ways to write Hadoop MapReduce in R.

### **Unit III**

Integrating R and Hadoop: Introducing RHIPE: Environment variables – Understanding the architecture of RHIPE – Understanding the RHIPE samples – Understanding the RHIPE function reference – Introducing RHadoop: Understanding the architecture of RHadoop – Understanding the RHadoop examples – Understanding the RHadoop function reference.

### **Unit IV**

Learning Data Analytics with R and Hadoop: Understanding the data analytics project life cycle – Understanding data analytics problems.

### **Unit V**

Importing and Exporting Data from Various DBs: Learning about data files as database – Understanding MySQL – Understanding Excel.

### **Book for Study:**

Vignesh Prajapati, “Big Data Analytics with R and Hadoop”, PACKT Publishing, 2013.

**Department of Computer Applications**  
**(For Candidates admitted during the academic year 2012 – 2013 and onwards)**  
**Semester wise Distribution with Scheme of Examinations**

Sem	Courses	Credits	ESE Exam Duration	Marks		Total
				CIA	ESE	
<b>I</b>	Part I – Language I	3	3	25	75	100
	Part II – English I	3	3	25	75	100
	Part III: Core I – Programming in C	4	3	25	75	100
	Core Practical I – Programming in C	2	3	40	60	100
	Allied I – Basic Mathematics	5	3	25	75	100
	Part IV: Environmental Studies	2	-	50	-	50
<b>II</b>	Part I – Language II	3	3	25	75	100
	Part II – English II	3	3	25	75	100
	Part III: Core II – Digital Fundamentals & Computer Architecture	4	3	25	75	100
	Core III – Object Oriented Programming with C++	4	3	25	75	100
	Core Practical II – Object Oriented Programming with C++	2	3	40	60	100
	Allied II – Discrete Mathematics	5	3	25	75	100
	Part IV: Value Education	2	-	50	-	50
	Advanced Learners Course I – Software Industry Domains	3*	3	-	100	100
<b>III</b>	Part III: Core IV – Programming in Java	4	3	25	75	100
	Core V – Fundamentals of Data Structures	4	3	25	75	100
	Core VI – Operating System & its concepts	4	3	25	75	100
	Core Practical III – Programming in Java	2	3	40	60	100
	Allied III – Operations Research	5	3	25	75	100
	Part IV: Skill Based Course: I – HTML, DHTML & Dream Weaver	3	3	100	-	100
	Non Major Elective	2	-	75	-	75
<b>IV</b>	Part III: Core VII – Visual Basic	4	3	25	75	100

	Core VIII – RDBMS and Oracle	5	3	25	75	100
	Core IX – Software Engineering and Testing	4	3	25	75	100
	Core Practical IV – Visual Basic and RDBMS	2	3	40	60	100
	Allied IV – Financial and Management Accounting	5	3	25	75	100
	Part IV: Skill Based Course: II – Page maker and CorelDraw	3	3	100	-	100
	General Awareness	2	-	75	-	75
	<b>Advanced Learners Course II – Distributed Operating System</b>	3*	3	-	100	100
	Part V: Extension	1	-	50	-	50
<b>V</b>	Part III: Core X - .Net Programming	4	3	25	75	100
	Core XI – Computer Networks	5	3	25	75	100
	Core XII – Computer Graphics and Multimedia	4	3	25	75	100
	Core Practical V-.Net Programming and XML	2	3	40	60	100
	Elective I – WAP & XML	5	3	25	75	100
	Part IV: Skill Based Course: III – Photoshop	3	-	100	-	100
<b>VI</b>	Part III: Core XIII – Data Mining	4	3	25	75	100
	Core XIV – Mobile Computing	4	3	25	75	100
	Core XV – Cyber Security	4	3	25	75	100
	Elective II–Enterprise Resource Planning	5	3	25	75	100
	Project and Viva voce	5	3	25	75	100
	Part IV: Skill Based Course: IV-Flash	3	-	100	-	100
	<b>Advanced Learners Course III – Client/Server Technology</b>	3*	3	-	100	100
<b>Total Credits</b>		<b>140</b>				

Starred credits are treated as additional credits.

30% of the syllabus in each course should be taught using OHP, LCD & Seminars.

**Note:** Underlined portions are for Self Study.

**Bachelor of Computer Applications**  
**(For Candidates admitted from 2012 - 2013 Batch Only)**  
**Semester II**

**Part IV – Advanced Learners Course I – Software Industry Domains 212ALK**

**Preamble**

To make the students familiarize with

- Real time applications in banks and the operations of banks.
- Basic strategies of Insurance and some applications related to that.
- Core concepts of Textile industry & Computer Integrated manufacturing.

**Module I**

Computerization in Banking – Need – Account related functions – ATM Banking – Internet Banking – Security and controls in computerized Banking.

**Module II**

Banking – BFS Standards- Commercial Banking Software Application – Iflex.

**Module III**

Application in Insurance – Underwriting, Claims and Transactions.

**Module IV**

Computer in Textiles – Fabric Design – Woven Knitted and Embroidery – Texture mapping – Shop Floor Applications for production, Maintenance and Quality Control.

**Module V**

Computer Integrated Manufacturing – Order processing, Machinery Planning, Manufacturing-Quality Integration, MIS reporting, Online Monitoring in Spinning and Weaving.

**Book for study:**

Study Materials prepared by the Staff Members of Computer Applications.

**Bachelor of Computer Applications**  
**(For Candidates admitted from 2012 - 2013 Batch Only)**  
**Semester IV**

**Part IV - Advanced Learners Course II-Distributed Operating System 412ALK**

**Preamble:**

- To get a comprehensive knowledge of the architecture of distributed systems.
- To understand the deadlock and shared memory issues and their solutions in distributed environment.
- To know the security issues and Protection mechanisms for distributed environment.

**Module I**

Fundamentals – What is distributed computing system? – Evolution of distributed computing system – distributed computing system models – Why are distributed computing system gaining popularity? – What is distributed operating system? - Issues in a designing a distributed operating system – introduction to distributed computing environment (DCE).

**Module II**

Message passing – introduction – desirable features of a good message- passing systems-issues in IPC by message passing- synchronization-buffering –multi datagram messages – encoding and decoding of message data- process addressing-failure handling.

Remote procedure calls-introduction-the RPC model-transparency of RPC –implementing RPC mechanisms – Stub generation- RPC message-marshalling arguments and results-server management-parameter-passing semantics-call semantics-communication protocol for RPCs.

### **Module III**

Distributed Shared memory –Introduction-general architecture of a DSM systems – design and implementation issues of DSM – granularity-structure of shared memory space-consistency models-replacement strategy-Thrashing-synchronization-introduction-clock synchronization-event ordering – mutual exclusion-deadlock-election algorithm.

### **Module IV**

Resource management-introduction-desirable features of a good global scheduling algorithm-task assignment approach-load-balancing approach-load –sharing approach-process management-introduction-process migration-threads.

### **Module V**

Distributed File systems – introduction -des desirable features of a good distributed file system-file models-file accessing models-file –sharing semantics-file-caching semantics-file replication-fault tolerance-atomic transaction-naming-introduction- desirable features of a good naming system-fundamental technologies and concepts-system-oriented names-object-locating mechanisms.

### **Book for study:**

1. Pradeep K.Sinha “Distributed Operating System Concepts and Design”, Prentice Hall India(P) Ltd,New Delhi 2004.

## **Bachelor of Computer Applications (For Candidates admitted from 2012 - 2013 Batch Only)**

### **Semester VI**

#### **Part IV – Advanced Learners Course III –Client/Server Technology**

**612ALK**

### **Preamble**

- Students will put their programming skills to use in constructing a complete end-to-end information.
- To enhance students understanding of systems that is connected with a network with concentration on the roll of both server and a client.
- This paper gives exposure to students to improve important technologies and Components.

### **Module I**

Welcome to Client / Server Computing: The Internet and Intranets-What is Client/Server? – Will the Real Client/Server Please Stand Up? - Fat Servers or Fat Clients? - 2 Tire versus 3 Tire-Client / Server Building Blocks: Client/Server A One Size Fits All Model-Inside the Building Blocks- Road to Bandwidth Heaven: Bridges Routers and Gateways. Client/Servers and Operating System: The Anatomy of a Server Program-What Does a Server Need from an OS?-Server scalability-Client Anatomy 101.

### **Module II**

The OS Wars: Meet the players: Client OS Trends-Client OS: Meet the Players-Server OS Trends-Server OS: Meet the Players - SQL Database Servers: What does a db Server Do?-SQL Database Server Architecture-Stored Procedures, Triggers and Rules.

### **Module III**

SQL Middleware and Federated Databases: Open SQL Gateways - Data Warehouses: Information Where you want it: What is OLTP?-What is Decision Support System? - What is an Executive Information System?-The Data Warehouse: What’s a Data Warehouse? - The Elements of Data Ware housing. Client/Server Transaction Processing: The Magic of Transactions-The Acid properties-The Transaction Models.

#### **Module IV**

Client/Server Groupware: What is Groupware?-The Components of Groupware – Client/Server with Distributed Objects: Distributed Objects and Components- CORBA: From ORBs to Business Objects: CORBA Object Services-CORBA Business Objects: The Anatomy of a CORBA Business Objects.

#### **Module V**

Client/Server and the Internet: Web Client/Server: The Hypertext Era: What exactly is a URL? – HTTP-Web Client/Server Interactive Era: 3 Tier Client/Server Web Style-CGI: The Server Side of the Web: A CGI Scenario CGI and State-Web Security.

Web Client/Server: The Distributed Object Era-Java meets CORBA: Java Clients and CORBA ORBs-The DCOM/OLE Object Web –The CORBA Object Web.

#### **Book for Study:**

1. Robert Orfali, Dan Harkey and Jeri Edwards, “The Essential Client/Server Survival Guide”, Galgotia Publication Pvt.Ltd, Second Edition, 2005.

**Curriculum Design**  
**SRI GVG VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**  
**Affiliated to Bharathiar University**  
**Department of Business Administration (Computer Application)**  
**BBA (CA)**  
**Scheme of Examination – CBCS Pattern**  
**(For the students admitted from the academic year 2017-18 onwards)**

Course Code	Course Title	Ins. Hrs/ Week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
117BT1/ 117MY1/ 117HD1/ 117FR1	<b>Semester I</b> Part I-Language I	6	3	25	75	100	4
117EN1	Part II- English I	6	3	25	75	100	4
117V01	<b>Part III</b> <b>Core I - Principles Management</b>	5	3	25	75	100	4
117V02	<b>Core II- Managerial Skills</b>	5	3	25	50	75	3
117AV1	Allied I - Office Automation Tools- Practical	6	3	40	60	100	4
117EVS	Part IV-Environmental Studies	2	2	50	--	50	2
217BT2	<b>Semester II</b> Part I-Language II	6	3	25	75	100	4
217EN2	Part II- English II	6	3	25	75	100	4
217V03	Part III Core III - Programming in C	3	3	25	50	75	3
217VP1	Core Practical I- Programming in C	2	3	20	30	50	2
217 B04/ 217R04/ 217V04	Core IV- Principles of Marketing	5	3	25	75	100	4
217AV2	Allied II –Principles of Accountancy	6	3	25	75	100	4

217VEC	Part IV-Value Education	2	2	50	--	50	2
317V05	<b>Semester III</b> Part III Core V- Business Organisation and Production Management	5	3	25	50	75	3
317 B06/ 317V06	Core VI– Commercial Law	5	3	25	75	100	4
317V07	Core VII- Programming in C++	3	3	25	50	75	3
317VP2	Core Practical II- Programming in C++	2	3	20	30	50	2
317V08	Core VIII – Human Resource Management	4	3	25	50	75	3
317AV3	Allied III- Business Environment	6	3	25	75	100	4
317NAD	Part IV-Non Major Elective - Principles of Advertising	2	2	50	--	50	3
317VS1	Skill Enhancement Course I-Principles of Banking	3	3	75	--	75	3
417V09	<b>Semester IV</b> Part III Core IX – Cost and Management Accounting	6	3	25	75	100	4
417V10	Core X– Organizational Behaviour	4	3	25	75	100	3
417V11	Core XI- Visual Programming	3	3	25	50	75	3
417VP3	Core Practical III- Visual Programming	2	3	20	30	50	2
417V12	Core XII - Advertising and Marketing Research	4	3	25	50	75	3
417AV4	Allied IV – Mathematical Techniques	6	3	25	75	100	4



417NGA	Part IV General Awareness	--	1	50	--	50	2
417VS2	Skill Enhancement Course II-Basic Banking Operations	3	3	75	--	75	3
417GIS	Information Security	2	2	50	--	Grade	Grade
417ALV	Advanced Learners Course I- Management thoughts in Thirukkural	--	3	--	100	100	4*

**\*Starred credits are to be treated as additional credits which are optional**

**2017-18**

BBA (CA)

SEMESTER – I

**Part III - Core I–Principles of Management**

**117V01**

**(For the students admitted from the academic year 2017-2018 onwards)**

**Course Objectives**

**(65 Hours)**

- To gain knowledge on concepts and principles of management.
- To gain knowledge on functions of management.
- To obtain the knowledge on new developments in management.

**Unit I**

Management: Characteristics - Functions - Importance - Difference between Management and Administration - Levels of management - Principles of Management - Scientific Management. (13 Hours)

**Unit II**

Planning: Characteristics - Importance - Steps in Planning - Methods of Planning- Types of plan – Limitations - Management by Objectives (MBO).

Decision making: Characteristics - Decision making process - Principles of Decision making - Types of Decision. (13 Hours)

**Unit III**

Organisation: Nature and importance - Functions - Principles of Organisation – Formal and Informal organization – Types of Organisation - Span of management. (13 Hours)

**Unit IV**

Delegation of authority: Process – Principles - Advantages and disadvantages - Decentralisation: Factors - \*Difference between delegation and decentralisation\* - Merits and demerits. Staffing: Functions - Process. Direction: Characteristics – Principles - \*Characteristics of good order\* - Techniques of direction. (13 Hours)

## Unit V

Co-ordination: Need and Importance – Principles – Techniques – Types - Problems.

Controlling: Steps in Control Process – Requirements of effective control system -  
Techniques of Control. (13 Hours)

**Note:** starred and underlined portions are for self study

Book for Study		
Author	Title	Publisher, Place of Publication, Edition, Year of Publication
T. Ramasamy	Principles of Management	Himalaya Publishing House, New Delhi. 6 <sup>th</sup> Ed 2014

Books for Reference		
Author	Title	Publisher, Place of Publication, Edition, Year of Publication
C.D.Balaji	Business Organisation and Management	Margham Publications, Chennai, Reprint 2015
B.P.Singh, T.N.Chhabra	Business Organisation and Management	Dhantpat Rai & Co (P) Ltd, 5 <sup>th</sup> Revised edition, 2004

## BBA (CA)

### SEMESTER – I

#### Part III – Core II – Managerial Skills

117V02

(For the students admitted from the academic year 2017-18 onwards)

#### Course Objectives

(65 Hours)

- To develop communication competence in prospective executives.
- To inculcate critical thinking process.
- To prepare the students on facing changes and challenges.

#### Unit I

Managing Self: Introduction – Genders and self – Importance – Process – SWOT Analysis. Self Esteem – Factors – High self-esteem - Low self-esteem - Ways to improve self-esteem. Managing Time: The 80:20 rule – Secrets of time management - \*Time management tips\*. (13 Hours)

#### Unit II

Interpersonal skills: Introduction – Stages – Transactional analysis - Ways to improve – Johari Window – Life Positions – Characteristics. Boss-subordinate Relationship: Introduction – Steps in building relationship. (13 Hours)

### Unit III

Strategic thinking: Stages – Scope – Importance – Characteristics of strategic thinkers.  
Lateral thinking: Introduction – uses – Needs – Benefits – Techniques.

(13 Hours)

### Unit IV

Facing changes: Adapting and understanding change – changes related to people, organisation and system – change and business development – Principles of change management – Models. Facing challenges: Introduction – Benefits – facing challenges in life.

(13 Hours)

### Unit V

Developing human network: Introduction – Relationship building – benefits – guidelines – Effective networking. Balancing work and life: Introduction – Importance - \*Tips for balancing work and life\*- Elements. (13 Hours)

**Note:** starred and underlined portions are for self study.

### Book for Study

Author	Title	Publisher, Place of Publication, Edition, Year of Publication
Dr.K.Alex	Managerial Skills	S.Chand & Co, 2016 Edition

### Book for Reference

Author	Title	Publisher, Place of Publication, Edition, Year of Publication
VSP.Rao	Management text and cases	Excel books, 2 <sup>nd</sup> edition,2010

BBA (CA)

SEMESTER – III

**Part III – Core V – Business Organisation and Production Management 317V05**

**(For the students admitted from the academic year 2017-18 onwards)**

**Course Objectives:**

**(65 Hours)**

- To provide basic knowledge about the business.
- To acquaint with various forms of business organization.
- To impart knowledge on plant location and layout.
- To educate on the production system and material management.

### Unit I

Business – nature – scope - objectives- Forms of business organization - Sole Proprietorship: features - merits and demerits – Partnership firm: Essentials – merits and demerits - \*Distinction between Partnership and Sole Proprietorship\* – kinds of partners- Rights and duties of partners - dissolution of Partnership firm. (13 Hours)

## Unit II

Company – features - classification - public vs. private companies - formation of company – prospectus - advantages and disadvantages - Co-operative society: features – merits& demerits – types – public utilities – public enterprises. (13 Hours)

## Unit III

Size of business – plant, firm and industry – measurement of size – factors affecting size – economies of scale – survival of small firm – concept of optimum firm – factors determining optimum size. Business combination – types – benefits – evils. Trade associations – Chamber of commerce. (13 Hours)

## Unit IV

Plant location – concept – importance – factors - selection of site location - rural, town and sub-urban. Plant layout: introduction- objectives –advantages of good layout – types of layout - product layout - process layout - comparison of layouts-Steps in Planning the layout for a new enterprise - \*Features of a good layout\*. Production management – introduction – functions – responsibilities of production manager. (13 Hours)

## Unit V

Production planning and control – levels – objectives – procedure for production planning – techniques of production control. Manufacturing system – intermittent system – continuous system – comparison. Materials management – objectives – stages – factors – duties of material manager. (13 Hours)

**Note:** starred and underlined portions are for self study

### Books for study

Author	Title	Publisher, Place of Publication, Edition, Year of Publication
S. Kathiresan & Dr. V. Radha	Business Organisation	Prasanna Publishers, Triplicane, Chennai, 2015
Dr.B.S.Goel	Production & operations management	Pragati Prakeshan, Meerut. 2014 Edition

### Books for reference

Author	Title	Publisher, Place of Publication, Edition, Year of Publication
P.N.Reddy	Principles of Business Organisation & Management	S.Chand & Co.Ltd, N.Delhi,
Dr.K.Aswathappa	Essentials of production management	Himalaya publishing house, Mumbai 2 <sup>nd</sup> Edition, 2016

**BBA (CA)**  
**SEMESTER – IV**

**Advanced Learners Course I - Management thoughts in Thirukkural**  
**417ALV**

**(For the students admitted from the academic year 2017-18 onwards)**

**Course Objectives**

- To make the students to understand that Thirukkural has management thoughts.
- To study various management concepts in Thirukkural and their importance in today's administration.

**Unit I**

Planning – Adoptability – goals setting – pro-action.

**Unit II**

Decision making – Timely action – Perseverance – Problem solving.

**Unit III**

Risk taking – Project Management – Capital investment – Decision. Business ethics – social Responsibility of business.

**Unit IV**

Staffing – Personnel Selection – Personnel welfare – stress Management.

**Unit V**

Leadership – Trust – Communication, Public Speaking.

**Book for Study**

<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
K. Nagarajan	Management Thoughts in Thirukkural	Anmol Publishers New Delhi, 2011.

**SRI GVG VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**  
**Affiliated to Bharathiar University**  
**Department of Business Administration (Computer Application)**  
**BBA (CA)**  
**Scheme of Examination – CBCS Pattern**  
**(For the Students admitted from the academic year 2015-2016 onwards)**

Course Code	Course Title	Ins. Hrs/ Week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
115BT1/ 115MY1/ 115HD1/ 115FR1	<b>Semester I</b> Part I-Language I	6	3	25	75	100	4
115EN1	Part II- English I	6	3	25	75	100	4
115V01	Part III Core I- Business Organisation	5	3	25	50	75	3
115B02/ 115R02/ 115N02/ 115V02	Core II- Business Management	5	3	25	75	100	4
115AB1/ 115AR1/ 115AN1/ 115AV1/	Allied I –.Office Automation Tools- Practical	6	3	40	60	100	4
115EVS	Part IV-Environmental Studies	2	2	50	--	50	2
215BT2/ 215MY2/ 215HD2/ 215FR2	<b>Semester II</b> Part I-Language II	6	3	25	75	100	4
215EN2	Part II- English II	6	3	25	75	100	4
215V03	Part III Core III - Programming in C	3	3	25	50	75	3

215VP1	Core Practical I- Programming in C	2	3	20	30	50	2
215B04/ 215R04/ 215N04/ 215V04	Core IV- Marketing	5	3	25	75	100	4
215AV2	Allied II –Principles of Accountancy	6	3	25	75	100	4
215VEC	Part IV-Value Education	2	2	50	--	50	2
315V05	<b>Semester III</b> Part III Core V- Production and Materials Management	4	3	25	50	75	3
315B06/ 315V06	Core VI– Commercial Law	5	3	25	75	100	4
315V07	Core VII- Programming in C++	4	3	25	50	75	3
315VP2	Core Practical II- Programming in C++	2	3	20	30	50	2
315V08	Core VIII – Human Resource Management	4	3	25	50	75	3
315AV3	Allied III- Mathematical Techniques	6	3	25	75	100	4
315NAD	Part IV-Non Major Elective Course I- Advertising	2	2	50	--	50	3
315VS1	Skill Based Course I-Principles of Banking	3	3	75	--	75	3
415B09/ 415R09/ 415N09/ 415V09	<b>Semester IV</b> Part III Core IX – Business Communication	5	3	25	75	100	4

415B10/ 415R10/ 415N10/ 415V10/	Core X– Cost Accounting	5	3	25	75	100	4
415V11	Core XI- Visual Basic	3	3	25	50	75	3
415VP3	Core Practical III- Visual Basic	2	3	20	30	50	2
415V12	Core XII - Advertising and Marketing Research	4	3	25	50	75	3
415AV4	Allied IV –Business Environment	6	3	25	75	100	4
415NGA	Part IV Non Major Elective Course II - General Awareness (Online)	--	1	50	--	50	2
415VS2	Skill Based Course II-Banking Operations	3	3	75	--	75	3
415GIS	Information Security	2	2	50	--	Grade	Grade
415ALV	Advanced Learners Course I- Management thoughts in Thirukkural	--	3	--	100	100	3*
515B13/ 515RP5/ 515N13/ 515V13/	<b>Semester V</b> Part III Core XIII- E-Accounting	6	3	40	60	100	4
515B14/ 515R14/ 515N14/ 515V14/	Core XIV –Income Tax	6	3	25	75	100	4
515B15/ 515R15/ 515N15/ 515V15/	Core XV – Business Finance	5	3	25	75	100	4
515V16	Core XVI- Organisational Behaviour	4	3	25	50	75	3



515VE1	Elective I- Services Marketing	6	3	25	75	100	4
515BS3/ 515VS3	Part IV- Skill Based Course III- Business Data Analytics using EXCEL	3	3	75	--	75	3
615B17/ 615R17/ 615N17/ 615V17/	<b>Semester VI</b> Part III Core XVII-Management Accounting	6	3	25	75	100	4
615V18	Core XVIII –Strategic Management	4	3	25	50	75	3
615V19	Core XIX- RDBMS and Oracle Programming	3	3	25	50	75	3
615VP4	Core Practical IV - RDBMS and Oracle Programming	2	3	20	30	50	2
615VE2	Elective II- Entrepreneurship and Project Management	6	3	25	75	100	3
615VE3	Elective III- Global Business Management	6	3	25	75	100	4
615VS4	Part IV Skill Based Course IV- Principles of Insurance	3	3	75	--	75	3
615EX1/ 615EX2/ 615EX3/ 615EX4/ 615EX5	Part V-Extension Activity	--	--	50	--	50	2
615ALV	Advanced Learners Course II- ISO 9000 and TQM	--	3	--	100	100	3*
<b>TOTAL</b>						<b>3500</b>	<b>140</b>

- \*Starred credits are to be treated as additional credits which are optional

**B.Com/B.Com(CA)/B.Com(e-Commerce)/BBA(CA)**

**SEMESTER- I**

**Part III - Core II - Business Management**

**115B02/115R02/115N02/115V02**

**(For the students admitted from the academic year 2015-2016 onwards)**

**Preamble**

**65 Hours**

- To gain knowledge on concepts of management.
- To familiarize with the managerial skills.

**Unit I**

Nature and scope of business - characteristics of business - objectives of business – role of profit in business - business risk.

Definition of Management – Nature and Scope of Management - Contribution of F.W. Taylor, Henry Fayol- Functions of Management. (13 Hours)

**Unit II**

Planning –Nature and Importance of planning – Advantages and Limitations – Steps in planning – Decision making – Decision making process. (13 Hours)

**Unit III**

Organising – Meaning, Nature and importance -Principles of Organisation– Classification of Organisation – Span of Control – Types of Organisation: Line, Functional, Line and Staff. (13 Hours)

**Unit IV**

Staffing: Definition –Functions-Recruitment - selection-promotion.

Directing: characteristics - techniques. (13 Hours)

**Unit V**

Leadership – Meaning – Importance of Leadership – Functions of a Leader– Qualities of a Leader – Types of Leadership.

Controlling: – Steps in Control Process – Techniques of Control. (13 Hours)

**Book for study**

Principles of Management : T. Ramasamy,  
Himalaya Publishing House, New Delhi. 6<sup>th</sup> Ed 2014.

**Books for Reference**

Principles of Management : Dinkar Pagare,  
Sultan Chand and Sons, New Delhi. 5<sup>th</sup> Ed 2008.

Business Organization and Office Management : R.K.Sharma and Shashi, K.Gupta,  
Kalyani Publishers, Ludhiana, 3<sup>rd</sup> Ed. 2013.

**B.Com/B.Com (CA)/B.Com (e-Commerce)/BBA(CA)**

**SEMESTER- I**

**Allied I – Office Automation Tools – Practical**

**115AB1/115AR1/115AN1/115AV1**

**(For the students admitted from the academic year 2015-2016 onwards)**

**List of Practical**

**75 Hours**

**Ms Word**

1. Preparation of a Curriculum Vita.
2. Design: Cheque Leaf for a Bank  
- Preparation of Invoice
3. Send an Invitation to various colleges for the workshop using Mail Merge.
4. Preparation of Advertisement Copy.

**Ms Access**

5. Prepare a Student Database.
6. Create an Employee Database.
7. Prepare a Customer Database.

**Ms PowerPoint:**

8. Prepare a Slide Show for organising a Seminar.
9. Prepare a Slide show for Paper Presentation.
10. Demonstrate a product using Custom Animation.

**B.Com/B.Com(CA)/B.Com(e-Commerce)/BBA(CA)**

**SEMESTER II**

**Part III - Core IV- Marketing**

**215B04/215R04/215N04/215V04**

**(For the students admitted from the academic year 2015-2016 onwards)**

**Preamble**

**65 Hours**

The objectives of this course are

- to impart the knowledge on various aspects of marketing functions.
- to give a comprehensive understanding of the marketing concepts.

**Unit I**

Marketing: meaning – objectives – importance of modern marketing concept – Marketing mix.

Marketing functions: Functions of exchange. Buying – elements of buying – purchasing methods - Assembling – Selling- elements of selling – kinds of sales.

**(13 Hours)**

**Unit II**

Functions of physical supply – Transportation: functions – classification of transport – merits – choice of mode of transportation. Storage – advantages – Warehousing: functions – kinds -Standardization and Grading: types. Marketing finance: kinds of business finance. Marketing risk: causes – methods of handling risk.

**(13 Hours)**

**Unit III**

Product– Product Life Cycle — New product planning – steps in New Product Planning.  
Pricing: Objectives – factors affecting pricing decision – procedure for price determination- kinds of pricing. (13 Hours)

#### **Unit IV**

Promotion: Importance – objectives – forms of promotion. Sales promotion: objectives – advantages – kinds of sales promotion. Advertising: objectives – functions – objections. (13 Hours)

#### **Unit V**

Channels of distribution: importance – types – Classification of middlemen – Agent middlemen- Wholesaler – Retailer – kinds – services rendered – elimination of middlemen. (13 Hours)

#### **Book for Study**

Modern Marketing : R.S.N. Pillai and Bagavathi  
Principles and practice S. Chand and company, New Delhi. Ed. 2013.

#### **Books for reference**

Marketing : Dr. N. Rajan Nair and Sanjith R. Nair  
Sultan Chand and sons, New Delhi, Ed. 2010

B.Com/BBA(CA)

### **SEMESTER- III**

#### **Part III - Core VI – Commercial Law 315B06/315V06**

(For the students admitted from the academic year 2015-2016 onwards)

#### **Preamble**

**65Hours**

The objectives of this course are

- to impart the students with basic knowledge of important laws applicable to business, trade and industry.
- to help students to gain complete knowledge about different elements of a valid contract.

#### **Unit I**

Indian Contract Act 1872 – Contract – Definition – Nature of contract and classification – Essentials of valid Contract – Offer and acceptance. (13 Hours)

#### **Unit II**

Consideration – Capacity to Contract – Free consent. (13 Hours)

#### **Unit III**

Legality of Object - Performance of Contract – Quasi contracts – Contingent Contracts. (13 Hours)

#### **Unit IV**

Modes of discharge of contract – Remedies for Breach of Contract. (13 Hours)

#### **Unit V**

Sale of Goods Act 1930 – Sale and agreement to sell – Rules regarding passing of property – conditions and warranties – Rights of unpaid vendor. (13 Hours)

**Book for Study****Elements of Mercantile Law****: N.D. Kapoor,**Sultan Chand and Sons, New Delhi. 36<sup>th</sup> Ed. 2014.**Book for Reference:**

Business Law

: R.S.N. Pillai and Bagavathi,

S.Chand and Company Ltd., Edition 2008.

**B.Com/B.Com(CA)/B.Com(e-Commerce)/BBA(CA)****SEMESTER IV****Part III – Core X – Cost Accounting****415B10/415R10/415N10/415V10****(For the students admitted from the academic year 2015-2016 onwards)**

Preamble

65 Hours

- To impart knowledge about various methods of costing.
- To keep the students conversant with the frontiers of cost accounting.

Unit I

Cost Accounting – Meaning and Scope – Concept and classification – costing an aid to Management – Elements of cost – Types and methods of cost – Preparation of cost sheet.

(13 Hours)

Unit II

Material Control: Levels of material Control – Purchases and Stores Control: Purchasing of Materials – Procedure and documentation involved in purchasing - Stores Control – Perpetual inventory - Economic Order Quantity – ABC analysis - Methods of valuing material issue: FIFO, LIFO, Simple Average and Weighted Average.

(13 Hours)

Unit III

Labour: System of wage payment – Idle time – Control over idle time – Labour turnover. Overhead – Classification of overhead – allocation and absorption of overhead- Calculation of Machine Hour Rate.

(13 Hours)

Unit IV

Process costing – Features of process costing – process losses, wastage, scrap, normal process loss – abnormal loss, abnormal gain. (Excluding inter process profits and equivalent production).

(13 Hours)

Unit V

Operating Costing – Contract costing – Reconciliation of Cost and Financial accounts.

(13 Hours)

**Note:** Distribution of marks between theory and problem shall be 40% and 60% respectively.**Book for Study**

Cost Accounting

: S.P. Jain and K.L. Narang

Kalyani Publishers, New Delhi.Ed. 2013

## **Book for Reference**

Cost Accounting : T.S.Reddy and Y.Hari Prasad Reddy  
Margham Publications ,Chennai, Reprint 2015

### **BBA (CA)**

### **SEMESTER – IV**

### **Part III – Allied IV – Business Environment 415AV4**

**(For the students admitted from the academic year 2015-16 onwards)**

**Preamble: 75 hours**

- To educate the students about the business environment.
- To impart knowledge on global environment in business.
- To make the students know about technological, political, Economic, Socio Cultural Environments In Business

#### **Unit I**

Business environment-meaning-nature of business environment-internal environment-external environment (micro&macro).-characteristics of today's business-SWOT analysis. Requisites for Successful Business. (15 Hours)

#### **Unit II**

Global environment: Globalization and Liberalization-meaning-nature –reasons-merits-strategies- MNC'S-benefits-problems. (15 Hours)

#### **Unit III**

Technological environment: features of technology-impact of technology-technology and society. Political environment-political system-legislature-executive, government and judiciary (introduction only)-government responsibilities to business. (15 Hours)

#### **Unit IV**

Economic environment-basic economic system-factors-public sector enterprises: meaning-objectives. New economic policy-privatization: nature and objectives-routes-benefits-obstacles of privatization.-conditions for success of privatization. (15 Hours)

#### **Unit V**

Socio –cultural environment: business and culture –elements-organization-cultural adaptation-cultural transmission-cultural conformity-cultural tag. Social responsibility of business. (15 Hours)

#### **Book for study:**

1. Essentials of business environment: K.Aswathappa ,2008 Himalaya publishing house Mumbai.
2. Business environment : Francis Cherunilam, 2008, Himalaya publishing house Mumbai

#### **Books for reference:**

1. Business and society - G.K.Ghosh,G.k Kapoor sultan chand &sons  
(a study of business environment interface)
2. The International Business Environment :Anant K.sundaram&J.stewart (text and cases)  
black Prentice Hall Of India

**B.Com/B.Com (CA)/B.Com (e-Commerce)/BBA(CA)**

**SEMESTER -V**

**Part III –Core XIII –E Accounting**

**515B13/515RP5/515N13/515V13**

**(For the students admitted from the academic year 2015-2016 onwards)**

**List of Practicals**

**75 Hours**

- 1) Creation of Company in Tally and Enabling Accounting Features
- 2) Group Creation and Alteration (single and multiple)
- 3) Ledger Creation and Alteration (single and multiple)
- 4) Entering transactions in accounting vouchers.
- 5) Display of list of accounts, books.
- 6) Report display: Trial Balance, Profit and Loss Account and Balance Sheet
- 7) Altering Inventory, Statutory, Taxation Features.
- 8) Measures of units, Stock Group, Stock Item creation and alteration Display of Stock summary.
- 9) Cost center creation and alteration.
- 10) Creation of Tax Masters.

**B.Com/B.Com(CA)/B.Com(e-Commerce)/BBA(CA)**

**SEMESTER - V**

**Part III - Core XIV – Income Tax**

**515B14/515R14/515N14/515V14**

**(For the students admitted from the academic year 2015-2016 onwards)**

**Preamble**

**(75 Hours)**

The objectives of this course are:

- To provide an in-depth knowledge of Income Tax Provisions.
- To impart practical knowledge about Income Tax calculation.

**Unit I**

Income Tax Act – Definition of Income – Assessment year – Previous Year – Assessee – Scope of Income – Residential Status – Exempted Income. (15 Hours)

**Unit II**

Income from Salaries. (15 Hours)

**Unit III**

Income from House Property – Income from Other Sources. (15 Hours)

**Unit IV**

Profit and Gains of Business or Profession. (15 Hours)

**Unit V**

Capital Gains – Deductions from Gross Total Income with respect to payments only. (15 Hours)

**Note:** Distribution of Marks between theory and problem shall be 40% and 60% respectively.

**Book for Study**

Income Tax Law and Practice : V.P. Gaur and D.B. Narang,  
Kalyani Publishers, Ludhiana.

**B.Com/B.Com(CA)/B.Com(e-Commerce)/BBA(CA)**

**SEMESTER - V**

**Part III - Core XV – Business Finance**

**515B15/515R15/515N15/515V15**

**(For the students admitted from the academic year 2015-2016 onwards)**

Preamble (65 Hours)

- To familiarize the students with the techniques of financial management.
- To impart knowledge on concepts relating to financial planning.

Unit I

Business Finance: Definition - Importance - Finance function: Approaches: - aim - Scope - relationship of finance with other business functions - objectives - measuring shareholders value creation – financial decisions - functional areas of financial management – functions of a finance manager. (13 Hours)

Unit II

Financial Plan: objectives – principles – considerations in formulating financial plan – steps in financial planning – estimating long-term and short-term financial needs – assessment of fixed capital requirements – Working capital-limitations of financial planning.

Capitalisation: definition – basis of capitalization – over-capitalisation – under-capitalisations. (13 Hours)

Unit III

Sources of Finance: kinds of ownership securities – creditorship securities – internal financing – loan financing. (13 Hours)

Unit IV

Capital Structure: Patterns of Capital Structure – importance – Theories of Capital Structure: NI, NOI, Traditional, MM Approach - Factors Determining Capital Structure – principles of Capital Structure decisions . (13 Hours)

Unit V

Cost of capital: significance – classification of cost - determination of Cost of Capital - Computation of Cost of capital: Debt, Preference Share capital, Equity Share capital, Retained Earnings . (13 Hours)

**Note: Theory only.**

Book for Study

Business Finance : Shashi.K.Gupta and R.K.Sharma  
Kalyani Publishers, New Delhi Ed. 2005,  
10th Ed. 2013

**Book for reference**

Financial Management : S.N. Maheswari  
Principles and practice Sultan Chand and Sons, New Delhi



**BBA (CA)**  
**SEMESTER V**

**Part III – Elective I – Services Marketing** **515VE1**  
**(For the students admitted from the academic year 2015-16 onwards)**

**Preamble:**

**75 Hours**

- To impart knowledge on fundamentals of service marketing
- To educate students on service quality dimensions and applications of service marketing in the global scenario

**Unit I**

Services : Concept – Goods Vs Services – Nature – Types – Characteristics – \*Role of services\* - Classification of services – Reason for growth in service sector – Need for Service marketing – Obstacles in service marketing – Service marketing Management : Challenges to service managers – Marketing strategy in services : External marketing, Internal marketing, Interactive marketing. (15 Hours)

**Unit II**

Service marketing mix: Elements – Service product – pricing in services – service promotion: Promotion mix for services – Advertising – Sales promotion – personal selling – Public relations and publicity – Direct marketing. (15 Hours)

**Unit III**

Place in services: Location – Channels of service delivery – Designing a distribution system – direct and indirect distribution – Franchising – Role of customer in the distribution system.

People in service : Types of service personnel – Role of front line staff – quality circles. Physical evidence : physical facilities – environment – social setting – Role of Physical evidence. (15 Hours)

**Unit IV**

Service process: designing service process – spectrum – service design options – \*service process planning\* - service blue print – Front and back office – process flowchart – process layout. Managing service quality : Dimensions – Measurement – Expected and perceived service quality –benefits of service quality – service quality management. (15 Hours)

**Unit V**

Service marketing : Bank marketing – Tourism marketing – Hospital marketing – Airline marketing – Globalisation of services : \*Challenges\* - Successful global service marketing – typical international service – launching of service in global market – strategic implications of international service marketing. (15 Hours)

**Book for Study:**

1. Service Marketing – Vasanthi Venugobal and Raghu V.N  
Himalaya publishing House, New Delhi

**Books for Reference:**

1. Services Marketing Concept, Practices and cases – Dr.S.Shajahan  
Himalaya publishing House, New Delhi
2. Service Marketing The Indian Perspective – Ravishanker, Excel Books, New delhi  
B.Com/BBA(CA)  
SEMESTER - V

**Part IV- Skill Based Course III –Business Data Analytics using EXCEL****515BS3/515VS3****(For the students admitted from the academic year 2015-2016 onwards)****List of Practicals****(35 Hours)**

1. Sort data in ascending and descending order.
2. Prepare employee payroll.
3. Design Mark Sheet.
4. Prepare chart for analysing students result.
5. Summarise and present data using pivot table.
6. Calculate mean, median and standard deviation.
7. Analyse the data using correlation.
8. Analyse the data using regression.
9. Calculate Time Value of money - NPV, IRR, ROI, using FV, NPER, PMT, PV, TYPE functions.
10. Calculate interest using financial functions.

**B.Com/B.Com(CA)/B.Com(e-Commerce)/BBA(CA)****SEMESTER - VI****Part III - Core XVII – Management Accounting****615B17/615R17/615N17/615V17****(For the students admitted from the academic year 2015-2016 onwards)**

Preamble

75 Hours

**The objectives of this course are:**

- To develop an understanding of the conceptual framework of management accounting.
- To acquaint the students with the management accounting techniques that facilitates managerial decision making.

## Unit I

Management Accounting: Meaning – Objectives and Scope – Relationship between Management Accounting, Cost Accounting and Financial Accounting.

(15 hours)

## Unit II

Ratio Analysis – Analysis of liquidity, solvency and profitability – Construction of Balance Sheet.

(15 Hours)

## Unit III

Fund Flow Analysis and Cash Flow Analysis.

(15 Hours)

#### Unit IV

Marginal costing and Break Even Analysis – Managerial applications of marginal costing – Significance and limitations of marginal costing. (15 Hours)

#### Unit V

Budgeting and Budgetary control – Definition – Importance, Essentials, Preparation of cash budget and flexible budget. (15 Hours)

**Note:** Distribution of Marks between theory and problem shall be 40% and 60% respectively.

#### **Books for Study**

Management Accounting : Sharma and S.K.Gupta  
Kalyani Publishers,  
New Delhi. Ed.: 2013.

#### **Book for Reference**

Management Accounting : T.S.Reddy and Y.Hari Prasad Reddy  
Margham Publications ,Chennai, Reprint 2015

#### **BBA (CA)**

#### **SEMESTER VI**

#### **Core XIX – RDBMS and Oracle Programming**

**615V19**

**(For the students admitted from the academic year 2015-16 onwards)**

#### **Preamble:**

**38 Hours**

- It is used in various sectors. Such as Banking, Airlines and Telecommunication.
- Database systems are designed to manage large bodies of information.
- This paper provides commercial applications development using oracle products.

#### **Unit I**

Database Concepts: A Relational approach: Database – Relationships – DBMS– Relational Data Model – Integrity Rules – Theoretical Relational Languages. Database Design: Data Modeling and Normalization: Data Modeling –Dependency – Database Design – Normal forms – Dependency Diagrams -Denormalization – Another Example of Normalization.

(8 Hours)

#### **Unit II**

Oracle9i: Overview: Personal Databases – Client/Server Databases – Oracle9i an introduction – SQL \*Plus Environment – SQL – Logging into SQL \*Plus – SQL \*Plus Commands – Errors & Help – Alternate Text Editors - SQL \*Plus Worksheet - iSQL \*Plus. Oracle Tables: DDL: Naming Rules and conventions – Data Types – Constraints. (8 Hours)

#### **Unit III**

Oracle Tables: DDL:Creating Oracle Table – Displaying Table Information – Altering an Existing Table – Dropping, Renaming, Truncating Table – Table Types – Spooling – Error codes.

Working with Table: Data Management and Retrieval: DML – Adding a new Row/Record – Customized Prompts. (7 Hours)

## **Unit IV**

Working with Table: Data Management and Retrieval: Updating and Deleting an Existing Rows/Records – retrieving Data from Table – Arithmetic Operations – restricting Data with WHERE clause – Sorting – Revisiting Substitution Variables – DEFINE command – CASE structure.

Functions and Grouping: Built-in functions – Grouping Data. (8 Hours)

## **Unit V**

Multiple Tables: Joins and Set operations: Join – Set operations. Subqueries: Nested Queries: Subquery. Advanced Features: Objects, Transactions, and Data Control: Views - Sequences. (7 Hours)

### **Books for Study:**

1. Nilesh Shah, “Database Systems Using Oracle”, 2nd edition, PHI  
Course Designed by : Mrs. D.Pavithra  
Course Reviewed by : Mrs. M.Malini  
Course Checked by : Mrs. B.Umamaheswari

## **BBA (CA)**

### **SEMESTER - VI**

#### **Part III- Core Practical IV - RDBMS and Oracle Programming 615VP4**

**(For the students admitted from the academic year 2015-16 onwards) 25 Hours**

### **RDBMS Programming:**

#### **I. Using DDL Commands:**

1. To create a table
2. To alter a table
3. To drop a table
4. To create a view
5. To drop a view

#### **II. Using DML Commands:**

6. To insert, delete and update rows into a table
7. To write a simple queries using SELECT
8. To write queries using SELECT and WHERE clause
9. To write queries using Logical operators
10. To write queries using NULL
11. To write queries using order by clause
12. To write queries using Distinct clause
13. To write queries using Arithmetic Expressions
14. To write queries using Arithmetic Function
15. To write queries using Group Function
16. To write queries using Group by Clause
17. To write queries using Character Function
18. To write queries using Date Function
19. To write queries using Sub queries
20. To write queries using Joins

**BBA (CA)**  
**SEMESTER – VI**

**Part IV- Skill Based Course IV - Principles of Insurance**

**615VS4**

**(For the students admitted from the academic year 2015-16 onwards)**

**Course Objectives:** **(38 Hours)**

- To provide basic knowledge of insurance business.
- To enhance employability of students in insurance sector.

**Unit I**

Risk: Classification of Risks – Methods of Handling Risks. Risk insurance management – Introduction – Scope – Principles. (7 Hours)

**Unit II**

Insurance –Characteristics of insurance contract- Functions – Benefits of insurance. Insurance Contract: Essential elements of Insurance Contract – Insurance Documents. (8 Hours)

**Unit III**

Life Insurance - Essential Features of life assurance – Classification of Policies – Assignment of life policy - Nomination-Surrender value - payment of claims. (8 Hours)

**Unit IV**

Marine Insurance – Characteristics – essential elements – Double Insurance - Kinds of marine policies –Marine losses and abandonment. (8 Hours)

**Unit V**

Fire Insurance – principles – types of fire policies. Property insurance - Motor Vehicle Insurance – Health Insurance. (7 Hours)

**Book for Study**

<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
Dr. P. Periasamy	Principles and Practice of Insurance	Himalaya Publishing House, New Delhi, 2015 Edition

**Book for Reference**

<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
M.N. Mishra and Dr. S.B. Mishra	Insurance Principles and Practice	S.chand and Company Ltd, New Delhi 10 <sup>th</sup> Edition

**DEPARTMENT OF BBM (CA)**  
**SEMESTER WISE DISTRIBUTION WITH SCHEME OF EXAMINATION**  
**For candidates admitted from (2012-13 only)**

Sem	Course	Credit	Duration of Exam Hours(ESE)	Marks		Total
				CIA	ES E	
I	Part I-Language I	3	3	25	75	100
	Part II- English I	3	3	25	75	100
	Part III- Core I- Business Organization	3	3	25	75	100
	Part III- Core II- Principles of Management	3	3	25	75	100
	Part III-Core Practical I-MS-Office	5	3	30	45	75
	Part III-Allied I – Mathematics for management	5	3	25	75	100
	Part IV-Environmental Studies	2	-	50	--	50
II	Part I-Language II	3	3	25	75	100
	Part II- English II	3	3	25	75	100
	Part III- Core III- Programming in C	3	3	25	75	100
	Part III-Core IV -Principles of Accountancy	3	3	25	75	100
	Part III- Core Practical - II Programming in C	3	3	30	45	75
	Part III-Allied II – Mathematical Techniques	5	3	25	75	100
	Part III-Advanced Learner's Course -I-Management	3*	3	--	100	100
	Part IV-Value Education	2	-	50	100	50
III	Part III- Core V- Business Economics	3	3	25	75	100
	Part III-Core VI Business Communication	3	3	25	75	100
	Part III-Core VII- Production and Materials Management	3	3	25	75	100
	Part III-Core VIII- Programming in C++	4	3	20	55	75
	Part III-Core Practical III-					

	Programming in C++	3	3	30	45	75
	Part III-Allied III –Taxation	5	3	25	75	100
	Part IV-Non Major Elective	2	3	75	--	75
	Part IV-Skill Based Course I-Principles of Banking	3	--	100	--	100
IV	Part III- Core IX- Cost and Management Accounting	3	3	25	75	100
	Part III-Core X – Visual Basic	4	3	20	55	75
	Part III-Core Practical IV- Visual Basic	3	3	30	45	75
	Elective –I- Human Resource Management	5	3	25	75	100
	Allied IV –Mercantile Law	5	3	25	75	100
	Part III-Advanced Learner's Course II- Business Environment	3*	3	--	100	100
	Part IV-General awareness	2	--	75	--	75
	Part IV-Skill Based Course II-Basic Banking Operations	3	--	100	--	100
	Part V-Extension Activity	1	--	50	--	50
V	Part III- Core XI-Marketing Management	3	3	20	55	75
	Part III-Core XII – Organizational Behaviour	3	3	25	75	100
	Part III-Core XIII – Global Business Management	3	3	25	75	100
	Part III-Core XIV – Java Programming	2	3	20	55	75
	Part III-Core Practical V- Java Programming	3	3	30	45	75
	Part III-Elective –II- Entrepreneurship and Project Management	5	3	20	55	75
	Part IV-Skill Based Course III-E-Banking	3	--	100	--	100

VI	Part III- Core XV- Financial Management	3	3	25	75	100
	Part III-Core XVI –Strategic Management	3	3	25	75	100
	Part III-Core XVII- Advertising and Marketing Research	3	3	20	55	75
	Part III-Elective –III- Computerized Accounting Tally	5	3	30	45	75
	Project and Vivavoce	3	--	--	100	100
	Part III-Advanced Learner's Course III- ISO 9000&TQM	3*	3	--	100	100
	Part IV-Skill Based Course					
	IV-Banking Practicals	3	--	100	--	100

- **\*Starred credits are to be treated as additional credits which are optional**
- **Non major elective course offered: Advertising**
- **30% of the syllabus in each subject should be taught using OHP LCD and SEMINARS**



**BBM(CA) – Semester – II**  
**Part III – Advanced Learner’s Course I**  
**Management Thoughts in Thirukkural**  
For the candidates admitted from 2012-2013 onwards

QP Code: 212ALU

**Preamble:**

This paper is unique in presenting the students a comprehensive framework of information of Thirukkural.

- The objective of this paper is to make the students understand that Thirukkural has management thoughts.
- This paper covers the essential features of Indian civilization.

**Module I**

Planning – Adoptability – goals setting – proaction.

**Module II**

Decision making – Timely action – Perseverance – Problem solving.

**Module III**

Risk taking – Project Management – Capital investment – Decision. Business ethics – social Responsibility of business.

**Module IV**

Staffing – Personnel Selection – Personnel welfare – stress Management.

**Module V**

Leadership – Trust – Communication, Public Speaking.

**Book for Study:**

Management Thoughts in Thirukkural: K. Nagarajan, Ammol Pub., New Delhi, Edition, 2002.

**BBM [CA] Semester – IV**  
**Part III – Advanced Learner’s Course II-Business Environment**

For the candidates admitted from 2011-2012 onwards

QP Code:411ALU

**Preamble:**

- To educate the students about the business environment.
- To impart knowledge on global environment in business.
- To make the students know about technological, political, Economic, Socio Cultural Environments In Business

**Module –I**

Business environment-meaning-nature of business environment-internal environment-external environment (micro &macro).-characteristics of today’s business-SWOT analysis.

Requisites for Successful Business.

## **Module- II**

Global environment: Globalization and Liberalization-meaning-nature –reasons-merits-strategies- MNC’S-benefits-problems.

## **Module –III**

Technological environment: features of technology-impact of technology-technology and society-technology and economy-plant level implication-restrains on technological growth. Political environment-political system-legislature-executive, government and judiciary(introduction only)-government responsibilities to business.

## **Module –IV**

Economic environment-basic economic system-factors-public sector enterprises: meaning-objectives-growth and role-reasons for poor performance- needs and reforms. New economic policy-privatization: nature and objectives-routes-benefits-obstacles of privatization.- conditions for success of privatization.

## **Module-V**

Socio -cultural environment: business and culture –elements-organization-cultural adaptation-cultural transmission-cultural conformity-cultural tag. social responsibility of business

Book for study:

- 1.Essentials of business environment: K.Aswathappa ,2008 Himalaya publishing house Mumbai.
- 2.Business environment :Francis Cherunilam, 2008, Himalaya publishing house Mumbai

Books for reference:

Business and society - G.K.Ghosh,G.k Kapoor sultan chand &sons  
(a study of business environment interface)

- 2.The international business environment :Anant K.sundaram&J.stewart  
(text and cases) black Prentice Hall Of India

## **BBM(CA) – Semester – VI**

### **Part III Advanced Learners Course III – ISO9000 and TQM**

For the candidates admitted from 2010-2011 onwards

QP Code:610ALU3/611ALU3

### **Preamble:**

- To impart knowledge to students about integrating Quality dimensions to business plans.
- To acquaint the students with the knowledge of TQM and ISO9000 Standards to have efficient Quality Management System.
- To create an awareness about Environmental Management system.

## Module I

Quality: Concept – Evolution of Quality – Need for Quality Improvement – Deming's circle – Classification of Quality Costs. Techniques for Quality Improvement: JIT, KANBAN system, Queue Control, Optimized Production Technology, Zero Defect, Bench Marking.

## Module II

Total Quality Management: Quality Policy – Quality System Activities – Quality System documentation (Elements only) – ISO 9000 & TQM (differences) – Elements – keys to success of TQM – Difficulties in implementing TQM – Business Process Re-engineering.

## Module III

ISO 9000: Concept – ISO 9000 Models – Factors to be considered in selection of Models – ISO 9000 Elements / Specifications – Merits of ISO 9000 Standards – Pitfalls of ISO 9000 – Steps in Implementing ISOP 9000 – Certification – QS: 9000 Quality System.

## Module IV

Human Resource Development and Quality Circles: Training and Development – Philosophy of Quality Circles – Organization of Quality Circles – Stages of adoption – Essential requirements for the success of circles – Areas of Interest to Quality Circles – Grains from Circles – Techniques for problem solving in quality circles.

## Module V

Environment Management system and Total Quality of Work Life: Quality of work life – Environment Management system: Function – Systems approach to Environmental Management – International Standards on Environment Management System – Requirements of Environment Management System – Environment Management System Audit.

### Book for Study:

Quality Control and Total Quality Management: P.L.Jain, Tata McGraw Hill Publishing Ltd., New Delhi, 2006 Edition.

### Books for Reference:

1. Total Quality Management Principles, Practice and Cases: Dr. D.D.Sharma, Sultan chand & Sons, New Delhi, 2010 Third Edition.
2. Training Manual of ISO 9000 and TQM: Gridhar J. Gyani, Raj Publishing House, Jaipur, 2001Edition.

**Curriculum Design**  
**SRI G.V.G.VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**  
**Affiliated to Bharathiar University**  
**Department of B.Com (Computer Applications)**  
**Scheme of Examination - CBCS**  
**(For the students admitted from the academic year 2017-2018 onwards)**

Course Code	Course Title	Inst Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	TOTAL Marks	
117BT1/ 117MY1/ 117HD1/ 117FR1	<b>Semester – I</b> Part I – Language – I	6	3	25	75	100	4
117EN1	Part II – English – I	6	3	25	75	100	4
117B01/ 117R01/ 117N01	Part III – Core I- Financial Accounting - I	5	3	25	75	100	4
117B02/ 117R02	Core II- Business Organisation	5	3	25	75	100	4
117AR1	Allied I – Computer Application Tools – Practical I	6	3	40	60	100	4
117EVS	Part IV – Environmental Studies	2	2	50	-	50	2
217BT2/ 217MY2/ 217HD2/ 217FR2	<b>Semester – II</b> Part I – Language - II	6	3	25	75	100	4
217EN2	Part II – English – II	6	3	25	75	100	4
217B03/ 217R03/ 217N03	Part III – Core III – Financial Accounting – II	5	3	25	75	100	4
217B04/ 217R04/ 217V04	Core IV –Principles of Marketing	5	3	25	75	100	4
217AR2	Allied II – C Programming and Web Designing – Practical II	6	3	40	60	100	4
217VEC	Part IV – Value Education	2	2	50	-	50	2
317B05/ 317R05/ 317N05	<b>Semester – III</b> Part III- Core V–Corporate Accounting	5	3	25	75	100	4
317R06	Core VI - Object Oriented Programming with C++	5	3	25	50	75	3
317R07	Core VII- C++ Programming- Practical III	4	3	40	60	100	4
317R08	Core VIII- Enterprise Resource Planning	5	3	25	75	100	4
317AB3/	Allied III – Mathematics in Business	6	3	25	75	100	4

317AR3/ 317AN3							
317NMM	Part IV – Non Major Elective - Materials Management	2	2	50	-	50	2
317RS1	Part IV-Skill Enhancement Course I - Principles of Insurance	3	3	75	-	75	3
417R09	<b>Semester – IV</b> Part III- Core IX- Relational Database Management System	5	3	25	50	75	3
417B10/ 417R10/ 417N10/	Core X - Cost Accounting	5	3	25	75	100	4
417B11/ 417R11	Core XI - Banking Law and Practice	5	3	25	75	100	4
417R12	Core XII- MySQL Programming – Practical IV	4	3	40	60	100	4
417AB4/ 417AR4/ 417AN4	Allied IV- Statistics	6	3	25	75	100	4
417NGA	Part IV – General Awareness	-	1	50	-	50	2
417RS2	Part IV – Skill Enhancement Course II- Life Insurance	3	3	75	-	75	3
417GIS	Information Security - Level – II	2	2	50	-	Grade	Grade
<b>417ALR</b>	<b>Advanced Learners Course I- Management Information System</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>100</b>	<b>4*</b>

**B.Com (CA)  
Semester IV**

**Part IV- Advanced Learner's Course I- Management Information System 417ALR  
(For the students admitted from the academic year 2017 – 2018 onwards)**

**Course Objective**

- To provide conceptual knowledge on Management Information System.
- To enable the students to understand the applications of Information Systems in business.

**Unit I**

Management Information System: Objectives – Nature – Characteristics – Myth Regarding MIS – Requirements of Management Information System – Problems and Solutions in Implementing Management Information System – Benefits of MIS – Limitations of MIS – Significance of MIS – Role of MIS.

**Unit II**

Conceptual Framework of Information System: Objectives – Characteristics of System – System Stakeholders: Major Players of System – Types of System – Environment Drivers for Today's Information System –A Framework For Management Information Systems Architecture – Components of Management Information System –Classification of Information System – Major Challenges of Informations Systems – Future of Management Information System.

**Unit III**

Tools for Management Information System: Objectives – Factors Affecting Selection of Tools – Development Tools for Management Information System – Compute-Discount – Implementation Tools – Automated/ Modern Tools.

**Unit IV**

Implementation, Evaluation and Maintenance of MIS: Objectives – Implementations of Management Information System – Evaluation of Management Information System.

**Unit V**

Control and Security Issues in MIS: Objectives – Type of Control – Audit in Management Information System – Security Hazards – Security Techniques.

<b>Book for Study</b>			
<b>Unit</b>	<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
Unit I – V	Gagan Varshney, Pankaj Madanad Avdhesh Gupta	Management Information System	Global Academic Publishers & Distributors, New Delhi, Reprint 2014.

<b>Book for Reference</b>		
<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
1. Gordon B. Davis and Margrethe H.Olson	Management Information System	McGraw Hill Education Pvt Ltd, Delhi Ed.2015
2. Waman S Jawadekar	Management Information System	McGraw Hill Education Pvt Ltd, Delhi Ed.2014

**2016-2017**  
**SRI G.V.G VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**  
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**Department of B.Com (Computer Applications)**  
**B.Com (Computer Applications)**  
**Scheme of Examination – CBCS Pattern**  
**(For the students admitted during the academic year 2016-2017 only)**

Course Code	Course Title	Ins. Hrs /week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
	<b>SEMESTER-I</b>						
115BT1/ 115MY1/ 115HD1/ 115FR1	Part I- Language I	6	3	25	75	100	4
115EN1	Part II- English I	6	3	25	75	100	4
115B01/ 115R01/ 115N01	Part III- Core I – Financial Accounting	5	3	25	75	100	4
115B02/ 115R02/ 115N02/ 115V02	Core II – Business Management	5	3	25	75	100	4
115AB1/ 115AR1/ 115AN1/ 115AV1	Allied I - Office Automation Tools- Practical I	6	3	40	60	100	4
115EVS	Part IV- Environmental Studies	2	2	50	--	50	2
	<b>SEMESTER- II</b>						
215BT2/ 215MY2/ 215HD2/ 215FR2	Part I- Language II	6	3	25	75	100	4
215EN2	Part II- English II	6	3	25	75	100	4
215B03/ 215R03/ 215N03	Part III- Core III – Company Law	5	3	25	75	100	4
215B04/ 215R04/ 215N04/ 215V04	Core IV - Marketing	5	3	25	75	100	4
<b>216AR2</b>	<b>Allied II – C Programming and Web Designing– Practical II</b>	<b>6</b>	<b>3</b>	<b>40</b>	<b>60</b>	<b>100</b>	<b>4</b>
215VEC	Part IV- Value Education	2	2	50	--	50	2

Course Code	Course Title	Ins. Hrs /week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>SEMESTER - III</b>							
315B05/ 315R05/ 315N05	Part III - Core V – Higher Financial Accounting	5	3	25	75	100	4
315R06	Core VI – C++	5	3	25	50	75	3
315R07	Core VII– C++ – Practical III	4	3	40	60	100	4
315R08	Core VIII – Enterprise Resource Planning	5	3	25	50	75	3
315AB3/ 315AR3/ 315AN3	Allied III - Mathematics in Business	6	3	25	75	100	4
315NBT	Part IV-Non Major Elective Course I – Basics of Accounting and Inventory in Tally. ERP 9	2	2	50	--	50	2
315RS1	Part IV-Skill Based Course I - Principles of Insurance	3	3	75	--	75	3
<b>SEMESTER - IV</b>							
415B09/ 415R09/ 415N09/ 415V09	Part III- Core IX – Business Communication	5	3	25	75	100	4
415B10/ 415R10/ 415N10/ 415V10	Core X – Cost Accounting	5	3	25	75	100	4
415R11	Core XI - Relational Database Management System	5	3	25	75	100	4
415R12	Core XII - RDBMS– Practical IV	4	3	40	60	100	4
415AB4/ 415AR4/ 415AN4	Allied IV- Statistics for Business	6	3	25	75	100	4
415NGA	Part IV- General Awareness (Online)	--	1	50	--	50	2
415RS2	Part IV – Skill Based Course II- Life Insurance Products	3	3	75	--	75	3
415GIS	Part IV - Information Security	2	2	50	--	Grade	Grade
415ALR	Advanced Learner's Course I- Subject Viva-Voce	--	--	--	100	100	4*



Course Code	Course Title	Ins. Hrs /week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
	<b>SEMESTER- V</b>						
515B13/ 515R13/ 515N13/ 515V13	Part III- Core XIII - E-Accounting - Practical V	6	3	40	60	100	4
515B14/ 515R14/ 515N14/ 515V14	Core XIV - Income Tax	6	3	25	75	100	4
515B15/ 515R15/ 515N15/ 515V15	Core XV – Business Finance	5	3	25	75	100	4
515B16/ 515R16/ 515N16	Core XVI – Higher Corporate Accounting	5	3	25	75	100	4
515RE1	Elective I – Banking Law and Practice	5	3	25	75	100	4
515RS3	Part IV – Skill Based Course III - Non-Life Insurance Products	3	3	75	--	75	3
	<b>SEMESTER- VI</b>						
615B17/ 615R17/ 615N17/ 615V17	Part III- Core XVII – Management Accounting	6	3	25	75	100	4
615B18/ 615R18/ 615N18	Core XVIII – E- Commerce	6	3	25	75	100	4
615R19	Core XIX – Visual Basic	5	3	25	75	100	4
615RE2	Elective II– Visual Basic– Practical VI	4	3	40	60	100	4
615BE3/ 615RE3/ 615NE3	Elective III – Financial Services	6	3	25	75	100	4
615RS4	Part IV – Skill Based Course IV- Data Analytics with Excel	3	3	75	--	75	3
615EX1/ 615EX2/ 615EX3/ 615EX4/ 615EX5	Part V– Extension Activity	--	--	50	--	50	2
<b>6 15ALR</b>	<b>Advanced Learner’s Course II - Subject Viva-Voce</b>		--	--	<b>100</b>	<b>100</b>	<b>4*</b>

**B.Com (Computer Applications)**

**Semester II**

**Part III-Allied II – C Programming and Web Designing – Practical II**

**216AR2**

**(For the students admitted during the academic year 2016-2017 only)**

**(75 Hours)**

**List of Practical Programs**

**C Programming**

1. Write a Program to find Simple and Compound Interest.
2. Write a Program to display Fibonacci series.
3. Write a Program to find the roots of a given quadratic equation.
4. Write a program to use Pointers in arithmetic operations.
5. Write a program to swap two lines.
6. Write a program to find out sum of n numbers.
7. Write a program to calculate salary of a person.

**Web Designing**

1. Design a web page for a product advertisement using basic tags and formatting tags.
2. Create webpage using frames and hyperlink for ordered list and unordered list.
3. Design Web page to zoom the small image to big image using alignment tags.
4. Create a Resume.
5. Create e-mail id account.

**2015 – 2016**  
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**B.Com (Computer Applications)**  
**Scheme of Examination – CBCS Pattern**  
**(For the students admitted from the academic year 2015 – 2016 onwards)**

Course Code	Course Title	Ins. Hrs /week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
	<b>SEMESTER-I</b>						
115BT1/ 115MY1/ 115HD1/ 115FR1	Part I- Language I	6	3	25	75	100	4
115EN1	Part II- English I	6	3	25	75	100	4
115B01/ 115R01/ 115N01	Part III- Core I – Financial Accounting	5	3	25	75	100	4
115B02/ 115R02/ 115N02/ 115V02	Core II – Business Management	5	3	25	75	100	4
115AB1/ 115AR1/ 115AN1/ 115AV1	Allied I - Office Automation Tools- Practical I	6	3	40	60	100	4
115EVS	Part IV- Environmental Studies	2	2	50	--	50	2
	<b>SEMESTER- II</b>						
215BT2/ 215MY2/ 215HD2/ 215FR2	Part I- Language II	6	3	25	75	100	4
215EN2	Part II- English II	6	3	25	75	100	4
215B03/ 215R03/ 215N03	Part III- Core III – Company Law	5	3	25	75	100	4
215B04/ 215R04/ 215N04/ 215V04	Core IV - Marketing	5	3	25	75	100	4
215AR2	Allied II - HTML, Photoshop and Page Maker– Practical II	6	3	40	60	100	4
215VEC	Part IV- Value Education	2	2	50	--	50	2

Course Code	Course Title	Ins. Hrs /week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>SEMESTER - III</b>							
315B05/ 315R05/ 315N05	Part III - Core V – Higher Financial Accounting	5	3	25	75	100	4
315R06	Core VI – C++	5	3	25	50	75	3
315R07	Core VII– C++ – Practical III	4	3	40	60	100	4
315R08	Core VIII – Enterprise Resource Planning	5	3	25	50	75	3
315AB3/ 315AR3/ 315AN3	Allied III - Mathematics in Business	6	3	25	75	100	4
315NBT	Part IV-Non Major Elective Course I – Basics of Accounting and Inventory in Tally. ERP 9	2	2	50	--	50	2
<b>315RS1</b>	<b>Part IV-Skill Based Course I - Principles of Insurance</b>	<b>3</b>	<b>3</b>	<b>75</b>	<b>--</b>	<b>75</b>	<b>3</b>
<b>SEMESTER - IV</b>							
415B09/ 415R09/ 415N09/ 415V09	Part III- Core IX – Business Communication	5	3	25	75	100	4
415B10/ 415R10/ 415N10/ 415V10	Core X – Cost Accounting	5	3	25	75	100	4
415R11	Core XI - Relational Database Management System	5	3	25	75	100	4
415R12	Core XII - RDBMS– Practical IV	4	3	40	60	100	4
415AB4/ 415AR4/ 415AN4	Allied IV- Statistics for Business	6	3	25	75	100	4
415NGA	Part IV- General Awareness <b>(Online- Self Study)</b>	--	1	50	--	50	2
<b>415RS2</b>	<b>Part IV – Skill Based Course II- Life Insurance Products</b>	<b>3</b>	<b>3</b>	<b>75</b>	<b>--</b>	<b>75</b>	<b>3</b>
415GIS	Part IV - Information Security	2	2	50	--	Grade	Grade
<b>415ALR</b>	<b>Advanced Learner’s Course I- Subject Viva-Voce</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>100</b>	<b>100</b>	<b>3*</b>

Course Code	Course Title	Ins. Hrs /week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
	<b>SEMESTER- V</b>						
515B13/ 515R13/ 515N13/ 515V13	Part III- Core XIII - E-Accounting - Practical V	6	3	40	60	100	4
515B14/ 515R14/ 515N14/ 515V14	Core XIV - Income Tax	6	3	25	75	100	4
515B15/ 515R15/ 515N15/ 515V15	Core XV – Business Finance	5	3	25	75	100	4
515B16/ 515R16/ 515N16	Core XVI – Higher Corporate Accounting	5	3	25	75	100	4
515RE1	Elective I – Banking Law and Practice	5	3	25	75	100	4
515RS3	Part IV – Skill Based Course III - Non-Life Insurance Products	3	3	75	--	75	3
	<b>SEMESTER- VI</b>						
615B17/ 615R17/ 615N17/ 615V17	Part III- Core XVII – Management Accounting	6	3	25	75	100	4
615B18/ 615R18/ 615N18	Core XVIII – E- Commerce	6	3	25	75	100	4
615R19	Core XIX – Visual Basic	5	3	25	75	100	4
615RE2	Elective II– Visual Basic– Practical VI	4	3	40	60	100	4
615BE3/ 615RE3/ 615NE3	Elective III – Financial Services	6	3	25	75	100	4
615RS4	Part IV – Skill Based Course IV- Data Analytics with Excel	3	3	75	--	75	3
615EX1/ 615EX2/ 615EX3/ 615EX4/ 615EX5	Part V– Extension Activity	--	--	50	--	50	2
615ALR	Advanced Learner’s Course II - Subject Viva-Voce		--	--	100	100	3*

## **B.Com (Computer Applications)**

### **Semester – III**

#### **Part IV- Skill Based Course I - Principles of Insurance 315RS1** **(For the students admitted from the academic year 2015 – 2016 onwards)** **(38 Hours)**

#### **Preamble:**

The Course aims to

- Provide knowledge to basic concepts and importance of insurance and
- Impart knowledge on the various insurance legislations.

#### **Unit I**

Nature and scope of risk management: Introduction-Meaning-Definition-Classification of risks. Methods of handling risks: Introduction-Methods. **(7 Hours)**

#### **Unit II**

Nature of Insurance business: Meaning-Definition-Characteristics of Insurance Contract-Difference between Insurance contract and wagering Agreement-Functions-Importance-Benefits-Kinds of Insurance Organization. **(8 Hours)**

#### **Unit III**

Evolution of Insurance: Kinds of Insurance-Insurance organization in India-Life Insurance Act 1938. **(8 Hours)**

#### **Unit IV**

The Actuarial Science: Characteristics of Actuarial Science –Actuarial Education – Actuarial Research – IRDA Act 1999.**(Note: Theory only)** **(8 Hours)**

#### **Unit V**

Role of Development officer- Role of Insurance Agent. **(7 Hours)**

#### **SKILL DEVELOPMENT:**

1. Understand the procedure involved in evaluation of a proposal.
2. Visit any branch of LIC and familiarize with loan facilities available to policy holders.
3. Examine the Life insurance as a means of tax planning and risk coverage.

#### **Books for Study:**

1. Principles and Practice of Insurance **(Unit I, II & V)** - Dr.P.Periasamy(Edition 2013)  
Himalaya Publishing House,  
New Delhi.
2. Insurance Principles and Practice **(Unit III & IV)** - M.N.Mishra & Dr.S.B.Mishra  
(Edition 2012),  
S.Chand & Company,  
New Delhi.

#### **Books for Reference:**

1. Insurance Theory and Practice - B.D.Bhargava,  
Pearl Books,New Delhi 2008.
2. Insurance Principles and Practice - Inderjit Singh & Rakesh Kartyal  
Kalyani Publishers,New Delhi 2003.

## **B.Com (Computer Applications)**

### **Semester IV**

#### **Part IV- Skill Based Course II – Life Insurance Products 415RS2** **(For the students admitted from the academic year 2015 – 2016 onwards)** **(38 Hours)**

#### **Preamble:**

The Course aims to provide

- To expose students to an overview of the working of life insurance business.
- To impart to students relevant skills for handling major functions of life insurance business.

#### **Unit I**

Essentials of Life Insurance: Meaning and Definition of Life Insurance-Difference between Insurance and Assurance-Essential feature of Life Assurance.

Classification of Life Insurance Policies: Objectives of Life Insurance Policies-Classification of Policies-Policies according to the duration-Group Insurance schemes.**(8 Hours)**

#### **Unit II**

Assignment of Life Policies: Meaning and Procedure-Nomination of life policy-Surrender value-Paid up value-Difference between Surrender value and Paid up value-Days of Grace-Payment of claims. **(7 Hours)**

#### **Unit III**

Life Insurance Corporation of India: Introduction-Aim of LIC-Organisational Structure-Life Insurance Administration-Advantages of Life Insurance-Important functions-Role of LIC in National Economy-Progress of Life Business of LIC-Highlights the performance of LIC-IRDA Guidelines for Investment of LIC's Funds-Identification of various types of Investments-Progress of LIC's Investment in various sectors. **(8 Hours)**

#### **Unit IV**

Marketing of Life Insurance: Introduction-Definition of Services-Characteristics-Objectives of Life Insurance Marketing-Life Insurance Marketing Mix-Elements-Importance-Scope.

World Life Insurance Market: Introduction-Share of World Insurance Market-Insurance Operations in the U.S.A-Life Insurance in Japan-Other Asian Countries-Performance of Global Life Insurance. **(7 Hours)**

#### **Unit V**

Financial Services: Introduction-Points in Favour-Drawbacks-LIC Housing Finance Ltd-Introduction-Objectives-Housing Scheme Loans. LIC Mutual Funds Schemes: Introduction-Meaning and Definition-Classification of Mutual Funds-Mutual Funds in India-Importance-Types-Progress in LIC Mutual Funds-Factors determine the Mutual Funds. Information Technology in LIC: Introduction-Meaning-Characteristics-IT Revolution in India-Information Technology in LIC-Objectives-Moduling Systems-Advantages. **(8 Hours)**

#### **SKILL DEVELOPMENT:**

1. Visit any branch of LIC and understand various policies offered with benefit and elements.
2. Understand the procedure involved in evaluation of a proposal form and final issue of policy.

#### **Books for Study:**

1. Principles and Practice of Insurance - Dr.P.Periasamy(Edition 2013)  
Himalaya Publishing House,  
New Delhi

**Books for Reference:**

1. Insurance Principles and Practice - Inderjit Singh & Rakesh Kartyal  
Kalyani Publishers, New Delhi 2003.
2. Life Insurance in India - R. Haridas,  
New Century Publications, 2011

**B.Com (Computer Applications)****Semester V****Part III - Elective I – Banking Law and Practice****515RE1****(For the students admitted from the academic year 2015 – 2016 onwards)****(65 Hours)****Preamble:**

The objectives of this course are:

- provide knowledge of operational aspects of banking products and services and
- to increase their chances of placement in banking sector.

**Unit I**

Banker and Customer: Origin of Banking – Banker- Banking and other Business – Customer- The Relationship between a Banker and a Customer- General Relationship.

Deposits: General Precautions for Opening Account- Current Deposit Account – Fixed Deposit Account – Savings Deposit Account – Insurance Linked Savings Bank Deposit – Recurring Deposit – Other Deposits.

Classification of Banks: Classification of Banks- Banking System. **(13 Hours)**

**Unit II**

Negotiable Instruments: Definition – Characteristics of Negotiable Instruments – Types – Classification- Special Parties to a Negotiable Instrument.

Cheques: Definition- Cheque and Bill of Exchange – Salient features of a Cheques- Specimen of a Cheque – Printed Forms – Special Printer Forms – Cheque vs. Draft – Drawing up of a Cheque – Banker’s Cheque – Golden Cheque Scheme – Bank Orders Scheme. **(13 Hours)**

**Unit III**

Crossing: General Crossing – Special Crossing – Double Crossing – Who can Cross a cheque – Opening of Crossing.

Endorsement: Definition- Significance of Endorsement – Assignment vs. Endorsement – Kinds of Endorsement – Regularity of Endorsement – Liability of Endorser. **(13 Hours)**

**Unit IV**

Paying Banker: Precautions before Honouring a cheque – Circumstances Under which a Cheque can be Dishonoured – Answers to Dishonoured cheques – Statutory Protection to a Paying Banker – Payment in Due Course – Holder in Due Course – Recovery of Money Paid by Mistake – Money can be Recovered.

Collecting Banker: Banker as a Holder for Value – Banker as an Agent – Conversion – Statutory Protection – Basis of Negligence – Duties of a Collecting Banker. **(13 Hours)**

**Unit V**

Traditional Banking vs. E-Banking – Facets of E-Banking- Intranet Procurement – E-Banking Transactions – Merits – Mchq Product – Electronic Delivery Channels – Truncated Cheque and Electronic Cheque – Inter-Bank Mobile Payment Service – Models for E-Banking - Complete Centralised Solution – Features – CCS – Cluster Approach – High Tech Bank within Bank- Advantage of E-Banking – Constraints in E-Banking – Security Measures. **(13 Hours)**

**Books for Study:**

1. Banking Theory, Law and Practice - E. Gordon and K. Natarajan,  
Himalaya Publishing House, Edition 2012.



**Books for Reference:**

1. Banking Theory, Law and Practice - Dr. S Gurusamy,  
Tata McGraw-Hill Education Private Limited,  
Second Edition.

**B.Com (Computer Applications)  
Semester V**

**Part IV- Skill Based Course III – Non - Life Insurance Products** **515RS3**  
**(For the students admitted from the academic year 2015 – 2016 onwards)**  
**(38 Hours)**

**Preamble:**

The Objectives of this course are:

- To understand the basic concepts of General Insurance.
- To learn the principles, practices, procedures and treatment of General Insurance Products.

**Unit I**

General Insurance Business and Role of GIC: Introduction-General Insurance Business Nationalization Act 1972-Objectives-Establishment of General Insurance Corporation of India (GIC)-Source of Funds-Organizational Structure-Progress of General Insurance Business-Business Growth in GIC-Performance of Public Sector and Private Sector Insurers-Performance of Major Business Segments.

Nature of Marine Insurance Contract: Definition-Characteristics-Elements-Double Insurance-Reinsurance in Marine Insurance Schemes-Mutual Insurance. **(8 Hours)**

**Unit II**

Kinds of Marine Insurance Policies-Variety of Marine policy. Important Clauses in Marine Policy: Clauses Incorporated in Marine Policy-Important Clauses. **(7 Hours)**

**Unit III**

Marine Losses and Abandonment: Introduction-Kinds of Marine Losses-Abandonment-Notice of Abandonment-York-Antwerp Rules.

Nature of Fire Insurance Contract: Introduction-Definition-Subject Matter of Fire Insurance-Fundamental Principles of Fire Insurance-Fire policy-The Risk. **(7 Hours)**

**Unit IV**

Types of Fire Policies: More Common Types of Fire policies-Double Insurance in Fire Policy-Assignment of Fire policy-Rights of Insurer. Fire Insurance Claims: Introduction-Types of losses-Steps in the Preparation of Claim under Loss of Profits. **(8 Hours)**

**Unit V**

Miscellaneous Insurance: Personal Accident Insurance: Definition- Classification of Occupation-Claims. National Agricultural Insurance Scheme: Crop Insurance Scheme-Features-Objective- Horticulture/Plantation (Input) Insurance-Hut Insurance Individual. Property Insurance-Meaning- Burglary Insurance-Types of Policies. Motor Vehicle Insurance: Definition-Classification-Kinds of Policies-Procedure for Motor Vehicle Insurance-Settlement of Claims Under Motor Vehicle Insurance. **(8 Hours)**

**SKILL DEVELOPMENT:**

1. Visit any branch of General Insurance establishment and familiarise with the features of policies offered.

**Books for Study:**

1. Principles and Practice of Insurance - Dr.P.Periasamy(Edition 2013)  
Himalaya Publishing House, New Delhi.

**Books for Reference:**

1. Insurance Principles and Practice - M.N.Mishra & Dr.S.B.Mishra  
(Edition 2012),S.Chand & Company,  
New Delhi.
2. Insurance Principles and Practice - Inderjit Singh & Rakesh Kartyal  
Kalyani Publishers,New Delhi 2003.

**B.Com/B.Com(CA)/B.Com(e-Commerce)****Semester VI****Part III- Elective III – Financial Services 615BE3/615RE3/615NE3  
(For the students admitted from the academic year 2015-2016 onwards)****Preamble****(75 Hours)**

The objective of this course is

- To enhance the employability of students in financial service sector.

**Unit I**

Financial Services: Features –Importance- –Scope – Causes for Financial Innovations  
Financial services and promotion of industries- Innovative Financial Instruments–Challenges  
Facing Financial Service Sector. **(15 hours)**

**Unit II**

Merchant Banking: Definition –Merchant Banks and Commercial Banks – Services of  
Merchant Banks – Qualities required for Merchant Bankers – Merchant Bankers as Lead  
Managers – Guidelines – Problem. **(15 hours)**

**Unit III**

Venture Capital:Concept – Features –Stages of Venture Capital financing – Importance.  
Factoring: Meaning - Modus operandi – Functions –Types - Merits– Financial aspects of  
Factoring.

Forfeiting: Meaning - Modus operandi — Merits and Demerits- Factoring Vs. Forfeiting.  
**(15 hours)**

**Unit IV**

Mutual Funds:– Meaning – Unit Vs Share — Types of Funds – Importance of Mutual  
Funds – Organization of the Fund –Net Asset Value – Facilities available to Investors –Selection  
of a fund- Merits and demerits of investment in mutual fund. **(15 hours)**

**Unit V**

Credit Rating: Meaning – Functions of Credit Rating – Benefits of Credit Rating - Credit  
Rating Agencies in India: CRISIL – IICRA – CARE. **(15 hours)**

**Book for Study**

Financial Markets and Services : E.Gordon and K.Natarajan  
Himalaya Publishing House,  
Mumbai. 9thEd. 2014.

**Books for Reference**

- Financial Markets Institutions : Dr.S.Gurusamy,  
Tata Mc Graw Hill Education Pvt Ltd.,  
New Delhi, Ed.3 2012
- Financial Services and Markets : G.S.Batra  
Deep and Deep Publications Pvt Ltd.,  
New Delhi,Ed.2005
- Financial Services : E.Dharmaraj  
Sultan Chand and Sons,

Financial Services	New Delhi. 1 <sup>st</sup> Ed. 2008 : D.Joseph Anbarasu, V.K.Boominathan, P.Monaharan, G.Gnanaraj Sultan Chand and Sons, New Delhi. 2 <sup>nd</sup> Ed. 2004
Financial Markets, Institutions and Services	: N. K. Gupta and Monika Chopra Ane Books India New Delhi. 2008

## **B.Com (Computer Applications)**

### **Semester –VI**

#### **Part IV-Skill Based Course IV - Data Analytics with Excel**

**615RS4**

**(For the students admitted from the academic year 2015 – 2016 onwards)**

**(38 Hours)**

#### **List of Practical Programs**

1. Prepare employees payroll.
2. Design Mark Sheet.
3. Prepare the chart for analysing students result.
4. Calculation of Simple Correlation Co-efficient.
5. Calculation of Arithmetic mean, median and mode.
6. Calculation of Co-efficient of Variation and Standard Deviation.
7. Calculate Time Value of money - NPV, IRR, ROI, using FV, NPER, PMT, PV, TYPE functions.
8. Calculate loan, annuity and investment analysis using financial functions.
9. Calculation of Linear Regression Analysis.
10. Calculation of Pivot table and Chart.

**2014 – 2015**  
**B.COM (COMPUTER APPLICATIONS)**  
**Semester wise distribution with scheme of Examination**  
**(For candidates admitted during the period 2012 – 2013 Onwards)**

Semester	Course	Credits	Duration of exam Hrs(ESE)	Marks CIA	Marks ESE	Total
<b>I</b>	Part I –Language I	3	3	25	75	100
	Part II –English I	3	3	25	75	100
	Part III- Core I-Principles of Accountancy	4	3	25	75	100
	Core II- Business Organization & Office Management	4	3	25	75	100
	Core Practical I- Ms-Office	2	3	30	50	80
	Allied I- Business Mathematics	5	3	25	75	100
	Part IV-Environmental Studies	2	--	50	--	50
<b>II</b>	Part I –Language II	3	3	25	75	100
	Part II –English II	3	3	25	75	100
	Part III- Core III- Financial Accounting	4	3	25	75	100
	Core IV- Programming in C	3	3	25	75	100
	Core Practical II- Programming in C	2	3	30	50	80
	Allied II – Business Statistics	5	3	25	75	100
	Part IV- Value Education	2	--	50	--	50
	Part III-Advanced Learner's Course I- Business Law	3*	3	--	100	100
<b>III</b>	Part III- Core V – Cost Accounting	4	3	25	75	100
	Core VI- Marketing	4	3	25	75	100
	Core VII- C++	3	3	25	75	100
	Core Practical III- C++	2	3	30	50	80
	Allied III- Managerial Economics	5	3	25	75	100
	Part IV-Non Major Elective – Enterprise Resource Planning	2	--	75	--	75
	Part IV-Skill based Course I - Principles of Banking.	3	--	100	--	100

Semester	Course	Credits	Duration of exam Hrs(ESE)	Marks CIA	Marks ESE	Total
IV	Part III- Core VIII – Management Accounting	4	3	25	75	100
	Core IX- Company Law	4	3	25	75	100
	Core X- Visual Basic	3	3	25	75	100
	Core Practical IV – Visual Basic	2	3	30	50	80
	Allied IV- Principles of Management	5	3	25	75	100
	Part IV-General Awareness	2	--	75	--	75
	Part IV – Skill based Course II – Basic Banking Operations	3	--	100	--	100
	Part III- Advanced Learner's Course_II –Auditing	3*	3	--	100	100
	Part V–Extension Activity	1	--	--	50	50
V	Part III- Core XI- Financial Management	5	3	25	75	100
	Core XII- Company Accounts	5	3	25	75	100
	Core XIII- E-Commerce	4	3	25	75	100
	Elective I – Income Tax Law and Practice	5	3	40	60	100
	Elective II – Accounting Package –Tally	5	3	25	75	100
	Part IV – Skill Based Course III – E-Banking	3	--	100	--	100
VI	Part III-Core XIV- Relational Database Management System	4	3	25	75	100
	Core XV- Financial Market Operations and Services	4	3	25	75	100
	Core XVI –Business Communication	4	3	25	75	100
	Elective III–Internet and Web Designing	4	3	25	75	100
	Core Practical V – RDBMS & HTML	2	3	30	50	80
	Part IV – Skill based Course IV- Practical	3	--	100	--	100
	Part III-Advanced Learner's Course_III - Human Resource Management	3*	3	--	100	100

Starred credits are to be treated as additional credits which are optional

Non Major Elective Course offered: Enterprise Resource Planning

30% of the syllabus in each course should be taught using OHP, LCD and Seminar.

**B.Com (Computer Applications) – Semester II**  
**Part III –Advanced Learner’s Course I- Business Law - Sub Code: 212ALR**  
**(For candidates admitted during the period 2012 – 2013 Onwards)**

**Preamble:**

This course aims

- to create awareness about various Laws and
- to familiarize the student with Business Law and its interpretation.

**Module I**

Indian Contract Act 1872: Definition of Contract-Essential elements of a valid contract-Classification-Offer and acceptance.

**Module II**

Consideration - Capacity to contracts- Free consent-Legality of Object.

**Module III**

Contingent contracts- Performance of Contract- Discharge of Contract.

**Module IV**

Breach of Contract-Quasi contracts-Contracts of Indemnity and Guarantee.

**Module V**

Bailment and Pledge: Features of Bailment-Classification of Bailment-Rights and Duties of Bailor and Bailee-Termination of Bailment. Characteristics of Pledge-Rights and duties of Pawnor and Pawnee.

**Books for Reference:**

- |                               |  |
|-------------------------------|--|
| 1. Business Law               | : N.D.Kapoor<br>Sultan chand&sons, New Delhi-2000. |
| 2. Elements of Mercantile Law | : N.D.Kapoor<br>Sultan chand&sons, New Delhi-2000. |
| 3. Business Law               | : M.V.Dhandapani<br>Sultan chand&sons, New Delhi.  |

**B.Com (Computer Applications) – Semester IV**  
**Part III –Advanced Learner’s Course II-Auditing - Sub Code: 411ALR**  
**(For candidates admitted during the period 2011 – 2012 Onwards)**

**Preamble:**

The aim of this course is

- to impart knowledge about the principles and methods of Auditing,
- to acquaint the students on various aspects of Audit and
- to enable the students to understand the procedure of Auditing.

**Module I**

Audit:Origin - Definition – Objects– Different classes of audit - Advantages of an audit -Difference between auditing and investigation.

**Module II**

Audit planning – benefits – Factors affecting audit planning. Audit Programme: Advantages. Internal Control: Meaning and importance – Internal check.

**Module III**

Vouching of cash transactions.

**Module IV**

Vouching of trading transactions – Audit of Impersonal Ledger.

**Module V**

Company auditor-Qualifications-Appointment- Rights and duties of company auditor.

**Books for Reference:**

1. A Hand book of Practical Auditing : B.N.Tandon  
Sultan Chand & Co Ltd, New Delhi.  
New Delhi. 2006 Edition.
2. Auditing Theory and Practice : S.Dayal, SBD Publishers Distributors,  
Eighth Edition.
3. Principles of Auditing (Theory &Practice) : R.G.Saxena, Himalaya Publishing  
House, Second Edition.

**B.Com (Computer Applications) – Semester VI****Part III-Advanced Learner's Course III- Human Resource Management - Sub Code:  
610ALR****(For candidates admitted during the period 2010-2011 Onwards)****Preamble:**

The aim of the course is

- to impart knowledge and understanding on various aspects of personal behaviour,
- to equip the students with the basic human resource management skills required in the running of a business organization.

**Module I**

Human Resource Management: Meaning – Importance - Objectives and functions.  
Human resource manager-Role.

**Module II**

Human Resource planning: Meaning - Benefits. Recruitment: Methods of Recruitment.  
Selection: Selection Process

**Module III**

Training and Induction – Meaning - Need – Objectives- Benefits – Methods.

**Module IV**

Performance Appraisal: Importance– Limitations of Appraisal Methods – Post Appraisal  
interview – Essentials of a good appraisal system.

**Module V**

Grievance & Discipline: Grievance: Meaning – Causes – Know about grievance.  
Grievance procedure: Meaning – Benefits – Features. Discipline: Meaning – Kinds.

**Books For Reference:**

1. Personal Management & Industrial Relations - Tripathi, Sultan Chand & Sons.  
New Delhi. Edition 2000.
2. Human Resource Management - P.Subba Rao & V.S.P Rao, Konark  
Publishers (p) Ltd,  
Delhi, Edition-1988.
3. Human Resource Management - R.Sharma, Lakshmi Narain  
Agarwal,  
Agra, Edition- 1996.
4. Human Resource Management - T.N.Chopra, Dhanpat Raj & Co  
Concepts and issues (p)Ltd . New Delhi, Edition 2000
5. Management of Human Resource - Rakesh K.Chopra, V.K. Publishing  
House, Bareilly, Edition 1989.
6. Human Resource Management - Dr.V.Balu  
Venkateswara publications, Chennai .  
2003.
7. Human Resource Management - Dr. Radha,  
Prasanna & Co,  
First Edition 2005.

**B.Com (Computer Applications) – Semester II**  
**Part III –Advanced Learner’s Course I- Business Law - Sub Code: 212ALR**  
**(For candidates admitted during the period 2012 – 2013 Onwards)**

**Preamble:**

This course aims

- to create awareness about various Laws and
- to familiarize the student with Business Law and its interpretation.

**Module I**

Indian Contract Act 1872: Definition of Contract-Essential elements of a valid contract-Classification-Offer and acceptance.

**Module II**

Consideration - Capacity to contracts- Free consent-Legality of Object.

**Module III**

Contingent contracts- Performance of Contract- Discharge of Contract.

**Module IV**

Breach of Contract-Quasi contracts-Contracts of Indemnity and Guarantee.

**Module V**

Bailment and Pledge: Features of Bailment-Classification of Bailment-Rights and Duties of Bailor and Bailee-Termination of Bailment. Characteristics of Pledge-Rights and duties of Pawnor and Pawnee.

**Books for Reference:**

1. Business Law : N.D.Kapoor  
Sultan chand&sons, New Delhi-2000.
2. Elements of Mercantile Law : N.D.Kapoor  
Sultan chand&sons, New Delhi-2000.
3. Business Law : M.V.Dhandapani  
Sultan chand&sons, New Delhi.

**B.Com (Computer Applications) – Semester IV**  
**Part III –Advanced Learner’s Course II-Auditing - Sub Code: 411ALR**  
**(For candidates admitted during the period 2011 – 2012 Onwards)**

**Preamble:**

The aim of this course is

- to impart knowledge about the principles and methods of Auditing,
- to acquaint the students on various aspects of Audit and
- to enable the students to understand the procedure of Auditing.

**Module I**

Audit:Origin - Definition – Objects– Different classes of audit - Advantages of an audit -Difference between auditing and investigation.

**Module II**

Audit planning – benefits – Factors affecting audit planning. Audit Programme: Advantages. Internal Control: Meaning and importance – Internal check.

**Module III**

Vouching of cash transactions.

**Module IV**

Vouching of trading transactions – Audit of Impersonal Ledger.

**Module V**

Company auditor-Qualifications-Appointment- Rights and duties of company auditor.



**Books for Reference:**

1. A Hand book of Practical Auditing : B.N.Tandon  
Sultan Chand & Co Ltd, New Delhi.  
New Delhi. 2006 Edition.
2. Auditing Theory and Practice : S.Dayal, SBD Publishers Distributors,  
Eighth Edition.
3. Principles of Auditing (Theory &Practice) : R.G.Saxena, Himalaya Publishing  
House, Second Edition.

**B.Com (Computer Applications) – Semester VI****Part III-Advanced Learner's Course III- Human Resource Management - Sub Code:  
610ALR****(For candidates admitted during the period 2010-2011 Onwards)****Preamble:**

The aim of the course is

- to impart knowledge and understanding on various aspects of personal behaviour,
- to equip the students with the basic human resource management skills required in the running of a business organization.

**Module I**

Human Resource Management: Meaning – Importance - Objectives and functions.  
Human resource manager-Role.

**Module II**

Human Resource planning: Meaning - Benefits. Recruitment: Methods of Recruitment.  
Selection: Selection Process

**Module III**

Training and Induction – Meaning - Need – Objectives- Benefits – Methods.

**Module IV**

Performance Appraisal: Importance– Limitations of Appraisal Methods – Post Appraisal  
interview – Essentials of a good appraisal system.

**Module V**

Grievance & Discipline: Grievance: Meaning – Causes – Know about grievance.  
Grievance procedure: Meaning – Benefits – Features. Discipline: Meaning – Kinds.

**Books For Reference:**

1. Personal Management & Industrial Relations - Tripathi, Sultan Chand & Sons.  
New Delhi. Edition 2000.
2. Human Resource Management - P.Subba Rao & V.S.P Rao, Konark  
Publishers (p) Ltd,  
Delhi, Edition-1988.
3. Human Resource Management - R.Sharma, Lakshmi Narain  
Agarwal,  
Agra, Edition- 1996.
4. Human Resource Management - T.N.Chopra, Dhanpat Raj & Co  
Concepts and issues (p)Ltd . New Delhi, Edition 2000
5. Management of Human Resource - Rakesh K.Chopra, V.K. Publishing  
House, Bareilly, Edition 1989.
6. Human Resource Management - Dr.V.Balu  
Venkateswara publications, Chennai .  
2003.
7. Human Resource Management - Dr. Radha,  
Prasanna & Co,  
First Edition 2005.

**2013 – 2014**  
**B.COM (COMPUTER APPLICATIONS)**  
**Semester wise distribution with scheme of Examination**  
**(For candidates admitted during the period 2012 – 2013 Onwards)**

Semester	Course	Credits	Duration of exam Hrs(ESE)	Marks CIA	Marks ESE	Total
<b>I</b>	Part I –Language I	3	3	25	75	100
	Part II –English I	3	3	25	75	100
	Part III- Core I-Principles of Accountancy	4	3	25	75	100
	Core II- Business Organization & Office Management	4	3	25	75	100
	Core Practical I- Ms-Office	2	3	30	50	80
	Allied I- Business Mathematics	5	3	25	75	100
	Part IV-Environmental Studies	2	--	50	--	50
<b>II</b>	Part I –Language II	3	3	25	75	100
	Part II –English II	3	3	25	75	100
	Part III- Core III- Financial Accounting	4	3	25	75	100
	Core IV- Programming in C	3	3	25	75	100
	Core Practical II- Programming in C	2	3	30	50	80
	Allied II – Business Statistics	5	3	25	75	100
	Part IV- Value Education	2	--	50	--	50
	Part III-Advanced Learner's Course I- Business Law	3*	3	--	100	100
<b>III</b>	Part III- Core V – Cost Accounting	4	3	25	75	100
	Core VI- Marketing	4	3	25	75	100
	Core VII- C++	3	3	25	75	100
	Core Practical III- C++	2	3	30	50	80
	Allied III- Managerial Economics	5	3	25	75	100
	Part IV-Non Major Elective – Enterprise Resource Planning	2	--	75	--	75
	Part IV-Skill based Course I - Principles of Banking.	3	--	100	--	100

Semester	Course	Credits	Duration of exam Hrs(ESE)	Marks CIA	Marks ESE	Total
IV	Part III- Core VIII – Management Accounting	4	3	25	75	100
	Core IX- Company Law	4	3	25	75	100
	Core X- Visual Basic	3	3	25	75	100
	Core Practical IV – Visual Basic	2	3	30	50	80
	Allied IV- Principles of Management	5	3	25	75	100
	Part IV-General Awareness	2	--	75	--	75
	Part IV – Skill based Course II – Basic Banking Operations	3	--	100	--	100
	Part III- Advanced Learner's Course_II –Auditing	3*	3	--	100	100
	Part V–Extension Activity	1	--	--	50	50
V	Part III- Core XI- Financial Management	5	3	25	75	100
	Core XII- Company Accounts	5	3	25	75	100
	Core XIII- E-Commerce	4	3	25	75	100
	Elective I – Income Tax Law and Practice	5	3	40	60	100
	Elective II – Accounting Package –Tally	5	3	25	75	100
	Part IV – Skill Based Course III – E-Banking	3	--	100	--	100
VI	Part III-Core XIV- Relational Database Management System	4	3	25	75	100
	Core XV- Financial Market Operations and Services	4	3	25	75	100
	Core XVI –Business Communication	4	3	25	75	100
	Elective III–Internet and Web Designing	4	3	25	75	100
	Core Practical V – RDBMS & HTML	2	3	30	50	80
	Part IV – Skill based Course IV- Practical	3	--	100	--	100
	Part III-Advanced Learner's Course_III - Human Resource Management	3*	3	--	100	100

Starred credits are to be treated as additional credits which are optional

Non Major Elective Course offered: Enterprise Resource Planning

30% of the syllabus in each course should be taught using OHP, LCD and Seminar.

**B.Com (Computer Applications) – Semester II**  
**Part III –Advanced Learner’s Course I- Business Law - Sub Code: 212ALR**  
**(For candidates admitted during the period 2012 – 2013 Onwards)**

**Preamble:**

This course aims

- to create awareness about various Laws and
- to familiarize the student with Business Law and its interpretation.

**Module I**

Indian Contract Act 1872: Definition of Contract-Essential elements of a valid contract-Classification-Offer and acceptance.

**Module II**

Consideration - Capacity to contracts- Free consent-Legality of Object.

**Module III**

Contingent contracts- Performance of Contract- Discharge of Contract.

**Module IV**

Breach of Contract-Quasi contracts-Contracts of Indemnity and Guarantee.

**Module V**

Bailment and Pledge: Features of Bailment-Classification of Bailment-Rights and Duties of Bailor and Bailee-Termination of Bailment. Characteristics of Pledge-Rights and duties of Pawnor and Pawnee.

**Books for Reference:**

- |                               |  |
|-------------------------------|--|
| 1. Business Law               | : N.D.Kapoor<br>Sultan chand&sons, New Delhi-2000. |
| 2. Elements of Mercantile Law | : N.D.Kapoor<br>Sultan chand&sons, New Delhi-2000. |
| 3. Business Law               | : M.V.Dhandapani<br>Sultan chand&sons, New Delhi.  |

**B.Com (Computer Applications) – Semester IV**  
**Part III –Advanced Learner’s Course II-Auditing - Sub Code: 411ALR**  
**(For candidates admitted during the period 2011 – 2012 Onwards)**

**Preamble:**

The aim of this course is

- to impart knowledge about the principles and methods of Auditing,
- to acquaint the students on various aspects of Audit and
- to enable the students to understand the procedure of Auditing.

**Module I**

Audit:Origin - Definition – Objects– Different classes of audit - Advantages of an audit -Difference between auditing and investigation.

**Module II**

Audit planning – benefits – Factors affecting audit planning. Audit Programme: Advantages. Internal Control: Meaning and importance – Internal check.

**Module III**

Vouching of cash transactions.

**Module IV**

Vouching of trading transactions – Audit of Impersonal Ledger.

**Module V**

Company auditor-Qualifications-Appointment- Rights and duties of company auditor.

**Books for Reference:**

1. A Hand book of Practical Auditing : B.N.Tandon  
Sultan Chand & Co Ltd, New Delhi.  
New Delhi. 2006 Edition.
2. Auditing Theory and Practice : S.Dayal, SBD Publishers Distributors,  
Eighth Edition.
3. Principles of Auditing (Theory &Practice) : R.G.Saxena, Himalaya Publishing  
House, Second Edition.

**B.Com (Computer Applications) – Semester VI****Part III-Advanced Learner's Course III- Human Resource Management - Sub Code:  
610ALR****(For candidates admitted during the period 2010-2011 Onwards)****Preamble:**

The aim of the course is

- to impart knowledge and understanding on various aspects of personal behaviour,
- to equip the students with the basic human resource management skills required in the running of a business organization.

**Module I**

Human Resource Management: Meaning – Importance - Objectives and functions.  
Human resource manager-Role.

**Module II**

Human Resource planning: Meaning - Benefits. Recruitment: Methods of Recruitment.  
Selection: Selection Process

**Module III**

Training and Induction – Meaning - Need – Objectives- Benefits – Methods.

**Module IV**

Performance Appraisal: Importance– Limitations of Appraisal Methods – Post Appraisal  
interview – Essentials of a good appraisal system.

**Module V**

Grievance & Discipline: Grievance: Meaning – Causes – Know about grievance.  
Grievance procedure: Meaning – Benefits – Features. Discipline: Meaning – Kinds.

**Books For Reference:**

1. Personal Management & Industrial Relations - Tripathi, Sultan Chand & Sons.  
New Delhi. Edition 2000.
2. Human Resource Management - P.Subba Rao & V.S.P Rao, Konark  
Publishers (p) Ltd,  
Delhi, Edition-1988.
3. Human Resource Management - R.Sharma, Lakshmi Narain  
Agarwal,  
Agra, Edition- 1996.
4. Human Resource Management - T.N.Chopra, Dhanpat Raj & Co  
Concepts and issues (p)Ltd . New Delhi, Edition 2000
5. Management of Human Resource - Rakesh K.Chopra, V.K. Publishing  
House, Bareilly, Edition 1989.
6. Human Resource Management - Dr.V.Balu  
Venkateswara publications, Chennai .  
2003.
7. Human Resource Management - Dr. Radha,  
Prasanna & Co,  
First Edition 2005.

Department of B.Com (e-Commerce)

1.2.1 Curriculam Framework

2017-18

Course Code	Course Title	Inst Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	TOTAL Marks	
117BT1/ 117MY1/ 117HD1/ 117FR1	<b>Semester – I</b> Part I – Language – I	6	3	25	75	100	4
117EN1	Part II – English – I	6	3	25	75	100	4
117B01/ 117R01/ 117N01/	<b>Part III</b> Core I- Financial Accounting - I	5	3	25	75	100	4
117N02	Core II- Fundamentals of e-Commerce	5	3	25	75	100	4
117AN1	Allied I – Office Automation Tools –Practicals	6	3	40	60	100	4
117EVS	Part IV – Environmental Studies	2	2	50	-	50	2
217BT2/ 217MY2/ 217HD2/ 217FR2	<b>Semester – II</b> Part I – Language -II	6	3	25	75	100	4
217EN2	Part II – English – II	6	3	25	75	100	4
217B03/ 217R03/ 217N03	<b>Part III</b> Core III- Financial Accounting - II	5	3	25	75	100	4
217N04	Core IV – Mobile Commerce	5	3	25	75	100	4
217AN2	Allied II – Oracle and MySQL-Practicals	6	3	40	60	100	4
217VEC	Part IV – Value Education	2	2	50	-	50	2
317B05/ 317R05/ 317N05	<b>Semester – III</b> Part III-Core V.– Corporate Accounting	5	3	25	75	100	4
317N06	Core VI – Visual Programming	4	3	25	50	75	3
317B07/ 317N07	Core VII- Principles of Management	5	3	25	75	100	4
317N08	Core VIII- Applications in Visual Programming – Practical	5	3	40	60	100	4

317AB3/ 317AR3/ 317AN3	Allied III – Mathematics in Business	6	3	25	75	100	4
317NEC	Part IV – Non Major Elective – Mobile Commerce	2	2	50	-	50	2
317BS1/ 317NS1	Part IV Skill Enhancement Course I – Business Application Tools:Image Editor-Practicals	3	3	75	-	75	3
417B09/ 417N09/	<b>Semester – IV</b> Part III - Core IX - Company Law	5	3	25	75	100	4
417B10/ 417R10/ 417N10/	Core X - Cost Accounting	5	3	25	75	100	4
417N11	Core XI – Web Designing	5	3	25	50	75	4
417N12	Core XII-Applications in Webpage Designing – Practical	4	3	40	60	100	4
417AB4/ 417AR4/ 417AN4	Allied IV- Statistics for Business	6	3	25	75	100	4
417NGA	Part IV – General Awareness	-	1	50	-	50	2
417BS2/ 417NS2	Part IV Skill Enhancement Course II – Business Application Tools: Business Data Analytics using Excel –Practicals	3	3	75	-	75	3
417GIS	Information Security – Level II	2	2	50	-	Grade	Grade
417ALN	Advanced Learners Course I Management Information System	-	-	-	100	100	4*
517B13/ 517R13/ 517N13/ 517V13	<b>Semester – V</b> Part III – Core XIII- E - Accounting – Practical	5	3	40	60	100	4
517B14/ 517R14/ 517N14/ 517V14	Core XIV- Income Tax	6	3	25	75	100	4
517N15	Core XV- Logistics Management	5	3	25	75	100	4
517B16/ 517R16/	Core XVI- Business Communication	5	3	25	75	100	4

517N16/ 517V16							
517NE1/ 517BE2/ 517RE2/ 517NE2	Elective I - e-Banking/ Retail Marketing	6	3	25	75	100	4
517NS3	Part IV– Skill Enhancement Course III –Image Designing-Practicals	3	3	75	-	75	3
617B17/ 617R17/ 617N17	<b>Semester – VI</b> Part III-Core XVII-Management Accounting	6	3	25	75	100	4
617N18	Core XVIII – e-Commerce Technology	5	3	25	75	100	3
617N19	Core XIX – e-Commerce Application –Online Transactions	4	3	40	60	100	4
617NE3/ 617BE4/ 617RE4/ 617NE4	Elective II – e-Retailing/Service Marketing	6	3	25	75	100	4
617NE5/ 617BE6/ 617RE6/ 617NE6	Elective III- e-Business/Digital Marketing	6	3	25	75	100	4
617BS4/ 617RS4/ 617NS4	Part IV – Skill Enhancement Course IV – Business Application Tools: Business Skills– Practical	3	3	75	-	75	3
617EX1/ 617EX2/ 617EX3/ 617EX4/ 617EX5	Part V – Extension Activities	-	-	50	-	50	2
617ALN	Advanced Learners Course II – Enterprise Resource Planning	-	-	-	100	100	4*
<b>Total</b>						<b>3500</b>	<b>140</b>

Starred Credits are treated as additional credits, which are optional.



## B.Com (e-Commerce)

### Semester-IV

#### Part IV Advanced Learners Course I –Management Information System 417ALN

(For the students admitted from the academic year 2017-2018 onwards)

#### Course Objectives

To impart knowledge on Management Information System.

To know the structure of information systems.

#### Unit I

Management Information System: Introduction to Data and Information- Characteristics of Information system-Types of Information system-Information Resource Management-Information Technology Architecture. Introduction of MIS: Definition-MIS Model- Components – Role and its importance.

#### Unit II

Information System Development: Introduction-Management Control of Systems development-Information system Plan-Prototyping-Life Cycle Approach-Stages in Life Cycle.

#### Unit III

Security and Control Issues: Introduction-Types of Controls. Computer Software: Introduction-Application Software-General Purpose of Application programs-Application specific programs-System Software-System Management programs-System Support Programs-System Development programs-programming Languages.

#### Unit IV

Information System in Business and Management: Introduction-Types of Decision-Simon's Model-DSS Concept-Characteristics and Components-Using DSS-Executive Information System-Transaction processing system-Artificial Intelligence. Expert System: Components and Application- Benefits and Limitations.

#### Unit V

Telecommunication: Introduction-Functions-Types of Signals- Trends in Telecommunication- Applications of Telecommunication-Electronic Communication System-Electronic Meeting System-Telecommunication Alternatives-Telecommunication Media-Telecommunication processors-Telecommunication Networks-Models of connectivity for Networks.

<b>Book for Study</b>			
<b>Unit</b>	<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
Unit I - V	Aman Jindal	Management Information System	Kalyani Publishers, 2014

<b>Books for Reference</b>		
<b>Author</b>	<b>Title</b>	<b>Publisher, Place of Publication, Edition, Year of Publication</b>
P.Mohan	Management Information System	Himalaya Publishing House, Mumbai 2013
Dr. S.P.Rajagopalan,	Management Information System	Margham Publications Chennai 2014.

**2016-17**  
**Curriculum Design**

(For the students admitted from the academic year 2015-2016 onwards)

Course Code	Course Title	Inst Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	TOTAL Marks	
115TA1/ 115HD1/ 115MY1/ 115FR1	<b>Semester – I</b> Part I – Language – I	6	3	25	75	100	4
115EN1	Part II – English – I	6	3	25	75	100	4
115B01/ 115R01/ 115N01/	Part III - Core I- Financial Accounting	5	3	25	75	100	4
115 B02/ 115R02/ 115N02/ 115V02	Core II- Business Management	5	3	25	75	100	4
115AB2/ 115AR1/ 115AN1/ 115AV1	Allied I – Office Automation Tools - Practical	6	3	40	60	100	4
115EVS	Part IV – Environmental Studies	2	2	50	-	50	2
215TA2/ 215HD2/ 215MY2/ 215FR2	<b>Semester – II</b> Part I – Language – II	6	3	25	75	100	4
215EN2	Part II – English – I	6	3	25	75	100	4
215B03/ 215R03/ 215N03	Part III - Core III – Company Law	5	3	25	75	100	4
215 B04/ 215R04/ 215N04/ 215V04	Core IV – Marketing	5	3	25	75	100	4
215AN2	Allied II – Oracle and PL/SQL	6	3	40	60	100	4
215VEC	Part IV – Value Education	2	2	50	-	50	2
315B05/ 315R05/ 315N05	<b>Semester – III</b> Part III-Core V– Higher Financial Accounting	5	3	25	75	100	4

315N06	Core VI - Logistics Management	6	3	25	75	100	4
315N07	Core VII- Programming in Visual Basic	4	3	25	50	75	3
315N08	Core VIII- Visual Programming	4	3	40	60	100	4
315 AB3/ 315AR3/ 315AN3	Allied III – Mathematics in Business	6	3	25	75	100	4
315NME	Part IV – Non Major Elective Course I - Mobile Commerce	2	2	50	-	50	2
315NS1	Skill Based Course I – e-Banking	3	3	75	-	75	3
415B09/ 415R09/ 415N09/ 415V09	<b>Semester – IV</b> Part III - Core IX - Business Communication	5	3	25	75	100	4
415B10/ 415R10/ 415N10/ 415V10	Core X - Cost Accounting	5	3	25	75	100	4
415N11	Core XI - Management Information System	4	3	25	50	75	3
415N12	Core XII- Data Analytics with Excel	5	3	40	60	100	4
415AB4/ 415AR4/ 415AN4	Allied IV- Statistics for Business	6	3	25	75	100	4
415NGA	Part IV – Non Major Elective Course II - General Awareness (online)	-	1	50	-	50	2
415NS2	Skill Based Course II - e-Retailing	3	3	75	-	75	3
415GIS	Information Security	2	2	50	-	Grade	Grade
415ALN	<b>Advanced Learners Course I</b> <b>Subject Viva Voce</b>	-	-	-	100	100	3*
515B13/ 515RP5/ 515N13/ 515V13	<b>Semester – V</b> Part III – Core XIII- E Accounting	6	3	40	60	100	4
515B14/ 515R14/ 515N14/ 515V14	Core XIV- Income Tax	6	3	25	75	100	4
515B15/ 515R15/ 515N15/ 515V15	Core XV- Business Finance	5	3	25	75	100	4
515B16/	Core XVI- Higher Corporate	5	3	25	75	100	4

515R16/ 515N16	Accounting						
515NE1	Elective I – Web Designing	5	3	25	75	100	4
515NS3/	Part IV– Skill Based Course III – e-Business	3	3	75	-	75	3
615B17/ 615R17/ 615N17/ 615V17	<b>Semester – VI</b> Part III-Core XVII-Management Accounting	6	3	25	75	100	4
615B18/ 615R18/ 615N18	Core XVIII – E Commerce	6	3	25	75	100	4
615N19	Core XIX - E-Commerce Applications- Practical	4	3	40	60	100	4
615NE2	Elective II – Enterprise Resource Planning	5	3	25	75	100	4
615BE3/ 615RE3/ 615NE3	Elective III – Financial Services	6	3	25	75	100	4
615NS4	Part IV – Skill Based Course IV – Mobile Commerce	3	3	75	-	75	3
615ALN	<b>Advanced Learners Course II</b> <b>Subject Viva Voce</b>	-	-	-	100	100	3*
615EX1/ 615EX2/ 615EX3/ 615EX4/ 615EX5	Part V – Extension Activities	-	-	50	-	50	2
<b>Total</b>						<b>3500</b>	<b>140</b>

Starred Credits are treated as additional credits, which are optional.

### **B.Com (e-Commerce)**

#### **Semester IV**

#### **Advance Learners Course I-Subject Viva Voce 415ALN**

**(For the students admitted from the academic year 2015 - 2016 onwards)**

A Subject Viva Voce covering the courses of the IV semester will be conducted and evaluated by external and internal examiners for 100 marks.

### **B.Com (e-Commerce)**

#### **Semester VI**

#### **Advance Learners Course II-Subject Viva Voce 615ALN**

**(For the students admitted from the academic year 2015 - 2016 onwards)**

A Subject Viva Voce covering the courses of the VI semester will be conducted and evaluated by an external and internal examiners for 100 marks.

2015-16

**Curriculum Design**

(For the students admitted from the academic year 2015-2016 onwards)

Course Code	Course Title	Inst Hrs/ week	Examination				Credits
			Dur. Hrs	CIA Marks	ESE Marks	TOTAL Marks	
115TA1/ 115HD1/ 115MY1/ 115FR1	<b>Semester – I</b> Part I – Language – I	6	3	25	75	100	4
115EN1	Part II – English – I	6	3	25	75	100	4
115B01/ 115R01/ 115N01/	Part III - Core I- Financial Accounting	5	3	25	75	100	4
115 B02/ 115R02/ 115N02/ 115V02	Core II- Business Management	5	3	25	75	100	4
115AB2/ 115AR1/ 115AN1/ 115AV1	Allied I – Office Automation Tools - Practical	6	3	40	60	100	4
115EVS	Part IV – Environmental Studies	2	2	50	-	50	2
215TA2/ 215HD2/ 215MY2/ 215FR2	<b>Semester – II</b> Part I – Language – II	6	3	25	75	100	4
215EN2	Part II – English – I	6	3	25	75	100	4
215B03/ 215R03/ 215N03	Part III - Core III – Company Law	5	3	25	75	100	4
215 B04/ 215R04/ 215N04/ 215V04	Core IV – Marketing	5	3	25	75	100	4
215AN2	Allied II – Oracle and PL/SQL	6	3	40	60	100	4
215VEC	Part IV – Value Education	2	2	50	-	50	2
315B05/ 315R05/	<b>Semester – III</b> Part III-Core V– Higher Financial Accounting	5	3	25	75	100	4

315N05							
315N06	Core VI - Logistics Management	6	3	25	75	100	4
315N07	Core VII- Programming in Visual Basic	4	3	25	50	75	3
315N08	Core VIII- Visual Programming	4	3	40	60	100	4
315 AB3/ 315AR3/ 315AN3	Allied III – Mathematics in Business	6	3	25	75	100	4
315NEC	Part IV – Non Major Elective Course I - Mobile Commerce	2	2	50	-	50	2
315NS1	Skill Based Course I – e-Banking	3	3	75	-	75	3
415B09/ 415R09/ 415N09/ 415V09	<b>Semester – IV</b> Part III - Core IX - Business Communication	5	3	25	75	100	4
415B10/ 415R10/ 415N10/ 415V10	Core X - Cost Accounting	5	3	25	75	100	4
415N11	Core XI - Management Information System	4	3	25	50	75	3
415N12	Core XII- Data Analytics with Excel	5	3	40	60	100	4
415AB4/ 415AR4/ 415AN4	Allied IV- Statistics for Business	6	3	25	75	100	4
415NGA	Part IV – Non Major Elective Course II - General Awareness (online)	-	1	50	-	50	2
415NS2	Skill Based Course II - e-Retailing	3	3	75	-	75	3
415GIS	Information Security	2	2	50	-	Grade	Grade
415ALN	<b>Advanced Learners Course I</b> <b>Subject Viva Voce</b>	-	-	-	100	100	3*
515B13/ 515RP5/ 515N13/ 515V13	<b>Semester – V</b> Part III – Core XIII- E Accounting	6	3	40	60	100	4
515B14/ 515R14/ 515N14/ 515V14	Core XIV- Income Tax	6	3	25	75	100	4
515B15/ 515R15/ 515N15/	Core XV- Business Finance	5	3	25	75	100	4

515V15							
515B16/ 515R16/ 515N16	Core XVI- Higher Corporate Accounting	5	3	25	75	100	4
515NE1	Elective I – Web Designing	5	3	25	75	100	4
515NS3/	Part IV– Skill Based Course III – e-Business	3	3	75	-	75	3
615B17/ 615R17/ 615N17/ 615V17	<b>Semester – VI</b> Part III-Core XVII-Management Accounting	6	3	25	75	100	4
615B18/ 615R18/ 615N18	Core XVIII – E Commerce	6	3	25	75	100	4
615N19	Core XIX - E-Commerce Applications- Practical	4	3	40	60	100	4
615NE2	Elective II – Enterprise Resource Planning	5	3	25	75	100	4
615BE3/ 615RE3/ 615NE3	Elective III – Financial Services	6	3	25	75	100	4
615NS4	Part IV – Skill Based Course IV – Mobile Commerce	3	3	75	-	75	3
615ALN	<b>Advanced Learners Course II</b> <b>Subject Viva Voce</b>	-	-	-	100	100	3*
615EX1/ 615EX2/ 615EX3/ 615EX4/ 615EX5	Part V – Extension Activities	-	-	50	-	50	2
<b>Total</b>						<b>3500</b>	<b>140</b>

Starred Credits are treated as additional credits, which are optional.

**Advance Learners Course I-Subject Viva Voce 415ALN**

**(For the students admitted from the academic year 2015 - 2016 onwards)**

A Subject Viva Voce covering the courses of the IV semester will be conducted and evaluated by external and internal examiners for 100 marks.

**B.Com (e-Commerce)**

**Semester VI**

**Advance Learners Course II-Subject Viva Voce 615ALN**

**(For the students admitted from the academic year 2015 - 2016 onwards)**

A Subject Viva Voce covering the courses of the VI semester will be conducted and evaluated by an external and internal examiners for 100 marks.

**2014-15**

**B.Com (e-Commerce)**

**Semester wise distribution with Scheme of Examination**

(For Candidates admitted during the academic year 2012 -2013 & onwards)

Semester	Course	Credits	Duration of Exam	Maximum		
				CI A	ES E	Total
I	Part I –Language I	3	3	25	75	100
	Part II- English I	3	3	25	75	100
	Part III Core I – Business Organization	4	3	25	75	100
	Core Practical I -Front office management	4	3	40	60	100
	Allied I – Business Mathematics	5	3	25	75	100
	Part IV – Environmental Studies	2		50	-	50
II	Part I – Language II	3	3	25	75	100
	Part II- English II	3	3	25	75	100
	Part III Core II – Financial Accounting	5	3	25	75	100
	Core Practical II–Oracle & PL/SQL	4	3	40	60	100
	Allied II – Business Statistics	5	3	25	75	100
	Part IV- Value Education	2		50	-	50
	Advanced Learners' Course I-Principles of Management	3*	3	-	100	100
III	Part III Core III - Cost Accounting	5	3	25	75	100
	Core IV – Marketing	4	3	25	75	100
	Core V – Programming in C	3	3	25	75	100
	Core Practical III - Programming in C	2	3	40	60	100
	Allied III – Principles of Information Technology	5	3	25	75	100
	Part IV Skill Based Course I –Principles of Banking	3		100	-	100
	Non-major Elective	2		75	-	75
IV	Part III Core VI- Higher Financial Accounting	5	3	25	75	100
	Core VII – e-Commerce Framework and Business Informatics	4	3	25	75	100
	Core VIII – Visual Programming	3	3	25	75	100
	Core Practical IV- Visual Programming	2	3	40	60	100
	Core Practical IV- Visual Programming	5	3	25	75	100
	Allied IV – Logistics Management	3		100	-	100
	Part IV Skill Based Course II- Basic Banking Operations	2		75	-	75
	Operations	3*	3	-	100	100
	General Awareness	1		50	-	50
Advanced Learners' Course II –Enterprise Resource Planning						



V	Part III Core IX – e-Commerce Strategy, Technology and Implementation	4	3	25	75	100
	Core X – Internet and Web design	3	3	25	75	100
	Core XI– Java programming	3	3	25	75	100
	Core practical V- e- Commerce Application	4	3	40	60	100
	Elective I-Income Tax	5	3	25	75	100
	Part IV - Skill Based Course III- e- Banking	3		100	-	100
VI	Part III Core XII –Management Accounting	5	3	25	75	100
	Core XIII - Financial Management	4	3	25	75	100
	Core XIV- Management Information System	4	3	25	75	100
	Elective II- Computerized Accounting Tally-practical	5	3	40	60	100
		5	3	25	75	100
	Elective III –Business Communication	3		100	-	100
	Part IV - Skill Based Course IV– Practical	3*	3	-	100	100
	<b>Advanced Learners' course III-Business Environment</b>					
Total Credits		140				3700

## B.Com (e-Commerce)

### Semester-II

#### Part-III Advanced Learners' Course I-Principles of Management Sub Code:212ALN (For Candidates admitted during the academic year 2012 -2013 onwards)

#### Preamble:

- To provide knowledge on management principle.
- To acquaint the student with the fundamentals of business management.

#### Module I

Management -Definition-Nature and Scope-Function-F.W.Taylor Contribution.

#### Module II

Planning -Meaning, Nature and Importance-Advantage-Limitation-Steps-Methods.

#### Module III

Motivation -Meaning, Nature-Importance-Types- Maslow hierarchy of needs – Herzberg's theory of needs.

#### Module IV

Leadership -Meaning-Importance-Functions of a leader-Qualities-Type of leadership- Leadership Style.

#### Module V

Co-Ordination -Need-Control-Steps in control Process-Techniques of Control.

#### **Book for Study:**

Principles of Management : T.Ramasamy

Himalaya Publishing House New Delhi, Edition 2010.

**B.Com (e-Commerce)**

**Semester-IV**

**Part III –ALC II-Enterprise Resource Planning      Sub Code: 412ALN**  
**(For Candidates admitted during the academic year 2012 -2013 onwards)**

**Preamble:**

- To provide knowledge of computerized business
- To teach applications of business and functional areas of operations.

**Module I**

Enterprise Resource Planning – Introduction – Evolution – Benefits – Enterprise – Integrated Management Information – Business model – Integrated Data Model.

**Module II**

ERP Related Technologies – BPR, MIS, DSS, EIS, Data Warehousing, Data Mining, OLAP, Supply Chain Management.

**Module III**

ERP Modules – Finance, Sales and Distribution, Human Resources.

**Module IV**

ERP Modules – Manufacturing, Plant Maintenance, Quality Management, Materials Management.

**Module V**

ERP Implementation – Life cycle – Vendors, Consultants and Users.

**Book for Study**

Enterprise Resource Planning : Alexis Leon, Tata McGraw hill publishing company  
limited, New Delhi, Ed 2010

**B.Com (e-Commerce)**

**Semester-VI**

**Part III –ALC III-Business Environment**

**Sub Code: 612ALN**

**(For Candidates admitted during the academic year 2012 -2013 onwards)**

**Preamble:**

- To impart knowledge about business environment
- To acquaint about Globalisation, Privatisation and liberalization

**Module I**

Business and its environment- Nature and scope of modern business- Objectives of business- Definition of Business environment-Factors-Demographic factors-Economic environment-Geographical and ecological environment-Political and legal environment.

**Module II**

Economic and non economic environment- basic aspect of business-economic environment of business- non-economic environment of business- classification of business environment.

**Module III**

Political environment: economic system-function of economic system-Capitalism-features- merits- weaknesses - modern capitalism- Socialism- merits- weaknesses.

**Module IV**

Socio-Cultural environments- evolution of society-population: Importance and impact on business- urbanization and its impact- business and culture- technological development and social change- secularism in modern India.

**Module V**

Liberalisation, Privatisation & Globalisation:Privatisation- Privatisation in India-Liberalisation- Improvement in competitiveness and internationalization- Globalisation-background for globalisation in India-merits-demerits.

**Book for study:**

Business Environment : Dr.S.Sankaran,Margham Publication,Chennai.

Edition 2005

2013-14

**B.Com (e-Commerce)**

**Semester wise distribution with Scheme of Examination**

**(For Candidates admitted during the academic year 2012 -2013 & onwards)**

Semester	Course	Credits	Duration of Exam	Maximum		
				CI A	ES E	Total
I	Part I –Language I	3	3	25	75	100
	Part II- English I	3	3	25	75	100
	Part III Core I – Business Organization	4	3	25	75	100
	Core Practical I -Front office management	4	3	40	60	100
	Allied I – Business Mathematics	5	3	25	75	100
II	Part I – Language II	3	3	25	75	100
	Part II- English II	3	3	25	75	100
	Part III Core II – Financial Accounting	5	3	25	75	100
	Core Practical II–Oracle & PL/SQL	4	3	40	60	100
	Allied II – Business Statistics	5	3	25	75	100
	Part IV- Value Education	2		50	-	50
	Advanced Learners' Course I-Principles of Management	3*	3	-	100	100
III	Part III Core III - Cost Accounting	5	3	25	75	100
	Core IV – Marketing	4	3	25	75	100
	Core V – Programming in C	3	3	25	75	100
	Core Practical III - Programming in C	2	3	40	60	100
	Allied III – Principles of Information Technology	5	3	25	75	100
	Part IV Skill Based Course I –Principles of Banking	3		100	-	100
	Non-major Elective	2		75		75
IV	Part III Core VI- Higher Financial Accounting	5	3	25	75	100
	Core VII – e-Commerce Framework and Business Informatics	4	3	25	75	100
	Core VIII – Visual Programming	3	3	25	75	100
	Core VIII – Visual Programming	2	3	40	60	100
	Core Practical IV- Visual Programming	5	3	25	75	100
	Allied IV – Logistics Management	3		100	-	100
	Part IV Skill Based Course II- Basic Banking Operations	2		75	-	75
	General Awareness	3*	3	-	100	100
V	Advanced Learners' Course II –Enterprise Resource	1		50	-	50
	Part III Core IX – e-Commerce Strategy, Technology and Implementation	4	3	25	75	100
	Core X – Internet and Web design	3	3	25	75	100
	Core XI– Java programming	3	3	25	75	100
	Core practical V- e- Commerce Application	4	3	40	60	100
	Elective I-Income Tax	5	3	25	75	100
	Part IV – Skill Based Course III e- Banking	3		100		100

VI	Part III Core XII –Management Accounting	5	3	25	75	100
	Core XIII - Financial Management	4	3	25	75	100
	Core XIV- Management Information System	4	3	25	75	100
	Elective II- Computerized Accounting Tally- practical	5	3	40	60	100
		5	3	25	75	100
	Elective III –Business Communication	3		100	-	100
	Part IV - Skill Based Course IV– Practical	3*	3	-	100	100
	Advanced Learners' course III-Business Environment					
Total Credits		140				3700

**Curriculum Design**  
**SRI G.V.G VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**  
 Affiliated to Bharathiar University  
**Department of Information Technology**  
 Scheme of Examination – CBCS Pattern  
 Programme: B.Sc.IT  
**(For the Students admitted from the academic year 2017 – 2018 onwards)**

Course Code	Course Title	Ins. Hrs/Week	Examination				Credits
			Dur. Hrs.	CIA Marks	ESE Marks	Total Marks	
<b>Semester I</b>							
117BT1/ 117MY1/ 117HD1/ 117FR1 117EN1	<b>Part I</b> Language I	6	3	25	75	100	4
117EN1	<b>Part II</b> English I	6	3	25	75	100	4
117G01	<b>Part III</b> Core I – Computer Fundamentals and Digital Principles	5	3	25	75	100	4
117GP1	Core Practical I – Internet and Open Source Office Automation Tools	5	3	40	60	100	4
117AG1	Allied I – Principles of Accountancy	6	3	25	75	100	4
117EVS	<b>Part IV</b> Environmental Studies	2	2	50	-	50	2
<b>Semester II</b>							
217BT2/ 217MY2/ 217HD2/ 217FR2	<b>Part I</b> Language II	6	3	25	75	100	4
217EN2	<b>Part II</b> English II	6	3	25	75	100	4
217G02	<b>Part III</b> Core II-C Programming	5	3	25	75	100	4
217GP2	Core Practical II-C Programming and Web Designing	5	3	40	60	100	4
217AG2	Allied II-Discrete Mathematics	6	3	25	75	100	4
217VEC	<b>Part IV</b> Value Education	2	2	50	-	50	2

Course Code	Course Title	Ins. Hrs/ Week	Examination				Credits
			Dur. Hrs.	CIA Marks	ESE Marks	Total Marks	
<b>Semester III</b>							
<b>Part III</b>							
317G03	Core III- Operating System	5	3	25	75	100	4
317G04	Core IV- C ++ Programming	4	3	25	75	100	4
317G05	Core V- Data Structures and Algorithms	5	3	25	75	100	4
317GP3	Core Practical III- C++ Programming	5	3	40	60	100	4
317AG3	Allied III- Operations Research	6	3	25	75	100	4
317NTA	Part IV: Non Major Elective Course I: Animation	2	2	50	-	50	2
317GS1	Skill Enhancement Course I: Multimedia – Image Designing and Graphics Tool	3	3	75	-	50	2
<b>Semester IV</b>							
<b>Part III</b>							
417G06	Core VI- .NET Programming	4	3	25	50	75	3
417G07	Core VII- Database Management Systems	5	3	25	75	100	4
417G08	Core VIII- Computer Networks	5	3	25	75	100	4
417GP4	Core Practical IV- .NET Programming	5	3	40	60	100	4
417AG4	Allied IV- Organizational Behavior	6	3	25	75	100	4
<b>Part IV</b>							
417NGA	Non Major Elective Course II : General Awareness (Online)	-	1	50	-	50	2
417GS2	Skill Enhancement Course II: Multimedia – Image Editing Tool	3	3	75	-	75	3
417GIS	Information Security	2	2	50	-	Grade	Grade
417ALG	Advanced Learners Course I – Enterprise resource planning	-	3	-	100	100	4*

# **B.Sc Information Technology**

## **Semester - I**

### **Part III - Core Practical I – Internet and Open Source Office Automation Tools**

**(For the students admitted from the academic year 2017 – 2018 onwards)117GP1**

#### **Course Objectives:**

**[65 Hrs]**

- To acquire a basic understanding of Writer, Spread sheet, Impress, and Database.
- To gain knowledge about basics on Internet and to share data between systems.

#### **List of Programs:**

##### **Writer:**

1. Prepare a Class Timetable.
2. Prepare a Resume.
3. Publish Students' Results using Mail Merge.
4. Create a Newsletter.
5. Create a document using Macros.
6. Create a document and perform,
  - i. Aligning and Formatting
  - ii. Add Page Numbers, Date and Time
  - iii. Find and Replace

##### **Spread Sheet:**

7. Create employee details using Sort and Filter.
8. Draw Graph and Chart for Population analysis.
9. Prepare a mark list of 5 subjects for a class and consolidate by using the formulae:  
Sum, Average, Maximum, Minimum and Count.
10. Prepare a sheet using date fill option, apply formatting styles and add Header and Footer.
11. Prepare a pivot table for student database.

##### **Impress:**

12. Prepare slides regarding Sports Day Invitation and use Hyperlink.
13. Prepare a presentation using custom animation.
14. Prepare a slide show with different slide Transition and add sound effects.



**Database:**

15. Prepare a database maintaining stock in a shop with fields: Serial Number, Product ID (Primary Key), Product Name, Quantity and Price.

16. Prepare a database for customer information and generate a report with customer name in ascending order.

**#Network and Internet:**

17. Setting up LAN Connection and share a file in LAN.

18. Create an email account.

19. Upload files in Google Drive.

20. Post your resume to a job portal.

**[#Spoken Tutorial]****Course Outcomes:**

Upon successful completion of this course, students will be able to

1. Work on Open Source Office package(Libre Office 5)
2. Understands about the components of computer packages (Writer, Spreadsheet, and Impress) and networking concepts.
3. Gain knowledge of Working with files and folders.
4. Understand the basic features of internet(sending and reading E-Mails, sending letters through attachments etc.,)
5. Effectively analyze data using Spreadsheet.

**Mapping of Course Outcomes with Programme Outcomes:**

	PO1	PO2	PO3	PO4	PO5	PO6	Knowledge Level
CO1	M	H	M	H	H	H	A
CO2	M	H	H	M	H	H	U
CO3	H	H	H	M	H	H	K
CO4	L	H	M	M	H	H	U
CO5	H	H	H	M	H	M	A

Course Designed by : Mrs. L.Sankara Maheswari

Course Reviewed by : Mrs. V.Vadivu

Course Checked by : Mrs. L.Sankara Maheswari

## **B.Sc. Information Technology**

### **Semester – IV**

#### **Part III- Allied IV- Organizational Behavior**

**417AG4**

**(For the students admitted from the academic year 2017 – 2018 onwards)**

#### **Course Objectives:**

**75 Hrs**

- To enable the students to acquire knowledge of organizational behavior.
- Successful completion of this course, the students should have understood Personality, Perception, Motivation, Job-satisfaction, morale, Group dynamics, Leadership traits, Counselling and guidance.

#### **Unit I:**

**[15 Hrs]**

Nature of Organizational Behavior: Concept of Organizational Behavior- Applying OB Knowledge to Management Practices. Foundation of Organizational Behaviour: Classical Approach-Neoclassical approach-Modern Approach- Organizational Behavior Models.

(Chapters : 1,2)

#### **Unit II:**

**[15 Hrs]**

Nature of Human Behavior: Concept of Behavior. Personality: Concept of Personality. Perception: Concept of Perception. Attitudes and Values: Attitudes-Attitude Change. Emotional Intelligence: Concept of Emotional Intelligence-Key Concepts for Review. Motivation: Concept of Motivation. Motivational Applications: Designing of Reward System.

(Chapters : 3,4,5,7,8,9,10)

#### **Unit III:**

**[15 Hrs]**

Group Dynamics: Concept of Group Dynamics-Formal Groups-Informal Group or Organization Group Behavior-Group Decision Making-Work Teams: Concept of Team-Power and Politics: Concept of Power-Politics. Conflict Management: Concept of Conflict-Individual level Conflict.

(Chapters : 13,14,15,18)

#### **Unit IV:**

**[15 Hrs]**

Leadership: Concept of Leadership-Leadership Theories. Design of Organization Structure: Concept of Organization Structure-Contingent Factors in Organizational Design. Forms of Organization Structure: Line Organization Structure-Line and Staff Organization Structure. Work Design and Work Stress: Impact of Technology on Organization-Theories of Work Design-Stress Management.

(Chapters : 16,19,20,21)

**Unit V:****[15 Hrs]**

Organizational Effectiveness: Concept of Organizational Effectiveness-Approaches to Measure Effectiveness-Criteria for Organizational Effectiveness-Managerial Effectiveness. Organizational Change: Nature of Organizational Change-Planned Change-Resistance to Change-Change Agents. Organization Development: Concept of Organization Development-OD Interventions.

(Chapters : 23,24,25)

**Book for Study:**

L M Prasad," Organizational Behavior", Sultan Chand and Sons,New Delhi.Reprint2014.

**Books for Reference:**

1. K.Aswathappa,"Organisational Behavior"Himalaya Publishing House,Twelfth Revised Edition 2016.
2. Stephen P.Robbins,Timothy A.Judge and Neharika Vohra,"Organizational Behaviour", Published by Dorling Kindersley(India) Pvt.Ltd,Licenseses of Pearson Education in South Asia, Second Impression, 2014.

**Course Outcomes:**

Upon successful completion of this course, students will be able to

1. Understand the behavior of an individual.
2. Improve their personality, perception, intelligence and motivation.
3. Possess continuous development through behavioral interventions.
4. Develop their leadership quality, morale, group dynamics, job satisfaction, counselling and guidance.

**Mapping of Course Outcomes with Programme Outcomes:**

OB	PO1	PO2	PO3	PO4	PO5	PO6	Knowledge Level
CO1	M	M	M	M	M	M	U
CO2	M	H	H	H	H	M	A
CO3	M	M	M	H	H	M	K
CO4	M	H	M	H	H	M	A

Course Designed by : Ms.G.Neelaveni.

Course Reviewed by : Ms. V.Vadivu.

Course Checked by : Ms.L.Sankara Maheswari.

**B.Sc. Information Technology**  
**Semester IV**

**Advanced Learners Course I – Enterprise Resource Planning 417ALG**

**(For the students admitted from the academic year 2017 – 2018 onwards)**

**Course Objectives:**

- To educate ERP management information system and to know how it integrates areas such as planning, purchasing, inventory, sales, marketing, finance, human resources, etc.
- To facilitate the flow of the information between all business and function inside the boundaries of the organization and manage the connection to outside stakeholders.

**Unit I:**

Enterprise Resource Planning: An Introduction-Introduction to Enterprise Resource Planning-A Brief History of ERP-Evolution of ERP- What is ERP?-What is ERP Systems, ERP Software?-Components of ERP-Need for ERP-Characteristics of ERP- Features of ERP-Benefits of ERP-Risk Governance Issues in an ERP-Tangible and Intangible Benefits of ERP-Advantages of ERP System-Disadvantages of ERP System-ERP vs Traditional Information Systems-Procurement process for ERP Package-Types of E-Procurement. Business Functions and Business Processes-Development of ERP Systems.

(Chapters : 1,2,3)

**Unit II:**

ERP and related technologies: Introduction to Business process reengineering(BPR)-Objectives of BPR-What is Business Process Reengineering-Elements of Business Re-Engineering-Challenges in a BPR-Critical Success and Failure Factors of BPR-Management Information System-Decision Support System-Executive Information Systems-Manufacturing Execution Systems-Data Warehousing-Data Mining-On-Line Analytical Processing-Supply Chain Management.

(Chapters : 4)

**Unit III:**

ERP Functional Modules: Functional Modules of ERP Software- ERP Implementation Life Cycle-Introduction-Objectives of ERP Implementation- Different Phases of ERP Implementation-Marketing Information Systems and Sales Order process in ERP: Introduction to Marketing Information System- Importance and Features of Marketing Information System-Sales and Distribution in ERP-Sales Order Process in ERP. Customer Relationship Management: Introduction-Importance of Customer Relationship Management-Challenges of CRM-Characteristics of Customer Relationship Management-Benefits of CRM-Uses of CRM-CRM Software.

(Chapters : 5,6,7,8)

**Unit IV:**

SAP: An Introduction-What is SAP?-Why SAP is used-Examples of Servers-Network Communication-SAP Basics. Production and SCM Information System: Sales forecasting-Materials Requirements Planning-Material Requirement Planning in SAP ERP. Accounting in ERP-Human Resource Process in ERP.

(Chapters : 9,10,11,12)

## Unit V:

Management by Objectives-Overview of System Packages: SAP AG-BAAN COMPANY –Oracle Corporation-PEOPLESOFT- JD.Edwards World Solution Company-QAD. Extended ERP.

(Chapters : 13,14,15)

### Book for Study:

Dr.P.Rizwan Ahmed,"Enterprise Resource Planning", Printed and Published by Margham Publicaions,Chennai. First Published 2015.Reprint 2016.

### Books for Reference:

1. Dr.Ashim Raj Singla,"Enterprise Resource Planning",Cengage Learning India Pvt.Ltd.Second Edition,2016.
2. Veena Bansal,"Enterprise Resource Planning A Managerial Perspective",Dorling Kindersley(India) Pvt.Ltd,first impression 2013.

### [It is a Self Study Paper]

### Course Outcomes:

Upon completion of the subject, students will be able to

1. Examine systematically the planning mechanisms in an enterprise, and identify all components in an ERP system and the relationships among the components;
2. Understand production planning in an ERP system, and systematically develop plans for an enterprise;
3. Use methods to determine the correct purchasing quantity and right time to buy an item, and apply these methods to material management;
4. Understand the difficulties of a manufacturing execution system, select a suitable performance measure for different objectives, and apply priority rules to shop floor control.
5. Communicate and assess an organization's readiness for enterprise system implementation with a professional approach in written form.

### Mapping of Course Outcomes with Programme Outcomes:

	PO1	PO2	PO3	PO4	PO5	PO6	Knowledge Level
CO1	M	H	H	H	M	H	A
CO2	H	H	H	H	H	H	U
CO3	H	H	H	H	H	H	A
CO4	M	H	H	H	H	H	U
CO5	M	H	H	H	H	H	A

Course Designed by : Ms. G.Neelaveni

Course Reviewed by : Ms. D.Jothikanna

Course Checked by : Ms. L.Sankara Maheswari

**Curriculum Design**  
**SRI GVG VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**  
 Affiliated to Bharathiar University  
 Department of Information Technology  
 Scheme of Examination – CBCS Pattern  
 Programme: B.Sc.IT  
 (For the students admitted during the academic year 2016 – 2017 only)

Course Code	Course Title	Ins. Hrs/ Week	Examination				Credits
			Dur. Hrs.	CIA Marks	ESE Marks	ESE Marks	
<b>Semester I</b>							
115BT1/ 115MY1/ 115HD1/ 115FR1	<b>Part I</b> Language I	6	3	25	75	100	4
115EN1	<b>Part II</b> English I	6	3	25	75	100	4
115G01	<b>Part III</b> Core I – Digital Principles and Computer Architecture	5	3	25	75	100	4
115GP1	Core Practical I -Word Processing and Internet	5	3	40	60	100	4
115AG1	Allied I – Principles of Accountancy	6	3	25	75	100	4
115EVS	<b>Part IV</b> Environmental Studies	2	2	50	-	50	2
<b>Semester II</b>							
215BT2/ 215MY2/ 215HD2/ 215FR2	<b>Part I</b> Language II	6	3	25	75	100	4
215EN2	<b>Part II</b> English II	6	3	25	75	100	4
215G02	<b>Part III</b> Core II-C Programming and Web Designing	6	3	25	75	100	4
216GP2	Core Practical II-C Programming and Web Designing	4	3	40	60	100	4
215AG2	Allied II-Discrete Mathematics	6	3	25	75	100	4
215VEC	<b>Part IV</b> Value Education	2	2	50	-	50	2

Course Code	Course Title	Ins. Hrs/ Week	Examination				Credits
			Dur. Hrs.	CIA Marks	ESE Marks	Total Marks	
<b>Semester III</b>							
<b>Part III</b>							
315G03	Core III-Object Oriented Programming with C++	4	3	25	75	100	4
315G04	Core IV-Data Structures and Algorithms	5	3	25	75	100	4
315G05	Core V- Operating System Concepts	5	3	25	75	100	4
315GP3	Core Practical III- Object Oriented Programming with C++	5	3	40	60	100	4
315AG3	Allied III- Operations Research	6	3	25	75	100	4
<b>Part IV:</b>							
315GS1	Skill Based Course I: Multimedia –Image Designing and Graphics Tool	3	3	75	-	75	3
315NTA	Non Major Elective Course I: 2D Animation-Practical	2	2	50	-	50	2
<b>Semester IV</b>							
<b>Part III</b>							
415G06	Core VI-.NET Programming	4	3	25	50	75	3
415G07	Core VII-Database Management Systems	5	3	25	50	75	3
415G08	Core VIII-Computer Networking and the Internet	5	3	25	75	100	4
415GP4	Core Practical IV- .NET Programming	5	3	40	60	100	4
415AG4	Allied IV- Principles of Management	6	3	25	75	100	4
<b>Part IV</b>							
415GS2	Skill Based Course II: Multimedia – Image Editor	3	3	75	-	75	3
415NGA	Non Major Elective Course II: General Awareness (Online)	-	1	50	-	50	2
415GIS	Information Security	2	2	-	-	Grade	Grade
<b>415ALG</b>	<b>Advanced Learners Course I – Enterprise Resource Planning</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>100</b>	<b>4*</b>

Course Code	Course Title	Ins. Hrs/ Week	Examination				Credits
			Dur. Hrs.	CIA Marks	ESE Marks	Total Marks	
<b>Semester V</b>							
515G09	<b>Part III</b> Core IX-Java Programming	4	3	25	75	100	4
515G10	Core X-Software Engineering and Testing Tools	5	3	25	75	100	4
515G11	Core XI- Cloud Computing	6	3	25	75	100	4
515GP5	Core Practical V- Java Programming and Software Testing	6	3	40	60	100	4
515GE1	Elective I –Computer Graphics	6	3	25	75	100	4
<b>Part IV</b>							
515GS3	Skill Based Course III: Multimedia - Animation	3	3	75	-	75	3
<b>Semester VI</b>							
<b>Part III</b>							
615G12	Core XII – PHP and Python Programming	5	3	25	75	100	4
615G13	Core XIII- Cryptography and Network Security	6	3	25	75	100	4
615GP6	Core Practical VI – Open Source Programming	4	3	40	60	100	4
615GE2	Elective II- Data Mining and Data Warehousing	6	3	25	75	100	4
615GPV	Project and Viva Voce	6	3	25	75	100	4
615GS4	<b>Part IV:</b> Skill Based Course IV: Multimedia – Authoring Tool	3	3	75	-	75	3
615EX1/ 615EX2/ 615EX3/ 615EX4/ 615EX5	<b>Part V:</b> Extension Activities	-	-	50	-	50	2
615ALG	<b>Advanced Learners Course II- Client/Server Technology</b>	-	-	-	100	100	4*

**Total Credits: 140**

Starred Credits are treated as additional credits, which are optional



**(For the students admitted from the academic year 2015 – 2016 onwards)**

**Preamble :**

- An ERP management information system integrates areas such as planning, purchasing, inventory, sales, marketing, finance, human resources, etc.
- The main purpose is to facilitate the flow of the information between all business and function inside the boundaries of the organization and manage the connection to outside stakeholders

**Unit I :**

Enterprise – An Overview-Introduction to ERP: Introduction – A Brief History of ERP – The Advantages of ERP – Why ERP Packages Now – Over Expectations in ERP – Roadmap for Successful ERP Implementation – The Role of CIO. Basic Concepts of ERP- Risks and Benefits of ERP.

**Unit II :**

ERP and Related Technologies-ERP-Functional Modules.ERP Implementation Basics : Why ERP – Technological, Operational, and Business Reasons for Implementing ERP. ERP implementation Life Cycle : Objectives of ERP Implementation – Different Phases of ERP Implementation – Why do Many ERP Implementations Fail.

**Unit III :**

ERP (Implementation) Transition Strategies – ERP Implementation Process : Implementation Methodologies – Implementation Strategy – ERP Implementation Plan – Risk Assessment – Budget – Cost – ERP Project Teams.

**Unit IV :**

Consultants, Vendors, and Employees - ERP Operation & Maintenance : Operation and Maintenance of the ERP System – Operation of the ERP System – ERP Maintenance Phase. Maximizing the ERP System.

**Unit V :**

ERP and eBusiness – ERP, Internet and WWW – ERP II – Future Directions and Trends in ERP. ERP Case Studies : JD EDWARDS AT HINDUSTAN PETROLEUM – SSA GLOBAL AT INAALFA ROOF SYSTEMS – ORACLE AT QUALCOMM CDMA TEHNOLOGIES.

**Book for Study:**

Alexis Leon, "Enterprise Resource Planning", Tata McGrawHill, II edition, seventh reprint 2010.

**Book for Reference:**

1. Vinod Kumar Garg , N.K. Venkitakrishnan. "Enterprise Recourses Planning Concepts and Practice" , Second Edition Prentice Hall of India Pvt Ltd.
2. Gaga deep S. Makkar , "Enterprise Resource Planning" , Vayu Education of India.  
[It is a self study course]

Course Designed By :Mrs.V.Vadivu

Course Reviewed By :Ms.G.Neelaveni

Checked By :Mrs.S.Shobana

**B .Sc Information Technology  
Semester V**

**Part III - Core X-Software Engineering and Testing Tools 515G10**

**(For the students admitted from the academic year 2015 – 2016 onwards)**

**Preamble: [65 Hrs]**

- To improve the quality of software products and to increase the productivity and job satisfaction of software engineers.
- It is a systematic approach for development, operation and maintenance of software.
- Gaining confidence in and providing information about the level of quality

**Unit I: [15 Hrs]**

Introduction: What is software?-Characteristics of Software-Evolution of Software for Business-Generations of Computers – Programming Languages-Paradigm Shift in Programming Techniques-Software crisis and Emergence of Software Engineering-Core Aspects of Software Engineering-Salient Features of Software Development. Software Development Process-Software Requirement Engineering-Software Design Approaches.

**Unit II: [13 Hrs]**

Structured Analysis-Structured Design-Object –Oriented Concepts and Principles: Relationships-Some More Concepts-Modeling Techniques-The Unified Approach to Modeling- Unified Modeling Language.

**Unit III: [13 Hrs]**

Object-oriented Analysis-Object-oriented Design- Case Study : User Interface Design- Coding and Documentation.

**Unit IV: [12 Hrs]**

Software Project Estimation. Software Project Management-Software Quality Management-Web Engineering.

**Unit V: [12 Hrs]**

Software testing process : Psychology of Testing – Verification and Validation – Testing Team and Development Team – Cost of Quality – Characteristics of Test Engineers – Why testing is difficult – Levels of Testing. Types of testing: white box testing-black box testing-Win runner-LoadRunner

**Book for Study:**

1. Jibitesh Nishra, Ashok Mohanty, “Software Engineering”, Edition – 2012, Pearson Education.
- 2 Dr.K.V.K.K.Prasad,,”Software Testing Tools”, Edition-2010, Dream Tech

**Book for Reference:**

1. Roger S.Pressman, “Software Engineering:A Practitioner’s Approach”, Sixth Edition, McGraw Hill International Edition-2005.
- 2 Srinivasan Desikan, Gopalaswamy Ramesh.”Software Testing Principles and Practices”, Pearson Education,2009

## **B.Sc. Information Technology**

### **Semester VI**

#### **Part III- Core XII – PHP and Python Programming 615G12**

**(For the students admitted from the academic year 2015 – 2016 onwards)**

**Preamble:** **[65 Hrs]**

- Gaining knowledge in Object Oriented Programming paradigm with python, studying about objects, inheritance of the open source language python.
- PHP is an object-oriented open source language that enables students to create real world applications.

**Unit I :** **[11 Hrs]**

Welcome To Python: What Is Python?- Origins- Features-Downloading and installing Python-Running Python-Python Documentation-Comparing Python-Other Implementations. Getting Started :Program Output ,the print Statement, and “Hello World!”-Program Input and the raw\_input() Built-in Function-Comments –Operators-Variables and Assignment-Numbers-Strings –Lists and Tuples.Python Basics:Statements and Syntax- Variable Assignment-Identifiers-Basic Style Guidelines –Memory Management.

**Unit II :** **[13Hrs]**

Conditionals And Loops: if Statement-else statement- elif(aka else- if) statements- Conditional Expressions(aka “the Ternary Operator”)-while Statement-for Statement-break Statement-continue Statement-pass Statement-else Statement..Take Two-Iterators and the iter() function.Files And Input/Output:File Objects-File Built-in Functions[open() and file()]-File Built-in Methods-File Built-in Attributes-Standard Files-Command-Line Arguments-File System-File Execution.Errors And Exceptions:What Are Exceptions?-Exceptions in Python-Detecting and Handling Exceptions.

**Unit III :** **[13Hrs]**

Functions And Functional Programming:What Are functions?-Calling Functions-Creating Functions-Variable Scope-\*Recursion. Object-Oriented Programming: Object-Oriented Programming -Classes-Class Attributes-Instances-Instance Attributes-Binding and Method Invocation-Static Methods and Class Methods-Composition-SubClassing and Derivation-Inheritance.

**Unit IV:** **[15Hrs]**

Introduction- Strings: Matching Patterns (Regular Expressions)- Checking the Spelling of a word- Matching Similar Strings- Counting the Number of times certain words Appear. Numbers: Retrieving a Number from a string- Converting Numbers into Roman numerals- Calculating Interest- Temperature Conversion. Time and Date: Calculating the Difference Between two dates- Leap year calculation- Determining Number of business days- Generating a calendar for a given month. Variables: Determining whether a Variable is equal to another- Accessing a Variable outside a Function,from Within it (global Variables)- keeping a persistent

Value Within a Function (static Variables)- having one Variable refer to another (references)- Using a Variable to hold the name of another Variable- declaring a constant instead of a Variable. Functions-Classes and Objects.

**Unit V:**

**[13Hrs]**

Files and directories: Generating a full Directory Listing, natural display of File sizes, Renaming all Files Within a Directory, search for File names Within a Directory tree, Handling relative and absolute File paths, reading a File via HTTP or FTP, Watching the contents of a File as it grows(Simulating UNIX tail-f),Generating a difference report Between two Files, locking a File for exclusive use, catching remote Files locally, compressing and uncompressing Files, Automatically including certain Files from the parent tree.Relational Databases: Communicating With MySQL- Communicating With Oracle- Communicating With Sybase- Communicating With Microsoft SQL server- Communicating With Databases through ODBC. User Authentication and Encryption: Generating Random Passwords- Using Encryption to Protect Data- Simple CAPTCHA for Real User Detection- Authenticating Users.

**Book for study:**

1.Wesley J.Chun,"Core Python Programming", Pearson education Inc.2<sup>nd</sup> Edition,6<sup>th</sup> impression,2012.(Unit I,II,III).

2.Elliott White III,Jonathan D.Eisenhamer"PHP 5 IN PRACTICE",Pearson education Inc.1<sup>st</sup> impression,2007.(Unit IV,V).

**Book for reference:**

1.Peter Norton,Alex Samuel,David Aitel,Eric foster-Johnson,Leonard Richardson,Jason Diamond,Aleatha Parker,Michael Roberts. Edition 2005,Printed at:Unique color carton offset printers.

2.Julie meloni,Matt Telles,PHP6

Course Designed by : Ms.G.Neelaveni

Course Reviewed by: Ms.V.Vadivu

Course Checked by : Ms.S.Shobana

**B.Sc Information Technology**

**Semester -VI**

**Part III-Core XIII –Cryptography and Network Security 615G13**

**(For the students admitted from the academic year 2015 – 2016 onwards)**

**Preamble:**

**[75 Hrs]**

- To gain the basic knowledge about the Cryptography and Network Security Protocols and technology
- To know about the important network security tools and applications

**Unit I:**

**[14 Hrs]**

Introduction to the Concepts Of Security-Cryptography Techniques-Computer Based Symmetric Key Cryptographic Algorithms:Introduction-Algorithm Types and Modes-An

Overview Of Symmetric-Key Cryptography-Data Encryption Standard (DES)-International Data Encryption Algorithm(IDEA).

**Unit II:** [15 Hrs]

Computer –Based Asymmetric-Key Cryptography Algorithms:Introduction-An Overview Of Asymmetric-Key Cryptography-The RSA Algorithm- Symmetric –And Asymmetric-Key Cryptography-Digital Signatures-Knapsack Algorithm.Public Key Infrastructure(PKI):Introduction-Digital Certificates.

**Unit III:** [15 Hrs]

Internet Security Protocols:Introduction-Basic Concepts-Secure Socket Layer(SSL)-Transport Layer Security(TLS)-Secure Hypertext Transfer Protocol(SHTTP)-Secure Electronic Transaction(SET)-SSL Versus SET-3-D Secure Protocol.

**Unit IV:** [16 Hrs]

User-Authentication Mechanisms-Practical Implementations Of Cryptography/Security-Introduction-Cryptographic Solutions Using Java.

**Unit V:** [15 Hrs]

Network Security-Case study:Firewalls and Virtual Private Networks(VPN)

**Book For Study:**

Atul Kahate,"Cryptography and Network Security", 3<sup>rd</sup> Edition ,Published By McGraw Hill Education(India)Private Limited

**Book For Reference :**

1. William Stallings ,"Cryptography and Network Security", Pearson Education,4<sup>th</sup> Edition.

2. William Stallings ,"Network Security Essentials-Applications and Standards", Pearson Education Pvt Ltd,Third Indian Print,2005

Course Designed by : Ms.G.Neelaveni

Course Reviewed by: Ms.V.Vadivu

Course Checked by : Ms.S.Shobana

### **B.Sc. Information Technology Semester VI**

**Part III – Core Practical VI – Open Source Programming 615GP6  
(For the students admitted from the academic year 2015 – 2016 onwards)**

**Listing of Programs** [52 Hrs]

#### **PHP**

1. Write a program to perform string manipulation
2. Write a program to generate a calendar to a given month.
3. Write a program by using functions concepts.
4. Write a program by using class and objects.
5. Write a connectivity program with Oracle database.

6. Write a connectivity program through ODBC
7. Design a Program to Create (edit) the Blog Spots.
8. Write a program to create a Google Map.

## **Python**

1. Write a program to implement command line arguments.
2. Write a program by using functional arguments.
3. Write a program to implement overloading operators.
4. Write a program to implement Classes.
5. Write a program to implement inheritance concept.
6. Write an Animated banner program.
7. Write a Simple calculator program.
8. Write a program to implement label, scale and button widgets.

Course Designed By : Ms.V.Vadivu  
Course Reviewed By: Ms.G.Neelaveni  
Checked By : Ms.S.Shobana

## **B.Sc. Information Technology Semester VI**

### **Part III - Elective II- Data Mining and Data Warehousing 615GE2 (For the students admitted from the academic year 2015 – 2016 onwards)**

**Preamble:** [75 Hrs]

- Data Mining is the process that results in the discovery of new patterns in large Data sets.
- The overall goal of the data mining process is to extract knowledge from an existing data set and transform it into a human-understandable structure for further use

**Unit I:** [14 Hrs]

Introduction: Basic Data Mining Tasks-Data Mining versus Knowledge Discovery in Databases-Data Mining Issues-Data Mining Metrics-Social Implications of Data Mining-Data Mining from a Database Perspective- Database/OLTP systems-Fuzzy Sets and Fuzzy Logic-Information Retrieval-Decision Support Systems-Dimensional Modeling-Data Warehousing-OLAP.

**Unit II:** [15 Hrs]

Data Mining Techniques: Introduction-Statistical perspective on data mining- Similarity measures- Decision trees- Neural Networks-Genetic Algorithm.

Clustering: Introduction-Hierarchical Algorithms: Agglomerative algorithm-Divisive Clustering-Partitional Algorithms ;Minimum spanning tree-Squared error clustering algorithm-K-Means clustering-Nearest neighbor algorithm-PAM algorithm-Bond energy algorithm-Clustering with genetic algorithm- Clustering with neural networks.

**Unit III:** [15 Hrs]

Association Rules: Introduction-Basic Algorithms: Apriori Alogrithm- Sampling algorithm- Partitioning

Advanced Association Rule Techniques: Generalized association rules-Multiple level association rules-Quantitative association rules-using multiple minimum supports-Correlation rules.

**Unit IV:**

**[16 Hrs]**

Web Mining: Introduction-Web Content Mining: Crawlers- Harvest system-Virtual web view- Personalization. Web Structure Mining: Page rank-Clever. Web Usage Mining: Preprocessing-Data structures-Pattern discovery-Pattern analyses.

Spatial Mining: Introduction-Spatial data overview: Spatial Queries-Spatial data structures-Thematic maps-Image databases-Spatial Rules-Spatial Classification Algorithm-Spatial Clustering Algorithm: CLARANS Extensions- SD (CLARANS).

**Unit V:**

**[15 Hrs]**

Data Warehousing: What is data warehouse?-System Process: Introduction-Overview-Typical process flow with in data warehouse-Extract and load process-Clean and Transform data-Backup and Archive process-Query management process.

Process Architecture: Introduction-Load manager-warehouse manager-query manager-Detailed information-Summary information-Meta Data-Data Marting.

**Books for Study:**

1. Margaret H.Dunham, S.Sridhar-“Data Mining-Introductory and Advanced Topics”, Pearson Education, Reprint 2008.[Module 1-IV]

2. Sam Anahory, Dennis Murray-“Data Warehousing in the Real World”, Pearson Education, Eleventh Indian reprint 2005.[Module V]

**Book for Reference:**

Pieter Adriaans, Dolf Zantinge,” Data Mining” , Pearson Education Ltd.,2009.

Course Designed By :Ms.V.Vadivu

Course Reviewed By :Mrs.T.Prasanthini

Checked By :Mrs.S.Shobana

**B .Sc Information Technology**

**Semester-VI**

**Advanced Learners Course II – Client/Server Technology 615ALG**

**(For the students admitted from the academic year 2015 – 2016 onwards)**

**Preamble:**

- To make the students to know to know about the types of client and server.
- This paper describes the client/server with distributing object.
- The client/server characteristic describes the relationship of cooperating programs in an application

**Unit I:**

What is client/server? – File servers – Database servers – Transaction servers – Groupware servers – object servers – Web servers – Fat servers or fat clients – client/server building blocks : Inside the building blocks – The road to bandwidth heaven : Bridges, Routers and Gateways.

**Unit II:**

Client, servers and operating systems : The anatomy of a server program – Server scalability – The OS wars: Client OS: OS/2 warp connect – windows 95 – Windows NT workstation – Mac OS – Server OS: Netware 4.1 – NT server – OS/2 warp server – UNIX.

**Unit III:**

SQL Database servers: SQL Database server architecture – stored procedure, triggers and rules – SQL middleware and federated databases: SQL middleware options – single vendor options – multi vendor option – open SQL gateways: IBI EDA/SQL – ISO/SAG RDA – IBM DRDA.

**Unit IV:**

Client/server transaction processing: The ACID properties – transaction models: client/server groupware: What is groupware – components of groupware: Electronic imaging client/server architecture –groupware multimedia document management – workflow – workflow models – workflow routes – workflow split & joins – electronic mail component – electronic mail infrastructure – scheduling & calendaring – conferencing –client/server with distributed objects: distributed objects & components.

**Unit V:**

Client/server and the internet: Web client/server the hypertext era: What is URL? – HTTP – 3-tier client/server, web style – JAVA client and CORBA ORBs – The DCOM/OLE object web – CORBA object web.

**Book for Study:**

Robert Orfali, Dan Harkey, Jerry Edwards, “The Essential Client/server Survival Guide”, II edition, Golgotia Publication Pvt Ltd, 2004.

**Book for Reference:**

Dawna Travis Dewire, “Client/Server Computing”, Tata Mc.Graw-Hill edition,2003.  
[It is a self study portion]

Course Designed By : Ms.D.Preetha

Course Reviewed By : Mrs.V.Vadivu

Checked By : Mrs.S.Shobana



**Curriculum Design**  
**SRI GVG VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**  
 Affiliated to Bharathiar University  
 Department of Information Technology  
 Scheme of Examination – CBCS Pattern  
 Programme: B.Sc.IT  
 (For the students admitted during the academic year 2015 – 2016 only)

Course Code	Course Title	Ins. Hrs/ Week	Examination				Credits
			Dur. Hrs.	CIA Marks	ESE Marks	ESE Marks	
<b>Semester I</b>							
115BT1/ 115MY1/ 115HD1/ 115FR1	<b>Part I</b> Language I	6	3	25	75	100	4
115EN1	<b>Part II</b> English I	6	3	25	75	100	4
115G01	<b>Part III</b> Core I – Digital Principles and Computer Architecture	5	3	25	75	100	4
115GP1	Core Practical I -Word Processing and Internet	5	3	40	60	100	4
115AG1	Allied I – Principles of Accountancy	6	3	25	75	100	4
115EVS	<b>Part IV</b> Environmental Studies	2	2	50	-	50	2
<b>Semester II</b>							
215BT2/ 215MY2/ 215HD2/ 215FR2	<b>Part I</b> Language II	6	3	25	75	100	4
215EN2	<b>Part II</b> English II	6	3	25	75	100	4
215G02	<b>Part III</b> Core II-C Programming and Web Designing	6	3	25	75	100	4
215GP2	Core Practical II-C Programming and Web Designing	4	3	40	60	100	4
215AG2	Allied II-Discrete Mathematics	6	3	25	75	100	4
215VEC	<b>Part IV</b> Value Education	2	2	50	-	50	2

Course Code	Course Title	Ins. Hrs/ Week	Examination				Credits
			Dur. Hrs.	CIA Marks	ESE Marks	Total Marks	
<b>Semester III</b>							
<b>Part III</b>							
315G03	Core III-Object Oriented Programming with C++	4	3	25	75	100	4
315G04	Core IV-Data Structures and Algorithms	5	3	25	75	100	4
315G05	Core V- Operating System Concepts	5	3	25	75	100	4
315GP3	Core Practical III- Object Oriented Programming with C++	5	3	40	60	100	4
315AG3	Allied III- Operations Research	6	3	25	75	100	4
<b>Part IV:</b>							
315GS1	Skill Based Course I: Multimedia –Image Designing and Graphics Tool	3	3	75	-	75	3
315NTA	Non Major Elective Course I: 2D Animation-Practical	2	2	50	-	50	2
<b>Semester IV</b>							
<b>Part III</b>							
415G06	Core VI-.NET Programming	4	3	25	50	75	3
415G07	Core VII-Database Management Systems	5	3	25	50	75	3
415G08	Core VIII-Computer Networking and the Internet	5	3	25	75	100	4
415GP4	Core Practical IV- .NET Programming	5	3	40	60	100	4
415AG4	Allied IV- Principles of Management	6	3	25	75	100	4
<b>Part IV</b>							
415GS2	Skill Based Course II: Multimedia – Image Editor	3	3	75	-	75	3
415NGA	Non Major Elective Course II: General Awareness (Online)	-	1	50	-	50	2
415GIS	Information Security	2	2	-	-	Grade	Grade
<b>415ALG</b>	<b>Advanced Learners Course I – Enterprise Resource Planning</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>100</b>	<b>4*</b>

Course Code	Course Title	Ins. Hrs/Week	Examination				Credits
			Dur. Hrs.	CIA Marks	ESE Marks	Total Marks	
<b>Semester V</b>							
515G09	<b>Part III</b> Core IX-Java Programming	4	3	25	75	100	4
515G10	Core X-Software Engineering and Testing Tools	5	3	25	75	100	4
515G11	Core XI- Cloud Computing	6	3	25	75	100	4
515GP5	Core Practical V- Java Programming and Software Testing	6	3	40	60	100	4
515GE1	Elective I –Computer Graphics	6	3	25	75	100	4
<b>Part IV</b>							
515GS3	Skill Based Course III: Multimedia - Animation	3	3	75	-	75	3
<b>Semester VI</b>							
<b>Part III</b>							
615G12	Core XII – PHP and Python Programming	5	3	25	75	100	4
615G13	Core XIII- Cryptography and Network Security	6	3	25	75	100	4
615GP6	Core Practical VI – Open Source Programming	4	3	40	60	100	4
615GE2	Elective II- Data Mining and Data Warehousing	6	3	25	75	100	4
615GPV	Project and Viva Voce	6	3	25	75	100	4
615GS4	Part IV:Skill Based Course IV: Multimedia – Authoring Tool	3	3	75	-	75	3
615EX1/ 615EX2/ 615EX3/ 615EX4/ 615EX5	<b>Part V:</b> Extension Activities	-	-	50	-	50	2
615ALG	<b>Advanced Learners Course II- Client/Server Technology</b>	-	-	-	100	100	4*

**B .Sc Information Technology  
Semester IV**

**Advanced Learners Course I -Enterprise Resource Planning      415ALG**

**(For the students admitted from the academic year 2015 – 2016 onwards)**

**Preamble :**

- An ERP management information system integrates areas such as planning, purchasing, inventory, sales, marketing, finance, human resources, etc.
- The main purpose is to facilitate the flow of the information between all business and function inside the boundaries of the organization and manage the connection to outside stakeholders

**Unit I :**

Enterprise – An Overview-Introduction to ERP: Introduction – A Brief History of ERP – The Advantages of ERP – Why ERP Packages Now – Over Expectations in ERP – Roadmap for Successful ERP Implementation – The Role of CIO. Basic Concepts of ERP- Risks and Benefits of ERP.

**Unit II :**

ERP and Related Technologies-ERP-Functional Modules.ERP Implementation Basics : Why ERP – Technological, Operational, and Business Reasons for Implementing ERP. ERP implementation Life Cycle : Objectives of ERP Implementation – Different Phases of ERP Implementation – Why do Many ERP Implementations Fail.

**Unit III :**

ERP (Implementation) Transition Strategies – ERP Implementation Process : Implementation Methodologies – Implementation Strategy – ERP Implementation Plan – Risk Assessment – Budget – Cost – ERP Project Teams.

**Unit IV :**

Consultants, Vendors, and Employees - ERP Operation & Maintenance : Operation and Maintenance of the ERP System – Operation of the ERP System – ERP Maintenance Phase. Maximizing the ERP System.

**Unit V :**

ERP and eBusiness – ERP, Internet and WWW – ERP II – Future Directions and Trends in ERP. ERP Case Studies : JD EDWARDS AT HINDUSTAN PETROLEUM – SSA GLOBAL AT INAALFA ROOF SYSTEMS – ORACLE AT QUALCOMM CDMA TECHNOLOGIES.

**Book for Study:**

Alexis Leon, "Enterprise Resource Planning", Tata McGrawHill, II edition, seventh reprint 2010.

**Book for Reference:**

3. Vinod Kumar Garg , N.K. Venkitakrishnan. "Enterprise Recourses Planning Concepts and Practice" , Second Edition Prentice Hall of India Pvt Ltd.
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[It is a self study course]

Course Designed By :Mrs.V.Vadivu

Course Reviewed By :Ms.G.Neelaveni

Checked By :Mrs.S.Shobana

**B .Sc Information Technology  
Semester V**

**Part III - Core X-Software Engineering and Testing Tools 515G10**

**(For the students admitted from the academic year 2015 – 2016 onwards)**

**Preamble: [65 Hrs]**

- To improve the quality of software products and to increase the productivity and job satisfaction of software engineers.
- It is a systematic approach for development, operation and maintenance of software.
- Gaining confidence in and providing information about the level of quality

**Unit I: [15 Hrs]**

Introduction: What is software?-Characteristics of Software-Evolution of Software for Business-Generations of Computers – Programming Languages-Paradigm Shift in Programming Techniques-Software crisis and Emergence of Software Engineering-Core Aspects of Software Engineering-Salient Features of Software Development. Software Development Process-Software Requirement Engineering-Software Design Approaches.

**Unit II: [13 Hrs]**

Structured Analysis-Structured Design-Object –Oriented Concepts and Principles: Relationships-Some More Concepts-Modeling Techniques-The Unified Approach to Modeling- Unified Modeling Language.

**Unit III: [13 Hrs]**

Object-oriented Analysis-Object-oriented Design- Case Study : User Interface Design- Coding and Documentation.

**Unit IV: [12 Hrs]**

Software Project Estimation. Software Project Management-Software Quality Management-Web Engineering.

**Unit V: [12 Hrs]**

Software testing process : Psychology of Testing – Verification and Validation – Testing Team and Development Team – Cost of Quality – Characteristics of Test Engineers – Why testing is difficult – Levels of Testing. Types of testing: white box testing-black box testing-Win runner-LoadRunner

**Book for Study:**

1. Jibitesh Nishra, Ashok Mohanty, “Software Engineering”, Edition – 2012, Pearson Education.
- 2 Dr.K.V.K.K.Prasad,,”Software Testing Tools”, Edition-2010, Dream Tech

**Book for Reference:**

1. Roger S.Pressman, “Software Engineering:A Practitioner’s Approach”, Sixth Edition, McGraw Hill International Edition-2005.
- 2 Srinivasan Desikan, Gopalaswamy Ramesh.”Software Testing Principles and Practices”, Pearson Education,2009

## **B.Sc. Information Technology**

### **Semester VI**

#### **Part III- Core XII – PHP and Python Programming 615G12**

**(For the students admitted from the academic year 2015 – 2016 onwards)**

**Preamble:** **[65 Hrs]**

- Gaining knowledge in Object Oriented Programming paradigm with python, studying about objects, inheritance of the open source language python.
- PHP is an object-oriented open source language that enables students to create real world applications.

**Unit I :** **[11 Hrs]**

Welcome To Python: What Is Python?- Origins- Features-Downloading and installing Python-Running Python-Python Documentation-Comparing Python-Other Implementations. Getting Started :Program Output ,the print Statement, and “Hello World!”-Program Input and the raw\_input() Built-in Function-Comments –Operators-Variables and Assignment-Numbers-Strings –Lists and Tuples.Python Basics:Statements and Syntax- Variable Assignment-Identifiers-Basic Style Guidelines –Memory Management.

**Unit II :** **[13Hrs]**

Conditionals And Loops: if Statement-else statement- elif(aka else- if) statements- Conditional Expressions(aka “the Ternary Operator”)-while Statement-for Statement-break Statement-continue Statement-pass Statement-else Statement..Take Two-Iterators and the iter() function.Files And Input/Output:File Objects-File Built-in Functions[open() and file()]-File Built-in Methods-File Built-in Attributes-Standard Files-Command-Line Arguments-File System-File Execution.Errors And Exceptions:What Are Exceptions?-Exceptions in Python-Detecting and Handling Exceptions.

**Unit III :** **[13Hrs]**

Functions And Functional Programming:What Are functions?-Calling Functions-Creating Functions-Variable Scope-\*Recursion. Object-Oriented Programming: Object-Oriented Programming -Classes-Class Attributes-Instances-Instance Attributes-Binding and Method Invocation-Static Methods and Class Methods-Composition-SubClassing and Derivation-Inheritance.

**Unit IV:** **[15Hrs]**

Introduction- Strings: Matching Patterns (Regular Expressions)- Checking the Spelling of a word- Matching Similar Strings- Counting the Number of times certain words Appear. Numbers: Retrieving a Number from a string- Converting Numbers into Roman numerals- Calculating Interest- Temperature Conversion. Time and Date: Calculating the Difference Between two dates- Leap year calculation- Determining Number of business days- Generating a

calendar for a given month. Variables: Determining whether a Variable is equal to another- Accessing a Variable outside a Function, from Within it (global Variables)- keeping a persistent Value Within a Function (static Variables)- having one Variable refer to another (references)- Using a Variable to hold the name of another Variable- declaring a constant instead of a Variable. Functions-Classes and Objects.

**Unit V:**

**[13Hrs]**

Files and directories: Generating a full Directory Listing, natural display of File sizes, Renaming all Files Within a Directory, search for File names Within a Directory tree, Handling relative and absolute File paths, reading a File via HTTP or FTP, Watching the contents of a File as it grows (Simulating UNIX tail-f), Generating a difference report Between two Files, locking a File for exclusive use, catching remote Files locally, compressing and uncompressing Files, Automatically including certain Files from the parent tree. Relational Databases: Communicating With MySQL- Communicating With Oracle- Communicating With Sybase- Communicating With Microsoft SQL server- Communicating With Databases through ODBC. User Authentication and Encryption: Generating Random Passwords- Using Encryption to Protect Data- Simple CAPTCHA for Real User Detection- Authenticating Users.

**Book for study:**

1. Wesley J. Chun, "Core Python Programming", Pearson education Inc. 2<sup>nd</sup> Edition, 6<sup>th</sup> impression, 2012. (Unit I, II, III).

2. Elliott White III, Jonathan D. Eisenhamer "PHP 5 IN PRACTICE", Pearson education Inc. 1<sup>st</sup> impression, 2007. (Unit IV, V).

**Book for reference:**

1. Peter Norton, Alex Samuel, David Aitel, Eric foster-Johnson, Leonard Richardson, Jason Diamond, Aleatha Parker, Michael Roberts. Edition 2005, Printed at: Unique color carton offset printers.

2. Julie meloni, Matt Telles, PHP6

Course Designed by : Ms. G. Neelaveni

Course Reviewed by: Ms. V. Vadivu

Course Checked by : Ms. S. Shobana

**B.Sc Information Technology**

**Semester -VI**

**Part III-Core XIII –Cryptography and Network Security 615G13**

**(For the students admitted from the academic year 2015 – 2016 onwards)**

**Preamble:**

**[75 Hrs]**

- To gain the basic knowledge about the Cryptography and Network Security Protocols and technology
- To know about the important network security tools and applications

**Unit I:**

**[14 Hrs]**

Introduction to the Concepts Of Security-Cryptography Techniques-Computer Based Symmetric Key Cryptographic Algorithms: Introduction-Algorithm Types and Modes-An

Overview Of Symmetric-Key Cryptography-Data Encryption Standard (DES)-International Data Encryption Algorithm(IDEA).

**Unit II:**

**[15 Hrs]**

Computer –Based Asymmetric-Key Cryptography Algorithms:Introduction-An Overview Of Asymmetric-Key Cryptography-The RSA Algorithm- Symmetric –And Asymmetric-Key Cryptography-Digital Signatures-Knapsack Algorithm.Public Key Infrastructure(PKI):Introduction-Digital Certificates.

**Unit III:**

**[15 Hrs]**

Internet Security Protocols:Introduction-Basic Concepts-Secure Socket Layer(SSL)-Transport Layer Security(TLS)-Secure Hypertext Transfer Protocol(SHTTP)-Secure Electronic Transaction(SET)-SSL Versus SET-3-D Secure Protocol.

**Unit IV:**

**[16 Hrs]**

User-Authentication Mechanisms-Practical Implementations Of Cryptography/Security-Introduction-Cryptographic Solutions Using Java.

**Unit V:**

**[15 Hrs]**

Network Security-Case study:Firewalls and Virtual Private Networks(VPN)

**Book For Study:**

Atul Kahate,"Cryptography and Network Security", 3<sup>rd</sup> Edition ,Published By McGraw Hill Education(India)Private Limited

**Book For Reference :**

1. William Stallings ,"Cryptography and Network Security", Pearson Education,4<sup>th</sup> Edition.
2. William Stallings ,"Network Security Essentials-Applications and Standards", Pearson Education Pvt Ltd,Third Indian Print,2005

Course Designed by : Ms.G.Neelaveni

Course Reviewed by: Ms.V.Vadivu

Course Checked by : Ms.S.Shobana



**B.Sc. Information Technology**  
**Semester VI**

**Part III – Core Practical VI – Open Source Programming 615GP6**  
**(For the students admitted from the academic year 2015 – 2016 onwards)**

**Listing of Programs**

**[52 Hrs]**

**PHP**

9. Write a program to perform string manipulation
10. Write a program to generate a calendar to a given month.
11. Write a program by using functions concepts.
12. Write a program by using class and objects.
13. Write a connectivity program with Oracle database.
14. Write a connectivity program through ODBC
15. Design a Program to Create (edit) the Blog Spots.
16. Write a program to create a Google Map.

**Python**

9. Write a program to implement command line arguments.
10. Write a program by using functional arguments.
11. Write a program to implement overloading operators.
12. Write a program to implement Classes.
13. Write a program to implement inheritance concept.
14. Write an Animated banner program.
15. Write a Simple calculator program.
16. Write a program to implement label, scale and button widgets.

Course Designed By : Ms.V.Vadivu  
Course Reviewed By : Ms.G.Neelaveni  
Checked By : Ms.S.Shobana

**B.Sc. Information Technology**  
**Semester VI**

**Part III - Elective II- Data Mining and Data Warehousing 615GE2**  
**(For the students admitted from the academic year 2015 – 2016 onwards)**

**Preamble:**

**[75 Hrs]**

- Data Mining is the process that results in the discovery of new patterns in large Data sets.
- The overall goal of the data mining process is to extract knowledge from an existing data set and transform it into a human-understandable structure for further use

**Unit I:**

**[14 Hrs]**

Introduction: Basic Data Mining Tasks-Data Mining versus Knowledge Discovery in Databases-Data Mining Issues-Data Mining Metrics-Social Implications of Data Mining-Data Mining from a Database Perspective- Database/OLTP systems-Fuzzy Sets and Fuzzy

**Unit II:**

**[15 Hrs]**

Data Mining Techniques: Introduction-Statistical perspective on data mining- Similarity measures- Decision trees- Neural Networks-Genetic Algorithm.

Clustering: Introduction-Hierarchical Algorithms: Agglomerative algorithm-Divisive Clustering-Partitional Algorithms ;Minimum spanning tree-Squared error clustering algorithm-K-Means clustering-Nearest neighbor algorithm-PAM algorithm-Bond energy algorithm-Clustering with genetic algorithm- Clustering with neural networks.

**Unit III:**

**[15 Hrs]**

Association Rules: Introduction-Basic Algorithms: Apriori Alogrithm- Sampling algorithm- Partitioning

Advanced Association Rule Techniques: Generalized association rules-Multiple level association rules-Quantitative association rules-using multiple minimum supports-Correlation rules.

**Unit IV:**

**[16 Hrs]**

Web Mining: Introduction-Web Content Mining: Crawlers- Harvest system-Virtual web view- Personalization. Web Structure Mining: Page rank-Clever. Web Usage Mining: Preprocessing-Data structures-Pattern discovery-Pattern analyses.

Spatial Mining: Introduction-Spatial data overview: Spatial Queries-Spatial data structures-Thematic maps-Image databases-Spatial Rules-Spatial Classification Algorithm-Spatial Clustering Algorithm: CLARANS Extensions- SD (CLARANS).

**Unit V:**

**[15 Hrs]**

Data Warehousing: What is data warehouse?-System Process: Introduction-Overview-Typical process flow with in data warehouse-Extract and load process-Clean and Transform data-Backup and Archive process-Query management process.

Process Architecture: Introduction-Load manager-warehouse manager-query manager-Detailed information-Summary information-Meta Data-Data Marting.

**Books for Study:**

1. Margaret H.Dunham, S.Sridhar-“Data Mining-Introductory and Advanced Topics”, Pearson Education, Reprint 2008.[Module 1-IV]

2. Sam Anahory, Dennis Murray-“Data Warehousing in the Real World”, Pearson Education, Eleventh Indian reprint 2005.[Module V]

**Book for Reference:**

Pieter Adriaans, Dolf Zantinge,” Data Mining” , Pearson Education Ltd.,2009.

Course Designed By :Ms.V.Vadivu

Course Reviewed By :Mrs.T.Prasanthini

Checked By :Mrs.S.Shobana

## **B .Sc Information Technology**

### **Semester-VI**

#### **Advanced Learners Course II – Client/Server Technology 615ALG**

**(For the students admitted from the academic year 2015 – 2016 onwards)**

#### **Preamble:**

- To make the students to know to know about the types of client and server.
- This paper describes the client/server with distributing object.
- The client/server characteristic describes the relationship of cooperating programs in an application

#### **Unit I:**

What is client/server? – File servers – Database servers – Transaction servers – Groupware servers – object servers – Web servers – Fat servers or fat clients – client/server building blocks : Inside the building blocks – The road to bandwidth heaven : Bridges, Routers and Gateways.

#### **Unit II:**

Client, servers and operating systems : The anatomy of a server program – Server scalability – The OS wars: Client OS: OS/2 warp connect – windows 95 – Windows NT workstation – Mac OS – Server OS: Netware 4.1 – NT server – OS/2 warp server – UNIX.

#### **Unit III:**

SQL Database servers: SQL Database server architecture – stored procedure, triggers and rules – SQL middleware and federated databases: SQL middleware options – single vendor options – multi vendor option – open SQL gateways: IBI EDA/SQL – ISO/SAG RDA – IBM DRDA.

#### **Unit IV:**

Client/server transaction processing: The ACID properties – transaction models: client/server groupware: What is groupware – components of groupware: Electronic imaging client/server architecture –groupware multimedia document management – workflow – workflow models – workflow routes – workflow split & joins – electronic mail component – electronic mail infrastructure – scheduling & calendaring – conferencing –client/server with distributed objects: distributed objects & components.

#### **Unit V:**

Client/server and the internet: Web client/server the hypertext era: What is URL? – HTTP – 3-tier client/server, web style – JAVA client and CORBA ORBs – The DCOM/OLE object web – CORBA object web.

#### **Book for Study:**

Robert Orfali, Dan Harkey, Jery Edwards, “The Essential Client/server Survival Guide”, II edition, Golgotia Publication Pvt Ltd, 2004.

**Book for Reference:**

Dawna Travis Dewire, "Client/Server Computing", Tata Mc.Graw-Hill edition,2003.  
[It is a self study portion]

Course Designed By : Ms.D.Preetha

Course Reviewed By : Mrs.V.Vadivu

Checked By : Mrs.S.Shobana

**Curriculum Design**  
**SRI GVG VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**  
 Affiliated to Bharathiar University  
 Department of Information Technology  
 Scheme of Examination – CBCS Pattern  
 Programme: B.Sc.IT  
 (For the students admitted from the academic year 2014 – 2015 only)

Semester	Title of the course	Examination				Credits
		Dur.Hrs.	CIA Marks	ESE Marks	ESE Marks	
I	<b>Part I</b> –Language I	3	25	75	100	3
	<b>Part II</b> – English I	3	25	75	100	3
	<b>Part III</b> Core I – Principles of Information Technology and Digital Fundamentals	3	25	75	100	4
	Core Practical I – Word Processing and Internet Lab	3	40	60	100	3
	Allied I- Principles of Accountancy	3	25	75	100	5
	<b>Part IV</b> - Environmental Studies	-	50	-	50	2
II	<b>Part I</b> -Language II	3	25	75	100	3
	<b>Part II</b> -English II	3	25	75	100	3
	<b>Part III</b> Core II-C Programming and Web Designing	3	25	75	100	4
	Core Practical II-C Programming and Web Designing Lab	3	40	60	100	3
	Allied II-Discrete Mathematics	3	25	75	100	5
	<b>Part IV</b> -Value Education	-	50	-	50	2
	<b>Advanced Learner's Course I- Principles of Management</b>	3	-	100	100	3*

Semester	Title of the course	Examination				Credits
		Dur.Hrs.	CIA Marks	ESE Marks	ESE Marks	
III	<b>Part III</b> Core III- Object Oriented Programming with C++	3	25	75	100	4
	Core IV- Data Structures and Algorithms	3	25	75	100	5
	Core V- Operating Systems	3	25	75	100	4
	Core Practical III – Object Oriented Programming with C++ Lab	3	40	60	100	2
	Allied III-Operations Research	3	25	75	100	5
	<b>Part IV</b> Skill Based Course Multimedia – Paper I- Page Maker and Corel Draw	-	100	-	100	3
	Non Major Elective Course I	-	75	-	75	2
IV	<b>Part III</b> Core VI - Visual Basic Programming	3	25	75	100	4
	Core VII-Relational Database Management Systems	3	25	75	100	4
	Core VIII- Computer Networks	3	25	75	100	4
	Core Practical IV - Visual Basic and RDBMS Programming Lab	3	40	60	100	3
	Allied IV- Enterprise Resource Planning	3	25	75	100	5
	Part IV Skill Based Course Multimedia – Paper II - Photoshop	-	100	-	100	3
	Non Major Elective Course II- General Awareness	-	75	-	75	2
	<b>Part V – Extension Activities</b> Advanced Learners Course II- Bioinformatics Computing	- 3	50 -	- 100	50 100	1 3*

Semester	Title of the course	Examination				Credits
		Dur.Hrs.	CIA Marks	ESE Marks	ESE Marks	
V	<b>Part III</b> Core IX-Java Programming	3	25	75	100	4
	Core X-Software Engineering	3	25	75	100	4
	Core XI- Microprocessor	3	25	75	100	5
	Elective I - Neural Networks and Fuzzy Logic	3	25	75	100	5
	Core Practical V- Java Programming Lab	3	40	60	100	3
	Part IV- Skill Based Course Multimedia –Paper III- Animation	-	100	-	100	3
VI	<b>Part III</b> Core XII-Embedded Systems	3	25	75	100	4
	Core XIII-Software Testing	3	25	75	100	4
	Core XIV-Information Security	3	25	75	100	4
	Elective II- Mobile Communications	3	25	75	100	5
	Project and Viva Voce	3	25	75	100	5
	Part IV Skill Based Course Multimedia – Paper IV- Authoring Tool	-	100	-	100	3
	<b>Advanced Learners Course III- Client/Server Technology</b>	<b>3</b>	<b>-</b>	<b>100</b>	<b>100</b>	<b>3*</b>

### Total Credits

140

Starred Credits are treated as additional credits, which are optional.

Non Major Elective Course offered by the Department – 2D Animation Practical

30% of the syllabus in each course should be taught using OHP/LCD & Seminar.

**B .Sc Information Technology**  
**(For Candidates admitted from 2014 – 2015 and onwards)**  
**Semester II      214ALG**  
**Advanced Learner's Course I – Principles of Management**

**Preamble:**

- This paper gives the ability to use business management techniques in an international environment effectively.
- The opportunity to generate and communicate ideas and improves leadership skills.

**Module I :**

Nature and Functions of Management: Introduction – What Do managers Do ? – Definition of Management – Is Management a Science, Art or Profession? – Levels of Managers – Categories of Managers- Management Process – Management by Exception – Principles of Sound Organization – Role of Managers. Nature of Organization.

**Module II :**

Evolution of Management Thoughts: Historical Context of Management – Scientific Management Theory – Administrative Management Theory – Human Relations Movement and Behavioristic Schools of Management. Planning: What is Planning – Organizational Goals-The Foundation of planning – Hierarchy of Organizational Plans – Management by Objectives(MBO).

**Module III :**

Organizing: Meaning and Definition of Organizing – Organizational Structure – Key Components of Organizing – Matrix Organization-The One with Combined Base – Coordination – Span of Control – Authority, Unity and Chain of Command – Different types of Organizational Structure. Leadership: Definition and Meaning of Leadership – Different Sources of Power – Authority – Management and Leadership - Approaches to Leadership – Directing.

**Module IV :**

Staffing: Importance of Staffing – Manpower Planning – Recruitment . Controlling: Definition of control – Importance of Control – Control Process – Need for Control – Types of Control – Designing Control Systems – Financial Controls – Behavioral Control – Management Information System(MIS) – Criteria for Effective Control System – Problems in Control Process.

**Module V :**

Decision Making: Introduction – Characteristics of a Good Decision – Types of Decision – How Decisions are made? – Commonly Occurring Errors in Decision-Making – Group Decision-Making. Communication: Communication Process – Purpose of Communication - Forms of Communication – Communication as Transactions – Types of Communication – Communication Network – Barriers to Communication – How to Overcome the Barriers to Communication. Corporate Ethics and Social Responsibility.

**Book for Study :**

KumKum Mukherjee, “Principles of Management”, Tata McGraw-Hill Publications, 2<sup>nd</sup> Edition. [It is a self study course]



Course Designed By :Ms.N.Sathyapriya

Course Reviewed By :Ms.G.Neelaveni

Checked By :Mrs.S.Shobana

**B .Sc Information Technology**  
**(For Candidates admitted from 2014-2015 and onwards)**

**Semester IV 414AG4**

**Part III - Allied IV-Enterprise Resource Planning**

**Preamble :** [75 Hrs]

- An ERP management information system integrates areas such as planning, purchasing, inventory, sales, marketing, finance, human resources, etc.
- the main purpose is to facilitate the flow of the information between all business and function inside the boundaries of the organization and manage the connection to outside stakeholders

**Module I :** [15 Hrs]

Enterprise – An Overview-Introduction to ERP: Introduction – A Brief History of ERP – The Advantages of ERP – Why ERP Packages Now – Over Expectations in ERP – Roadmap for Successful ERP Implementation – The Role of CIO. Basic Concepts of ERP- Risks and Benefits of ERP.

**Module II :** [15 Hrs]

ERP and Related Technologies-ERP-Functional Modules.ERP Implementation Basics : Why ERP – Technological, Operational, and Business Reasons for Implementing ERP. ERP implementation Life Cycle : Objectives of ERP Implementation – Different Phases of ERP Implementation – Why do Many ERP Implementations Fail.

**Module III :** [15 Hrs]

ERP (Implementation) Transition Strategies – ERP Implementation Process : Implementation Methodologies – Implementation Strategy – ERP Implementation Plan – Risk Assessment – Budget – Cost – ERP Project Teams.

**Module IV :** [15 Hrs]

Consultants, Vendors, and Employees - ERP Operation & Maintenance : Operation and Maintenance of the ERP System – Operation of the ERP System – ERP Maintenance Phase. Maximizing the ERP System.

**Module V :** [15 Hrs]

ERP and eBusiness – ERP, Internet and WWW – ERP II – Future Directions and Trends in ERP. ERP Case Studies : JD EDWARDS AT HINDUSTAN PETROLEUM – SSA GLOBAL AT INAALFA ROOF SYSTEMS – ORACLE AT QUALCOMM CDMA TECHNOLOGIES.

**Book for Study:**

Alexis Leon, "Enterprise Resource Planning", Tata McGrawHill, II edition, seventh reprint 2010.

Course Designed By :Mrs.V.Vadivu

Course Reviewed By :Ms.D.Preetha

Checked By :Mrs.S.Shobana

**B .Sc Information Technology**  
**(For Candidates admitted from 2014 – 2015 and onwards)**  
**Semester IV 414ALG**  
**Advanced Learner's Course II – Bioinformatics Computing**

**Preamble**

- Bioinformatics is the application of information technology to the field of molecular biology.
- Entails the creation and advancement of databases, algorithms, computational and statistical techniques and theory to solve formal and practical problems arising from the management and analysis of biological data.

**Module I:**

The Central Dogma: killer application-parallel universes-watson's definition-top-down versus bottom-up-Information flow-convergence.

**Module II:**

Databases: Definitions-Data management-Data life cycle-Database technology-Interfaces-Implementation.

**Module III:**

Networks: Geographical scope-Communication models-Transmission technology-Topology-Hardware-Contents-Security-Ownership-Implementation-Management-Search Engines: The search process-Search engine technology.

**Module IV:**

Data visualization: Sequence visualization-Structure visualization-User interface-Datamining: Methods.

**Module V:**

Pattern Matching: Fundamentals-Modelling and Simulation: Drug Discovery-Fundamentals-Protein structure-System Biology-Tools-Collaboration: Collaboration and communications-Standards.

**Book for Study:**

Bryan Bergeron, "Bioinformatics Computing", Pearson Prentice Hall, 2009.

[It is a self study course]

Course Designed By :Mrs.V.Vadivu

Course Reviewed By:Ms.N.Sathyapriya

Checked By :Mrs.S.Shobana

## B .Sc Information Technology

(For Candidates admitted from 2014- 2015 and onwards)

Semester-VI

614ALG

### Advanced Learner's Course III – Client/Server Technology

#### Preamble:

- To make the students to know to know about the types of client and server.
- This paper describes the client/server with distributing object.
- The client/server characteristic describes the relationship of cooperating programs in an application

#### Module I:

What is client/server? – File servers – Database servers – Transaction servers – Groupware servers – object servers – Web servers – Fat servers or fat clients – client/server building blocks : Inside the building blocks – The road to bandwidth heaven : Bridges, Routers and Gateways.

#### Module II:

Client, servers and operating systems : The anatomy of a server program – Server scalability – The OS wars: Client OS: OS/2 warp connect – windows 95 – Windows NT workstation – Mac OS – Server OS: Netware 4.1 – NT server – OS/2 warp server – UNIX.

#### Module III:

SQL Database servers: SQL Database server architecture – stored procedure, triggers and rules – SQL middleware and federated databases: SQL middleware options – single vendor options – multi vendor option – open SQL gateways: IBI EDA/SQL – ISO/SAG RDA – IBM DRDA.

#### Module IV:

Client/server transaction processing: The ACID properties – transaction models: client/server groupware: What is groupware – components of groupware: Electronic imaging client/server architecture –groupware multimedia document management – workflow – workflow models – workflow routes – workflow split & joins – electronic mail component – electronic mail infrastructure – scheduling & calendaring – conferencing –client/server with distributed objects: distributed objects & components.

#### Module V:

Client/server and the internet: Web client/server the hypertext era: What is URL? – HTTP – 3-tier client/server, web style – JAVA client and CORBA ORBs – The DCOM/OLE object web – CORBA object web.

#### Book for Study:

Robert Orfali, Dan Harkey, Jerry Edwards, “The Essential Client/server Survival Guide”, II edition, Golgotia Publication Pvt ltd, 2004.

[It is a self study portion]

Course Designed By : Ms.D.Preetha

Course Reviewed By : Mrs.V.Vadivu

Checked By : Mrs.S.Shobana

## B.Sc. Information Technology

### Semester wise distribution with Scheme of Examination with Credits

(For the students admitted during the academic year 2012 – 2013) and onwards

Semester	Title of the course	Credits	ESE (Hrs)	Marks		Total
				CIA	ESE	
I	Part I –Language I	3	3	25	75	100
	Part II – English I	3	3	25	75	100
	Part III - Core I-Digital Fundamentals and Computer Architecture	4	3	25	75	100
	Part III-Core Practical I –PC Software Packages	2	3	40	60	100
	Part III-Allied I-Principles of Accountancy	5	3	25	75	100
	Part IV- Environmental Studies	2	-	50	-	50
II	Part I-Language II	3	3	25	75	100
	Part II-English II	3	3	25	75	100
	Part III-Core II-C Programming	4	3	25	75	100
	Part III-Core Practical II- C Programming	3	3	40	60	100
	Part III- Allied II-Discrete Mathematics	5	3	25	75	100
	Part IV-Value Education	2	-	50	-	50
	<b>Advanced Learner's Course I-UNIX</b>	<b>3*</b>	<b>3</b>	<b>-</b>	<b>100</b>	<b>100</b>
III	Part III- Core III-Object Oriented Programming with C++	4	3	25	75	100
	Part III-Core IV-Data Structures and Algorithms	5	3	25	75	100
	Part III-Core V-Operating Systems	4	3	25	75	100
	Part III-Core Practical III-Object Oriented Programming with C++	2	3	40	60	100
	Part III-Allied III-Operations Research	5	3	25	75	100
	Part IV-Skill Based I- HTML, DHTML & Dream weaver	3	-	100	-	100
	Part IV-Non Major Elective	2	-	75	-	75

Semester	Title of the course	Credits	ESE (Hrs)	Marks		Total
				CIA	ESE	
IV	Part III-Core VI-Visual Basic Programming	4	3	25	75	100
	Part III-Core VII-Relational Database Management System	5	3	25	75	100
	Part III-Core VIII-Computer Networks	4	3	25	75	100
	Part III-Core Practical IV- Visual Basic and RDBMS Programming	3	3	40	60	100
	Part III-Allied IV-E-Commerce Concepts	5	3	25	75	100
	Part IV-Skill Based II-PageMaker and Corel Draw	3	-	100	-	100
	Part IV- General Awareness	2	-	75	-	75
	<b>Advanced Learner's Course II- Visual C# Programming</b>	<b>3*</b>	<b>3</b>	<b>-</b>	<b>100</b>	<b>100</b>
Part V-Extension Activities	1	-	50	-	50	
V	Part III- Core IX-JAVA Programming	4	3	25	75	100
	Part III- Core X-Software Engineering	5	3	25	75	100
	Part III- Core XI-Computer Graphics	4	3	25	75	100
	Part III- Core Practical V-JAVA and Computer Graphics Programming	3	3	40	60	100
	Part III-Elective I-Client Server Technology	5	3	25	75	100
	Part IV-Skill Based III-Photoshop	3	-	100	-	100
VI	Part III- Core XII-Web Technology	4	3	25	75	100
	Part III- Core XIII-Software Testing	4	3	25	75	100
	Part III- Core XIV-Network Security and Administration	4	3	25	75	100
	Part III- Elective II-Data Mining and Data Warehousing	5	3	25	75	100
	Part III- Project and Viva Voce	5	3	25	75	100
	Part IV-Skill Based IV-Flash	3	-	100	-	100
	<b>Advanced Learner's Course III- Mobile Computing</b>	<b>3*</b>	<b>3</b>	<b>-</b>	<b>100</b>	<b>100</b>

**Total Credits**

**140**

Starred Credits are treated as additional credits, which are optional.

**Semester II**

**Advanced Learner's Course I – UNIX**

**Preamble:**

- This paper describes the multi-user operating system.
- This describes the Kernel and shell relationships.

**Module I:**

Getting Started:The Operating System-The UNIX Operating System-Knowing Your Machine-A Brief Session-How It All Clicked-Linux and GNU.

The Unix Architecture and Command Usage:The UNIX Architecture-Features Of UNIX-POSIX and the Single UNIX Specification-Locating Commands-Internal and External Commands-Command Structure-Flexibility Of Command Usage-Man: Browsing the Manual Pages Online-Understanding the Man Documentation

General-Purpose Utilities:cal-date-echo-printf-bc-script-E-mail basics-mailx-passwd-who-uname-tty-stty.

**Module II:**

The File System:The File-What's in a(file)name?-The Parent-Child Relationship-The HOME Variable-pwd-cd-mkdir-rmdir-Absolute Pathnames-Relative Pathnames-ls-The UNIX File System.

Handling Ordinary Files:cat-cp-rm-mv-more-The lp SubSystem-file-wc-od-cmp-comm-diff-dos2unix and unix2dox-Compressing and Archiving Files-gzip and gunzip-tar-zip and unzip.

Basic File Attributes: lx-l-The – d option-File Ownership-File Permission-chmod-Directory Permission-Changing File Ownership.

**Module III:**

The vi Editor: vi Basics-Input Mode Entering and Replacing Text-Saving Text and Quitting-The ex Mode-Navigation-Editing Text-Undoing Last Editing Instructions-Repeating the Last Command-Searching for a Pattern-Substitution-Search and Replace.

The Shell:The Shell's Interpretive Cycle-Shell Offerings-Pattern Matching-The Wild Cards-Escaping and Quoting-Redirection-Two Special Files-Pipes-tee-Command Substitution-Shell Variables.

**Module IV:**

The Process:Process Basics-ps-System Processes-Mechanism of Process Creation-Internal and External Commands-Process State and Zombies-Running Jobs in Background-nice-Killing Processes with signals-Job Control-at and batch-cron-time.

Customizing the Environment: The Shells-Environment Variables-The Common Environmental Vairables-Aliases-Command History-In-line Command Editing –Miscellaneous Features-The Initialization Scripts.

## Module V:

Essential Shell Programming: Shell Scripts-read-Using Command line Arguments-exit and Exit States Command-The Logical Operators && and | |-Conditional Execution-The If Conditional-Using Text and []to Evaluate Expression-The case Conditional-expr-\$0-while-for-set and shift-The Here Document-trap-Debugging Shell Scripts with Set – x-Sample Validation and Data Entry Scripts.

## Book for Study:

Sumitabha Das, “UNIX Concepts & Applications”,Tata McGraw Hill,Fourth Edition,2008.

Course Designed By :Ms.V.Vadivu

Course Reviewed By :Mrs.M.Malini

Checked By :Mrs.Shobana

## B .Sc Information Technology

(For Candidates admitted from 2011- 2012 and onwards)

### Semester- IV

### Advanced Learner’s Course II – Visual C# Programming

#### Preamble:

- Visual C# is heavily used by ASP.NET web sites and standalone applications based on the .NET Framework
- To inculcate an in-depth programming knowledge in OOPS and GUI.

#### Module I:

Introduction to Microsoft Visual C# Programming: A Demonstration of Visual C# 2008-Common Elements in Visual C# 2008-C# Core language features. Types: Classes-Structures-Enumeration-Equivalence versus Identity-Class Refinement.

#### Module II:

Inheritance: Inheritance Example-*System.Object-Employee* Class-Implementing Inheritance-Overriding Inherited Behavior-The *new* Modifier-Abstract Classes- Sealed Classes-Constructors and Destructors-Interfaces-Polymorphism-Casting-Attribute Inheritance-Visual Studio 2008.

#### Module III:

Introduction to Visual Studio 2008: Migrating to Visual Studio 2008-Integrated Development Environment-Class Hierarchies-Code Editor-Code Snippets-Refactoring-Building and Deployment-Arrays and Collections.

#### Module IV:

Arrays and Collections:Arrays-LINQ.Introduction to LINQ: C# Extensions-LINQ Essentials-LINQ to objects-LINQ Operators-Generics

## Module V:

Generics-Generic Types- Generic methods-Constraints-Casting-Inheritance-Static members-Enumerators.Enumerators:Enumerable Objects-Generic Enumerators-Iterators-Operator Overloading.

### Book for Study:

Donis Marshall, "Programming Microsoft Visual C# 2008: The Language", Microsoft Press, 2008 .

Course Designed By :Ms.T.Prasanthini

Course Reviewed By :Ms.M.Malini

Checked By :Mrs.S.Shobana

**B.Sc. Information Technology**  
(For Candidates admitted from 2010-2011 and Onwards)

<b>Subject Code:</b> <b>610ALG</b>
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## Semester VI

### Advanced Learner's Course III- Mobile Computing

#### Preamble

- To learn the basics of Wireless voice and data communications technologies.
- To build working knowledge on various telephone and satellite networks.
- To study the working principles of wireless LAN and its standards.

#### Module I

Introduction – Applications – A simplified reference model - Overview - Wireless transmission – Frequencies for radio transmission – Signals – Antennas – Signal Propagation – Multiplexing – Modulations – Spread spectrum – Cellular Systems.

#### Module II

Medium Access Control – SDMA – FDMA – TDMA – CDMA – Comparison of S/T/F/CDMA. Telecommunication systems – GSM – DECT – TETRA- UMTS and IMT-2000- Satellite Systems - Basics – Routing- Localization-Handover.

#### Module III

Broadcast Systems – Overview-Cyclical repetition of data – Digital audio broadcasting –

Digital Video broadcasting – Convergence of broadcasting and mobile communications -

Wireless LAN-IEEE 802.11-HIPERLAN.

#### Module IV

Mobile Network Layer -Mobile IP – Dynamic Host Configuration Protocol –Mobile ad-hoc Networks- Mobile Transport Layer – Traditional TCP – Classical TCP improvements.



## Module V

Support for mobility – File systems – World Wide Web – Wireless application protocol – i-mode – SyncML-WAP 2.0.

### **Book for Study:**

Jochen Schiller, “Mobile Communications”, PHI/Pearson Education, Second Edition, 2003.

Course Designed By : Ms.P.Manonmani

Course Reviewed By : Ms.A.Manjula

Checked By : Ms.S.Shobana

**Curriculum Design**  
**SRI GVG VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**  
**Affiliated to Bharathiar University**  
**Department of Statistics**  
**B.Sc. Statistics**  
**Scheme of Examination – CBCS Pattern**  
**[For students admitted during the academic year 2017-2018 and onwards]**

Course Code	Course Title	Ins. Hrs/Week	Examination				Credit
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester I</b>							
117TA1/ 117MY1/ 117HD1/ 117FR1	Part I: Language I	6	3	25	75	100	4
117EN1	Part II: English I	6	3	25	75	100	4
117W01	Part III: Core I: Descriptive Statistics - I	4	3	25	75	100	4
117W02	Core II: Descriptive Statistics - II	4	3	25	75	100	4
217WP1	Core Practical I: Statistical Practical I	2	-	-	-	-	-
117AW1	Allied I : Mathematics for Statistics I	6	3	25	75	100	4
117EVS	Part IV: Environmental Studies	2	3	50	-	50	2
<b>Semester II</b>							
217TA2/ 217MY2/ 217HD2/ 217FR2	Part I: Language II	6	3	25	75	100	4
217EN2	Part II: English II	6	3	25	75	100	4
217W03	Part III: Core III: Applied Statistics	6	3	25	75	100	4
217WP1	Core Practical I: Statistical Practical I	4	3	25	50	75	3
217AW2	Allied II : Mathematics for Statistics II	6	3	25	75	100	4
217VEC	Part IV: Value Education	2	3	50	-	50	2

Course Code	Course Title	Ins. Hrs/Week	Examination				Credit
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
317TA3/ 317MY3/ 317HD3/ 317FR3	<b>Semester III</b> Part I: Language III	6	3	25	75	100	4
317EN3	Part II: English III	6	3	25	75	100	4
317W04	Part III: Core IV : Demographic methods	3	3	25	75	100	4
317W05	Core V: Probability Distribution-I	3	3	25	75	100	4
317AW3	Allied III: Computer programming for Statistical Analysis-I	5	3	25	50	75	3
	Allied Practical - C & C++ programming	2	-	-	-	-	-
317NSA	Part IV : NME - Statistical Analysis	2	2	50	-	50	2
317WS1	Skill Enhancement Course I : Actuarial Statistics - I	3	3	75	-	75	3
417TA4/ 417MY4/ 417HD4/ 417FR4	<b>Semester IV</b> Part I: Language IV	6	3	25	75	100	4
417EN4	Part II: English IV	6	3	25	75	100	4
417W06	Part III: Core VI: Probability Distribution-II	4	3	25	75	100	4
417WP2	Core Practical II: Statistical Practical II	2	3	25	50	75	3
417AW4	Allied IV : Computer programming for Statistical Analysis-II	5	3	25	50	75	3
417AWP	Allied Practical - C & C++ programming	2	3	20	30	50	2
417NGA	Part IV : General Awareness	-	1	50	-	50	2
417WS2	Skill Enhancement Course II: Actuarial Statistics - II	3	3	75	-	75	3
417GIS	Information Security	2	2	50	-	Grade	Grade

Course Code	Course Title	Ins. Hrs/Week	Examination				Credit
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester V</b>							
Part III:							
517W07	Core VII : Statistical Inference I	5	3	25	7	100	4
517W08	Core VIII: Basic Sampling theory	5	3	25	5	100	4
517W09	Core IX : Design of Experiments	5	3	25	75	100	4
	Core Practical III: Statistical Practical III	2	-	-	-	-	-
517W10	Core X: Numerical Mathematics	5	3	25	75	100	4
517WE1	Elective I: Psychological Statistics	5	3	25	75	75	3
Part IV :							
517WS3	Skill Enhancement Course III : Actuarial Statistics – III	3	3	75	50	75	3
<b>Semester VI</b>							
Part III:							
617W11	Core XI: Statistical Inference II	5	3	25	75	100	4
617W12	Core XII: Statistical Quality Control	5	3	25	75	100	4
617WP3	Core Practical III: Statistical Practical III	2	3	25	50	75	3
617WE2	Elective II: Elements of Econometrics	5	3	25	50	75	3
617WE3	Elective III: Operations Research	5	3	25	50	75	3
617WP4	Core Practical IV: Statistical Practical IV	5	3	40	60	100	4
Part IV :							
617WS4	Skill Enhancement Course IV: Actuarial Statistics - IV	3	3	75	-	75	3
617EX1/ 617EX2/ 617EX3/ 617EX4/ 617EX5	Part V : Extension	-	-	50	-	50	2
<b>Total</b>						3500	140

## B.Sc Statistics

### Semester I

#### Part III – Core I – DESCRIPTIVE STATISTICS – I

117W01

[For students admitted during the academic year 2017 – 2018 and onwards]

52 Hours

The objective of this course is

- to know the history of Statistics and learnt data presentation in various forms.

#### Unit I (11 Hours)

Origin, scope, limitations and misuse of Statistics – Collection – Classification – Tabulation of data. Diagrammatic representation of data: one dimensional and two dimensional diagrams – graphic representation: line diagram, frequency polygon, frequency curve, histogram and Ogive curves.

Book 1: Chapter 1, Chapter 2: (Sections 2.2 & 2.3).

#### Unit II (11 Hours)

Measures of central tendency: Mean, Median, Mode, Geometric mean and Harmonic mean – Partition values: Quartiles, Deciles and Percentiles – Measures of Dispersion: Mean deviation, Quartile deviation and Standard deviation – Coefficient of variation.

Book 1: Chapter 2: (Sections 2.4 – 2.14)

#### Unit III (10 Hours)

Moments – measures of Skewness – Pearson's and Bowley's Coefficient of skewness, Coefficient of Skewness based on moments – Kurtosis.

Book 1: Chapter 2: (Sections 2.15 – 2.17)

#### Unit IV (10 Hours)

Curve fitting: principle of least squares, fitting of the curves of the form  $y = a + bx$ ,  $y = a + bx + cx^2$  and curves transformable to the above form.

Book 2: Chapter 2: (Section 2.4.3)

#### Unit V (10 Hours)

Case study and problems relating to all the above units.

#### Books for Study:

1. Fundamentals of Mathematical Statistics by Gupta, S.C and Kapoor V.K  
(Sultan chand & Sons) (2016)
2. Fundamentals of applied Statistics by Gupta S.C and Kapoor, V.K  
(Sultan chand & Sons) (2017)

#### Books for Reference:

1. Statistical Methods – Part I by Mills, F.C
2. Elements of Statistics by Tara Yamane

#### Course Outcomes:

Upon the successful completion of this course, the students will be able to

**CO1:** demonstrate the ability to apply fundamental concepts in exploratory data analysis.

**CO2:** distinguish between different types of data.

**CO3:** interpret examples of methods for summarizing data set which are most appropriate to highlight interesting features of the data.

**CO4:** compute the average values and how the values are dispersed.

**CO5:** fit the curves transformable to the form of least square.

	PO1	PO2	PO3	PO4	PO5	Knowledge level
CO1	H	H	H	H	H	U
CO2	H	M	M	M	M	K
CO3	H	M	M	H	M	K
CO4	H	H	H	H	H	A
CO5	H	H	H	M	H	A

## B.Sc Statistics

### Semester I

#### Part III – Core II – DESCRIPTIVE STATISTICS – II

117W02

[For students admitted during the academic year 2017 – 2018 and onwards]

52 Hours

The objective of this course is

- to understand correlation, regression and probabilities of events.

#### **Unit I** **(10 Hours)**

Linear correlation – scatter diagram, Pearson’s coefficient of correlation, correlation in a bivariate table, Rank correlation, Coefficient of concurrent deviation – Regression equations – properties of regression coefficients.

Chapter 10, Chapter 11: (Section 11.2)

#### **Unit II** **(11 Hours)**

Association of attributes: Relation between class frequencies, consistency of data, independence of attributes, criterion of independence, association of attributes: Yule’s coefficient of association, Yule’s coefficient of colligation.

Chapter 18

#### **Unit III** **(11 Hours)**

Probability: sample space – Concepts of events – Algebraic operations on events – Definitions of probability.

Chapter 3: (Sections 3.2, 3.7 & 3.8)

#### **Unit IV** **(10 Hours)**

Generalized addition and compound Theorems of probability – independent events – Conditional probability – Baye’s Theorem.

Chapter: 3 (Sections 3.9.1, 3.12 & 3.13)

Chapter 4 (Section 4.2)

#### **Unit V** **(10 Hours)**

Case study and problems related to all the above units.

#### **Book for Study:**

Fundamentals of Mathematical Statistics by Gupta, S.C and Kapoor V.K

(Sultan chand & Sons)(2017)

#### **Books for Reference:**

1. Statistical Methods–part I by MILLS, F.C
2. Elements of Statistics by Tara Yamane.

## Course Outcomes:

Upon the successful completion of this course, the students will be able to

**CO1:** correlate the data to find the relationship between the data.

**CO2:** fit the regression line and its coefficient.

**CO3:** measure the dependence and independence of data by method of attributes.

**CO4:** interpret the success or failure in terms of probability conditions.

**CO5:** use an appropriate statistical tool for data summary and exploratory data analysis.

	PO1	PO2	PO3	PO4	PO5	Knowledge level
CO1	H	H	H	M	H	U
CO2	H	H	H	M	H	U
CO3	H	H	H	M	H	K
CO4	H	H	H	M	H	U
CO5	H	H	H	M	H	A

## B.Sc Statistics

### Semester II

#### Part III – Core III – APPLIED STATISTICS

217W03

[For students admitted during the academic year 2017 – 2018 and onwards]

75 Hours

The objective of this course is

- to learn the measures of forecasting and analyze the data relating to economics and demography.

#### Unit I (Time series)

(15 Hours)

Concept – components of time series – additive and multiplicative models – Resolving components of a time series – measuring trend: Graphic, semi – averages, moving average and principle of least squares methods.

Chapter 2: (Sections 2.1 - 2.4.6)

#### Unit II (Time series)

(15 Hours)

Seasonal variation – measuring seasonal variation: method of simple averages, ratio to trend method, ratio to moving average method and link relative method – Cyclical and Random fluctuations – variate difference method.

Chapter 2: (Sections 2.5, 2.6 & 2.9)

#### Unit III (Index Numbers)

(15 Hours)

Index numbers and their definitions – construction and uses of fixed and chain based index numbers – simple and weighted index numbers – Laspeyre's, Paache's, Fisher's, and Marshall – edge – worth index numbers – optimum tests for index numbers – Cost of living index numbers.

Chapter 3: (Sections 3.1 – 3.5)

#### Unit IV (Demographic methods)

(15 Hours)

Demography – definition – sources of demographic data: vital registration – population census – population register – demographic surveys – population data

as aid to social, economic and healthy planning – process of Indian Civil registration and census.

Chapter 9: (Sections 9.1 – 9.3)

**Unit V (Demographic methods) (15 Hours)**

Fertility measurements: Fertility as a component of population change – crude birth rate – general, specific and total fertility rates – gross and net reproduction rates and their interpretation.

Chapter 9: (Sections 9.7 & 9.8)

**Book for Study:**

Fundamentals of applied Statistics by Gupta S.C and Kapoor, V.K  
(Sultan chand & Sons) (2017)

**Books for Reference:**

1. Applied general statistics by Croxton, F.E & Cowden, D.J (Prentice Hall)
2. Fundamentals of applied Statistics by Goon.A.M, Guptha.M.K & Das Guptha
3. The advanced theory of Statistics by Kendall, M.G and Stuart, A Vol III  
(Charles criffin)

**Course Outcomes:**

Upon the successful completion of this course, the students will be able to

- CO1:** know about different time series forecasting models: graphic, semi-average, moving average and principles of least square.
- CO2:** know about price indices and the difference between aggregated and un aggregated indexes.
- CO3:** identify and compare the advantages and disadvantages of the different sources of demographic data.
- CO4:** present appropriate techniques to ensure comparability of the measures across the population.
- CO5:** define and differentiate the demographic concepts, terminology and formulas.

	PO1	PO2	PO3	PO4	PO5	Knowledge level
CO1	H	H	H	H	H	U
CO2	H	H	H	M	H	U
CO3	H	H	H	H	H	A
CO4	H	H	H	H	H	A
CO5	H	H	H	M	H	K

**B.Sc Statistics**

**Semester II**

**Core Practical – I – STATISTICAL PRACTICAL - I**

**217WP1**

**(Using computers MS – Excel)**

**[For students admitted during the academic year 2017 – 2018 and onwards]**

**26 ours**

The objective of this course is



- to learn practically basic measures of statistics and forecasting techniques by using MS excel.
1. Formation of frequency distribution. Calculation of arithmetic, geometric mean, median and mode. Calculation of percentile.
  2. Formation of charts and diagrams: Histogram, bar diagram, Pie diagram frequency line, scatter diagram. Formation of Ogive curves.
  3. Calculation of measures of dispersion: Range, Variance, Standard Deviation, Mean deviation, Quartiles.
  4. Calculation of Skewness and kurtosis.
  5. Problems related to curve fitting.
  6. Calculation of correlation and regression coefficients and formation of regression lines.
  7. Fitting straight line, non-linear trend lines and calculation of trend values using moving averages.
  8. Calculation of Index numbers.

### Course Outcomes:

Upon the successful completion of this course, the students will be able to

**CO 1:** apply the fundamental concepts in exploratory data analysis using MS Excel.

**CO 2:** construct various types of charts using MS Excel.

**CO 3:** calculate various measures of descriptive statistics using MS Excel.

**CO 4:** fit the curve using MS Excel.

**CO 5:** forecast the data using MS Excel.

	PO1	PO2	PO3	PO4	PO5	Knowledge level
CO1	H	H	M	H	M	A
CO2	H	H	H	H	H	A
CO3	H	M	M	H	H	A
CO4	H	H	H	H	H	A
CO5	H	H	H	H	H	A

## B.Sc Statistics

### Semester III

#### Part III – Core IV – DEMOGRAPHIC METHODS

317W04

[For students admitted during the academic year 2017 – 2018 and onwards]

39 Hours

The objective of this course is

- To understand about registered information of vital events, measurement of the events such as birth and death rates, life tables and population projection techniques.

#### Unit I

(8 Hours)

Mortality measurements: crude death rate – specific death rates – standardized death rates – direct and indirect methods.

Book 1: Chapter 9: (Sections 9.4.1 – 9.4.3)

#### Unit II

(8 Hours)

Comparative mortality index – infant mortality rate – maternal mortality rate – cause – of – death rate – case fatality rate – force of mortality – graduation of mortality rates – Gompertz and Makeham's laws.

Book 1: Chapter9: (Sections 9.4.3, 9.5.4 & 9.9)

**Unit III (7 Hours)**

Assumptions, description and construction of various columns of a life table and their relationships – uses of a life table – age pyramid.

Book 1: Chapter 9: (Sections 9.5, 9.5.5 & 9.5.6)

**Unit IV (8 Hours)**

Construction of an abridged life table – Reid and Merrell method – Greville’s method – migration – factors effecting migration – gross and net migration rates.

Book 1 Chapter 9: (Sections 9.6, 9.6.1 & 9.6.2)

Book 2: Chapter 10 (fully)

**Unit V (8 Hours)**

Population projection – population estimates and projection – arithmetic, geometric and exponential growth rates – logistics curves – Pearl and Reed method – method of Rhodes – Basic ideas of stationary and stable population.

Book 1: Chapter9: (Sections 9.5.1 & 9.5.2)

**Books for study:**

1. Fundamentals of Applied Statistics by Gupta.S.C and Kapoor ,V.K  
(Sultan Chand & Sons) (2017)
2. Principles of Population studies by Asha A.Bende and Tara karitkar  
(Himalaya publishing) (2006)

**Books for Reference:**

1. Indian Population Problems by Agarwala, S.N (Tata Mc Graw Hill, Bombay)
2. Fundamentals of Statistics Vol.II by Goon A.M, Gupta. M.K and Das Gupta  
(World press)
3. An introduction to the study of population by Mishra D.E  
(South India publishers, Madras)
3. Fundamentals of Demography by DR.Hansraj (Surjeet publications Delhi)

**Course Outcomes:**

Upon the successful completion of this course, the students will be able to

- CO1:** construct and analyze simple and abridged life tables.
- CO2:** project a population using appropriate equations and assumptions.
- CO3:** recognize and analyze typical demographic patterns arising from the data.
- CO4:** describe basic demographic indicators and elaborate on their computation and interpretation.
- CO5:** interpret the data base on which are built population projections and work force projections.

	PO1	PO2	PO3	PO4	PO5	Knowledge level
CO1	H	H	H	H	H	U
CO2	H	H	H	H	M	U
CO3	H	H	H	H	H	K
CO4	H	H	H	M	H	A
CO5	H	H	H	H	H	K

## B.Sc Statistics

### Semester III

#### Part III – Core V– PROBABILITY DISTRIBUTION – I

317W05

[For students admitted during the academic year 2017 – 2018 and onwards]

39 Hours

The objective of this course is

- to understand the concepts of random variable, discrete, continuous, joint, marginal, conditional probability functions, expectation, conditional expectation and variance, generating functions, law of large numbers and central limit theorem and their applications.

#### Unit I (8 Hours)

Random variables – discrete and continuous random variables – distribution function – Properties – probability mass function and probability density function – various statistical measures of continuous probability distribution.

Book 1: Chapter 5: (Sections 5.1 – 5.4)

#### Unit II (8 Hours)

Joint, marginal and conditional distribution functions and density functions – independence of random variables – Transformation of variables (one and two dimensional – concepts only).

Book 1: Chapter 5: (Sections 5.5 – 5.7)

#### Unit III (8 Hours)

Mathematical expectation –properties – addition and multiplication theorems – Cauchy-Schwartz inequality, conditional expectation and conditional variance.

Book 1: Chapter 6 (fully)

#### Unit IV (7 Hours)

Moment generating function, cumulant generating function, characteristic function and their properties.

Book 1: Chapter 7:(Sections 7.1 – 7.3)

#### Unit V (8 Hours)

Tchebychev's inequality, convergence in probability, weak law of large numbers and central limit theorem.

Book 1: Chapter 7: (Sections 7.5 – 7.7)

Book 2: Chapter 5: Section: 5.4 (Pages 192–195)

#### Books for Study:

1. Fundamentals of Mathematical statistics by Gupta.S.C & Kapoor.V.K  
(Sultan chand & sons)(2016)
2. Introduction to Mathematical statistics by Hogg. R.V and Craig, A.G.  
(Amerind)(1970)

#### Course Outcomes:

Upon the successful completion of this course, the students will be able to

- CO1:** distinguish between discrete and continuous random variables.
- CO2:** find the probabilities associated with a discrete probability distribution.
- CO3:** compute the joint, marginal and continuous distribution functions for random variables.
- CO4:** interpret the mean of a random variable in terms of the law of large numbers
- CO5:** compute the probabilities of mass and density function of random variables.

	PO1	PO2	PO3	PO4	PO5	Knowledge level
CO1	H	H	H	H	H	K
CO2	H	H	H	H	H	K
CO3	M	M	H	H	H	K
CO4	H	H	H	H	H	U
CO5	H	H	M	H	H	U

## B.Sc Statistics

### Semester III

#### Part III – Allied III – COMPUTER PROGRAMMING FOR

#### STATISTICAL ANALYSIS – I

**317AW3**

**[For students admitted during the academic year 2017 – 2018 and onwards]**

**65 Hours**

The objective of this course is

- to obtain the capability to develop programs for various statistical techniques.

#### **Unit I**

**(13 hours)**

Constants, Variables and Data types: Introduction – Character set- C tokens – Keywords and identifiers – Constants- Variables – Data types – Declaration of variables – Declaration of storage class-Assigning Values to variables – Defining symbolic constants – Declaring a variable as constant – Declaring a variable as Volatile. Operators and Expression: Introduction – Arithmetic operators – Relational operators – Logical operators – Assignment Operators – Increment and decrement operators – Conditional operator – Bit wise operators – Special operators – Arithmetic Expressions – Evaluation of expressions – Precedence of Arithmetic Operators – Some computational problems – Type Conversions in Expressions – Operator precedence and associativity – Mathematical functions.

Chapter 2 and Chapter 3 (Pages 22 – 82)

#### **Unit II**

**(13 hours)**

Managing Input and Output Operations: Introduction – Reading a Character – Writing a character – Formatted Input – Formatted Output. Decision making and branching: Introduction – Decision making with IF statement – Simple IF statement – The IF...ELSE statement – Nesting of IF...ELSE statements – The ELSE IF ladder – The switch statement – The ?: operator – The GOTO statement. Chapter 4 and Chapter 5 (Pages 83 – 150)

#### **Unit III**

**(13 hours)**

Decision making and looping: Introduction – The WHILE statement – The DO statement – The FOR statement – Jumps in loops. Arrays: Introduction – One dimensional arrays – Declaration of one dimensional arrays – Initialization of One dimensional arrays – Two dimensional arrays – Initializing two dimensional arrays – Multi-dimensional arrays.

Chapter 6 and Chapter 7 (Pages 151 – 236)

#### **Unit IV**

**(13 hours)**

Character arrays and strings: Introduction – Declaring and initializing string variables – Reading strings from terminal – Writing strings to screen – Arithmetic operations on characters – Putting strings together – Comparison of two strings – String handling functions. User-Defined functions: Introduction – Need for user

defined functions – A multi-function program –Elements of user defined functions  
 – Definition of functions – Return values and their types – Function calls –  
 Function Declaration – Category of functions – No arguments and no return  
 values – Arguments but no return values – Arguments with return values – No  
 arguments but returns a value – functions that return multiple values – Nesting of  
 functions – Recursion – Passing Arrays to functions – Passing strings to functions  
 – The scope, visibility and lifetime of Variables.

Chapter 8 and Chapter 9 (Pages 237 – 323)

## Unit V

(13 hours)

Structures and Unions: Introduction-Defining a Structure – Declaring Structure  
 variables – Accessing Structure members – Structure Initialization Copying and  
 comparing Structure variables – Operations on Individual members – Arrays of  
 Structure – Arrays within Structures – Structures within Structures – Structures  
 and functions – Unions – Size of Structures. Pointers: Introduction –  
 Understanding Pointers – Accessing the Address of a Variable – Declaring Pointer  
 Variables – Initialization of Pointer Variables – Accessing a Variables through its  
 Pointer – Chain of Pointers – Pointer Expressions – Pointer Increments and Scale  
 Factor-Pointers and Arrays – Pointers and Character Strings – Array of Pointers –  
 Pointers as Function Arguments –Functions Returning Pointers –Pointers to  
 Functions – Pointers and Structures – Troubles with Pointers.

Chapter 10 and Chapter 11 (Pages 324 – 394)

### Book for Study:

Programming in ANSI C by Balagurusamy, E (Tata McGraw Hill) (2014)

### Book for Reference:

Let us C by Yaswant Kanetker (BPB publications New Delhi)

### Course Outcomes:

Upon the successful completion of this course, the students will be able to

- CO1:** develop programs using the basic elements like control statements,  
arrays and strings.
- CO2:** solve the memory access problems by using pointers and to understand  
about the dynamic memory allocation using pointers which is essential for  
utilizing memory.
- CO3:** understand about the code reusability with the help of user defined  
functions.
- CO4:** develop advanced applications using enumerated data types, function  
pointers and nested structures.
- CO5:** understand the uses of preprocessors and various header file directives.

	PO1	PO2	PO3	PO4	PO5	Knowledge level
CO1	H	H	H	H	H	U
CO2	H	H	H	H	H	U
CO3	H	H	H	H	H	U
CO4	H	H	H	H	H	A
CO5	H	H	H	H	H	K

**B.Sc Statistics**  
**Semester III**  
**Part IV – Non-Major Elective – STATISTICAL ANALYSIS**

**317NSA**

**[For students admitted during the academic year 2017 – 2018 and onwards]**

**35 Hours**

The objective of this course is

- to know the history of Statistics and learn the various descriptive measures.

**Unit I** **(8 Hours)**

Origin, scope, limitations and misuse of Statistics – Collection – Classification – Tabulation of data.

**Unit II** **(7 Hours)**

Diagrammatic representation of data: one dimensional and two dimensional diagrams – graphic representation: line diagram, frequency polygon, frequency curve, histogram and Ogive curves.

**Unit III** **(6 Hours)**

Measures of central tendency: Mean, Median, Mode, Geometric mean and Harmonic mean – Partition values: Quartiles, Deciles and Percentiles

**Unit IV** **(7 Hours)**

Measures of Dispersion: Mean deviation, Quartile deviation and Standard deviation – Coefficient of variation.

**Unit V** **(7 Hours)**

Linear correlation – scatter diagram, Pearson's coefficient of correlation, Rank correlation, – Regression – Properties of regression coefficients.

**Book for Study:**

Statistical Methods by S.P. Gupta (Sultan Chand & Sons) (2016)

**B.Sc Statistics**  
**Semester III**  
**Part IV – Skill Enhancement Course I – ACTUARIAL STATISTICS - I**

**317WS1**

**[For students admitted during the academic year 2017 – 2018 and onwards]**

**39 Hours**

The objective of this course is

- to understand the major life insurance policies covered in Indian life insurance and the selection and purpose of risk, and how mortality table is essential for life insurance.

**Unit I** **(8 Hours)**

Principles of Life Assurance: Nature of Insurance – Classification of Insurance – History of Life Insurance in India.

Chapter 1: (Pages 3 – 7), Chapter 2: (Pages 8 – 11)

**Unit II** **(8 Hours)**

Definition of whole life assurance – term assurance – pure endowment – endowment assurance – critical illness assurance – whole life level annuity – temporary level annuity premium, benefit – assurance and annuity contracts.

Chapter 6: (Pages 43 – 50), Chapter 7: (Pages 82 – 84)

**Unit III****(8 Hours)**

Selection of Risk – Purpose of selections – Factors affecting risks – Sources of risk information – Insurance of ladies and minors – Non-medical business – Classes of risk – Methods of risk classification – Measurement of Risk – Treatment of sub-standard risks – Methods of treating sub-standard risks – Mortality table – Features – Construction of death rate on yearly basis – Sources of mortality information – Construction of mortality table – Types of mortality tables – Interest factor.

Chapter 8: (Pages 85 – 100), Chapter 9: (Pages 103 – 113),

Chapter 11: (Pages 128 – 131)

**Unit IV****(8 Hours)**

The Reserve: Nature, definition, origin, sources, need - Methods of calculating Reserve – Investment of funds: Need, Sources – Problems of investment – The principles of investment – Suitability of various types of investments – Surrender value – Basis of calculating surrender value – Forms of payment – Valuation and Surplus – The calculation process – Sources of surplus – Difference between surplus and profit – Bases of allotment of profit – Distribution of surplus – Bonus – Classification – Options.

Chapter 12: (Pages 132 – 138), Chapter 13: (Pages 140 – 146),

Chapter 14: (Pages 156 – 159), Chapter 15: (Pages 160 – 165)

**Unit V****(7 Hours)**

Policy condition – Life insurance for under privileged – Industrial life insurance – Group life insurance – Disability Benefit policies – Social security schemes – Pension Plans – Micro life insurance.

Chapter 16: (Pages 166 – 171), Chapter 17: (Pages 178 – 191)

**Book for Study:**

Insurance Principle and practice by M.N. Mishra and S.B. Mishra

(S. Chand & Co, New Delhi) (21<sup>st</sup> edition)(2014)

**Course Outcomes:**

Upon the successful completion of this course, the students will be able to

**CO1:** equip the students with training in theoretical and practical aspects of actuarial science in order for them to work in life and non-life insurance companies, consultancy, government service and also in the stock exchange.

**CO2:** offer high quality training in actuarial science locally and internationally.

**CO3:** assist the students to prepare for several examinations of the Faculty and Institute of Actuaries, the casualty actuarial society and the society of Actuaries.

**CO4:** train the students with various kinds of life insurance policies and their benefits.

**CO5:** train the students to use mortality concepts in insurance.

	PO1	PO2	PO3	PO4	PO5	Knowledge level
CO1	H	H	M	H	H	K
CO2	H	H	H	H	H	K
CO3	H	H	H	H	H	K
CO4	M	M	H	H	H	A
CO5	H	H	H	H	H	A

## B.Sc Statistics

### Semester IV

#### Part III – Core VI – PROBABILITY DISTRIBUTION – II 417W06

[For students admitted during the academic year 2017–2018 and onwards]

**52 Hours**

The objective of this course is

- to understand the applications and nature of the discrete and continuous probability distributions.

#### **Unit I (10 Hours)**

Binomial, Poisson and Negative – Binomial distributions – Moments, m.g.f, cumulants, additive property, recurrence relation for the probabilities – simple problems.

Chapter 8: (Sections 8.4 – 8.6)

#### **Unit II (11 Hours)**

Geometric distribution – moments, m.g.f – Hyper - geometric distribution – mean, variance, m.g.f, Binomial as a limiting form of Hyper - geometric distribution – Multinomial distribution – moments.

Chapter 8: (Sections 8.7 – 8.9)

#### **Unit III (11 Hours)**

Normal distribution – limiting form of Binomial distribution, properties, median, mode, moments, m.g.f, cumulants, mean deviation, area property, simple problems – Rectangular distribution – moments, m.g.f. characteristic function, mean deviation – Bivariate normal distribution.

Chapter 9: (Sections 9.2 & 9.3)

#### **Unit IV (10 Hours)**

Gamma, Beta distributions of I kind and II kind – constants – Exponential distribution – additive property.

Chapter 9: (Sections 9.5 – 9.8)

#### **Unit V (10 Hours)**

Functions of normal random variable leading to  $\chi^2$ , t and F distributions – inter relationship between the distributions and their properties.

Chapter 15: (Sections 15.2 & 15.3), Chapter 16: (Sections 16.2 – 16.6)

#### **Book for Study:**

Fundamentals of mathematical statistics by Gupta. S.C and Kapoor. V.K.,  
(Sultan chand & sons)(2016)

#### **Book for Reference:**

Introduction to Mathematical Statistics by Hogg R.V and Craig. A.G.  
(Amerind.)(1970)



**Course Outcomes:**

Upon the successful completion of this course, the students will be able to

- CO1:** compute the probabilities associated with discrete distributions.
- CO2:** find probabilities associated with a normal probability distribution.
- CO3:** approximate the binomial probabilities using a normal distribution, incorporating a continuity correction as appropriate.
- CO4:** apply the central limit theorem to problems involving sums and averages from arbitrary distributions’.
- CO5:** interpret the normal random variable leading to chi square, t and F distributions.

	PO1	PO2	PO3	PO4	PO5	Knowledge level
CO1	H	H	H	H	H	K
CO2	H	H	H	H	H	U
CO3	M	H	M	H	H	K
CO4	M	H	M	H	H	U
CO5	H	H	H	H	H	U

**B.Sc Statistics****Semester IV****Part III – Core Practical II – STATISTICAL PRACTICAL -II****417WP2****[For students admitted during the academic year 2017 – 2018 and onwards]****(Calculator based)****26 Hours**

The objective of this course is

- to learn practically basic measures of demography and to fit discrete and continuous distributions.

**Demographic methods:**

1. Construction of life table.
2. Determination of mortality, fertility and reproduction rates.
3. Population projection using polynomials and exponential function.
4. Fitting Gompertz curve.
5. Fitting logistic curve to population data by the method of Pearl and Reed.
6. Fitting of Logistic curve by Rhodes method.

**Probability and Distributions I & II**

1. Fitting of Binomial distribution.
2. Fitting of Poisson distribution.
3. Fitting of Normal distribution by the method of ordinates.
4. Fitting Normal distribution by area method.

**Course Outcomes:**

Upon the successful completion of this course, the students will be able to

- CO 1:** construct a life table practically.
- CO 2:** determine various demographic techniques practically.
- CO 3:** fit binomial distribution practically.
- CO 4:** fit poisson distribution practically.
- CO 5:** fit Normal distribution by various methods practically.

	PO1	PO2	PO3	PO4	PO5	Knowledge level
CO1	H	M	M	H	H	A
CO2	H	H	M	H	H	A
CO3	H	H	H	H	H	A
CO4	H	H	H	H	H	A
CO5	H	H	H	H	H	A

## B.Sc Statistics

### Semester IV

#### Part III – Allied IV – COMPUTER PROGRAMMING FOR

#### STATISTICAL ANALYSIS – II

**417AW4**

**[For students admitted during the academic year 2017 – 2018 and onwards]**

**65 Hours**

The objective of this course is

- to obtain the capability to develop programs for Statistical problems using OOP's concept

#### **Unit I**

**(13 Hours)**

Principles of Object Oriented Programming: Basic concepts of Object Oriented Programming – Benefits of OOPS. Beginning with C++ : Applications of C++ – Structure of C++ program. Tokens, Expressions and Control Structures: Introduction –Tokens – Keywords – Identifiers and Constants – Basic data Types – User-Defined Data Types – Derived data types – Symbolic constants – Type Compatibility – Declaration of variables – Dynamic initialization of Variables – Reference Variables – Operators in C++ – Scope Resolution Operator – Member Dereferencing Operators – Memory Management Operators – Manipulators – Typecast Operator – Expressions and their Types – Special Assignment Expressions – Implicit Conversions – Operator Overloading – Operator Precedence – Control Structures.

Chapter 2, Chapter 3 (Pages 19 – 76)

#### **Unit II**

**(13 Hours)**

Functions in C++: Introduction – The Main Function – Function prototyping – Call by Reference – Return by reference – Inline functions – Default arguments – const Arguments –Recursion – Function Overloading – Friend and Virtual Functions – Math Library Functions. Classes and Objects: Introduction – C Structures Revisited – Specifying a Class – Defining Member Functions – A C++ Program with Class – Making an Outside Function Inline – Nesting of Member Functions – Private Member Functions – Arrays within a Class – Memory allocation for Objects – Static Data Members – Static Member Functions – Arrays of Objects – Objects as Function Arguments – Friendly Functions – Returning Objects – const Member functions – Pointers to Members – Local classes.

Chapter 4, Chapter 5(Pages 77 – 143)

#### **Unit III**

**(13 Hours)**

Constructors and Destructors: Introduction – Constructors – Parameterized Constructors – Multiple Constructors in a Class – Constructors with Default

Arguments – Dynamic Initialization of Objects – Copy constructor – Dynamic Constructors – Constructing Two-Dimensional Arrays – const Objects – Destructors. Operator Overloading and Type Conversions: Introduction – Defining Operator Overloading – Overloading Unary Operators – Overloading Binary Operators – Overloading Binary Operators using Friends – Manipulation of Strings Using Operators – Rules for Overloading Operators – Type Conversions.

Chapter 6, Chapter 7(Pages 144 - 200)

**Unit IV (13 Hours)**

Inheritance: Extending Classes: Introduction – Defining Derived Classes – Single Inheritance – Making a Private Member Inheritable – Multilevel Inheritance – Multiple Inheritance – Hierarchical Inheritance – Hybrid Inheritance – Virtual Base Classes – Abstract Classes – Constructors in Derived Classes – Member Classes : Nesting of Classes. Pointers, Virtual Functions and Polymorphism: Introduction – Pointers- Pointers to Objects – this Pointer – Pointers to Derived Classes – Virtual Functions – Pure Virtual functions.

Chapter 8, Chapter 9 (Pages 201 - 289)

**Unit V (13 Hours)**

Working with files: Introduction – Classes for File Stream Operations – Opening and Closing a File – Detecting End-of-File – More about Open():File modes – File Pointers and their Manipulations – Sequential Input and Output Operations – Updating a File: Random Access – Error handling During File Operations – Command – Line Arguments. Exception Handling: Introduction – Basics of Exception Handling – Exception Handling Mechanism-Throwing Mechanism – Catching Mechanism – Rethrowing an Exception – Specifying Exceptions.

Chapter 11 (Pages 323 - 358), Chapter 13 (Pages 380 - 400)

**Book for Study:**

Object oriented programming with C++ by Balagrursamy,E  
(Tata McGraw Grill) (4<sup>th</sup> edition, 2008)

**Book for Reference:**

Programming with C++ by D.Ravichandran (Tata McGraw Hill)

**Course Outcomes:**

Upon the successful completion of this course, the students will be able to

- CO1:** learn advanced features of the C++ programming language as a continuation of the previous course.
- CO2:** enhance problem solving and programming skills in C++ with extensive programming projects.
- CO3:** explain the difference between object oriented programming and procedural programming.
- CO4:** program using more advanced C++ features such as composition of objects, operator overloads, dynamic memory allocation, inheritance and polymorphism, file I/O, exception handling, etc.
- CO5:** build C++ classes using appropriate encapsulation and design principles.

	PO1	PO2	PO3	PO4	PO5	Knowledge level
CO1	H	H	H	H	H	K
CO2	H	H	H	H	H	U
CO3	H	H	H	H	H	U
CO4	H	H	H	H	H	A
CO5	H	H	H	H	H	U

## B.Sc Statistics

### Semester IV

#### Part III – Allied Practical - C & C++ PROGRAMMING

**417AWP**

**[For students admitted during the academic year 2017 – 2018 and onwards]**

**26 Hours**

The objective of this course is

- to have the capability to develop programs for statistical problems using C and C++ languages.
1. Program to form a frequency distribution for the given data  $X_1, X_2, X_3, \dots, X_n$ , give the number of class intervals  $K$  and the width of the class intervals  $W$ .
  2. Program to find the arithmetic mean, geometric mean and harmonic mean for the given frequency distribution.
  3. Program to find Mean, Variance, Standard Deviation and Coefficient of variation.
  4. Program to find the three quartiles  $Q_1, Q_2$  and  $Q_3$  and the coefficient of skewness.
  5. Program to find the first four moments about origin  $A$  and to find  $\beta_1, \beta_2, \gamma_1$  and  $\gamma_2$ .
  6. Program to find simple correlation and regression coefficients for the given bivariate data.
  7. Program to fit a straight line of the form  $y = ax + b$  using the principle of least squares to the given bivariate data.
  8. Program to fit Binomial distribution.
  9. Program to fit a Poisson distribution.
  10. Program to arrange one dimensional array of numbers in ascending and descending order.
  11. Program to evaluate a matrix polynomial of the type  $aX^2 + bX + cI$  where  $X$  is a matrix of order  $3 \times 3$  and  $I$  is an identity matrix and  $a, b$  and  $c$  are constants.
  12. Program to solve the given system of simultaneous equations of three variables.
  13. Program to open a file and store data in it and to read and display the data from the file.

#### **Course Outcomes:**

Upon the successful completion of this course, the students will be able to

**CO 1:** form a frequency distribution using C and C++.

**CO 2:** calculate the values of descriptive statistics using C and C++.

**CO 3:** fit the straight line using the least square method using C and C++.

**CO 4:** fit various distributions using C and C++.

**CO 5:** evaluate various matrix operations using C and C++.

	PO1	PO2	PO3	PO4	PO5	Knowledge level
CO1	H	M	H	H	H	A
CO2	H	H	H	H	H	A
CO3	H	H	M	H	H	A
CO4	M	H	H	H	H	A
CO5	H	H	H	H	H	A

## **B.Sc Statistics**

### **Semester IV**

#### **Part IV – Skill Enhancement Course II – ACTUARIAL STATISTICS - II**

**417WS2**

**[For students admitted during the academic year 2017 – 2018 and onwards]**

**39 Hours**

The objective of this course is

- to understand various concepts relating to marine insurance, policy conditions and payments of marine insurance.

#### **Unit I**

**(8 Hours)**

Marine insurance – Definition – Subject matter – Hull insurance – Cargo insurance – Freight insurance – Liability insurance – Documents of marine insurance – Procedure to effect marine insurance – Elements of marine insurance – History – Marine publications – Marine insurance policies – Classes of policies.  
Chapter 19 (Pages 267 – 286), Chapter 20 (Pages 287 – 291)

#### **Unit II**

**(8 Hours)**

Policy conditions – Lloyd's form of policy – Description of the clauses – Risk covered by ICC (A) – Premium calculation – Rate making in marine insurance – Return of premium.  
Chapter 21(Pages 292 – 298), Chapter 22 (Pages 299 – 302)

#### **Unit III**

**(8 Hours)**

Marine losses – Marine perils – Total loss – Partial loss – Particular average loss – Illustration – General average – Types of general average loss – General average contribution – Application of general average to insurance – Expenses.  
Chapter 23(Pages 303 – 314)

#### **Unit IV**

**(7 Hours)**

Payment of claims – Documents Required for claim – Documents in different types of claims – Extent of liability – Some practical problems.  
Chapter 24 (Pages 315 – 321)

#### **Unit V**

**(8 Hours)**

Marine insurance business in India – Business of Indian Insurers progress before Nationalization – Indian Insurers – Gross direct premium income – Net premium income – Underwriting experiences in Marine insurance – Some articles in marine insurance.

**Book for Study:**

Insurance Principle and practice by M.N. Mishra and S.B. Mishra  
(S. Chand & Co, New Delhi) (21 Edition, 2014)

**Course Outcomes:**

Upon the successful completion of this course, the students will be able to

- CO1:** discover the various policies unique to the marine insurance industry
- CO2:** explore the different sectors within marine insurance: cargo insurance, Hull and Machinery insurance and others
- CO3:** enhance your understanding of the claims process
- CO4:** understand the different roles played within the marine insurance industry and how they interact
- CO5:** identify the insurance needs of the owners and charterers as well as being able to identify relevant covers and the markets available for placing the covers.

	PO1	PO2	PO3	PO4	PO5	Knowledge level
CO1	H	H	H	M	H	K
CO2	H	H	H	M	M	U
CO3	H	H	H	H	H	U
CO4	H	H	H	H	M	U
CO5	H	M	M	H	M	U

**Curriculum Design**  
**SRI GVG VISALAKSHI COLLEGE FOR WOMEN (AUTONOMOUS)**  
**Affiliated to Bharathiar University**  
**Department of Statistics**  
**B.Sc. Statistics**  
**Scheme of Examination – CBCS Pattern**  
**[For students admitted during the academic year 2016-2017 only]**

Course Code	Course Title	Ins. Hrs/ Week	Examination				Credit
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
115TA1/ 115MY1/ 115HD1/ 115FR1 115EN1 116W01 116W02 216WP1 116AW1 115EVS	<b>Semester I</b> Part I: Language I	6	3	25	75	100	4
	Part II: English I	6	3	25	75	100	4
	Part III:						
	Core I: Basic Statistics	4	3	25	75	100	4
	Core II: Descriptive Statistics	4	3	25	75	100	4
	Core Practical I: Statistical Practical I	2	-	-	-	-	-
	Allied I : Mathematics for Statistics I	6	3	25	75	100	4
	Part IV: Environmental Studies	2	2	50	-	50	2
215TA2/ 215MY2/ 215HD2/ 215FR2 215EN2 216W03 216W04 216WP1 216AW2 215VEC	<b>Semester II</b> Part I: Language II	6	3	25	75	100	4
	Part II: English II	6	3	25	75	100	4
	Part III:						
	Core III: Time Series and Index Numbers	4	3	25	75	100	4
	Core IV: Numerical Analysis	4	3	25	75	100	4
	Core Practical I: Statistical Practical I	2	3	20	30	50	2
	Allied II : Mathematics for Statistics II	6	3	25	75	100	4
	Part IV: Value Education	2	2	50	-	50	2

Course Code	Course Title	Ins. Hrs/ Week	Examination				Credit
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
315TA3/ 315MY3/ 315HD3/ 315FR3	<b>Semester III</b> Part I: Language III	6	3	25	75	100	4
315EN3	Part II: English III Part III:	6	3	25	75	100	4
316W05	Core V : Demographic methods	3	3	25	75	100	4
316W06	Core VI: Probability Distribution-I	3	3	25	75	100	4
316AW3	Allied III: Computer programming for Statistical Analysis-I	5	3	25	50	75	3
	Allied Practical: C and C++ programming for statistical Analysis	2	-	-	-	-	-
	Part IV : NMEC	2	2	50	-	50	2
316WS1	Skill Based Course I : Actuarial Statistics- I	3	3	75	-	75	3
415TA4/ 415MY4/ 415HD4/ 415FR4	<b>Semester IV</b> Part I: Language IV	6	3	25	75	100	4
415EN4	Part II: English IV Part III:	6	3	25	75	100	4
416W07	Core VII: Probability Distribution-II	4	3	25	75	100	4
416WP2	Core Practical II-(Manual Calculation)	2	3	25	50	75	3
416AW4	Allied IV : Computer programming for Statistical Analysis-II	5	3	25	50	75	3
416AWP	Allied Practical: C and C++ programming for statistical Analysis	2	3	25	50	75	3
	Part IV :						
416NGA	General Awareness (Online)	-	1	50	-	50	2
416WS2	Skill Based Course II: Actuarial Statistics - II	3	3	75	-	75	3
415GIS	Information Security	2	2	50	-	Grade	Grade



Course Code	Course Title	Ins. Hrs/Week	Examination				Credit
			Dur. Hrs	CIA Marks	ESE Marks	Total Marks	
<b>Semester V</b>							
Part III:							
516W08	Core VIII : Statistical Inference I	6	3	25	75	100	4
516W09	Core IX: Basic Sampling theory	6	3	25	75	100	4
516W10	Core X : Design of Experiments	6	3	25	75	100	4
	Core Practical III: Statistical software package	3	-	-	-	-	-
516WE1	Elective I: Psychological Statistics	6	3	25	50	75	3
Part IV :							
516WS3	Skill Based Course III : Actuarial Statistics – III	3	3	75	-	75	3
<b>Semester VI</b>							
Part III:							
616W11	Core XI: Statistical Inference II	5	3	25	75	100	4
616W12	Core XII: Statistical Quality Control	5	3	25	75	100	4
616WP3	Core Practical III: Statistical software package	2	3	25	50	75	3
616WE2	Elective II: Elements of Econometrics	5	3	25	50	75	3
616WE3	Elective III: Operations Research	5	3	25	50	75	3
616WP4	Core Practical IV (Manual Calculation)	5	3	40	60	100	4
Part IV :							
616WS4	Skill Based Course IV: Actuarial Statistics - IV	3	3	75	-	75	3
615EX1/ 615EX2/ 615EX3/ 615EX4/ 615EX5	Part V : Extension	-	-	50	-	50	2
<b>Total</b>						3500	140

## **B.Sc. Statistics**

### **Semester –I**

#### **Part III - Core I - BASIC STATISTICS**

**116W01**

**[For students admitted from the academic year 2016-2017 onwards]**

#### **Preamble:**

**52 Hours**

The main objective of this course is to introduce student with high knowledge on theoretical background and some basic concepts of statistics. This course has been introduced in the curriculum in order.

- To tabulate statistical information given in descriptive form.
- To use graphical techniques and interpret.
- To compute various measure of central tendency.

#### **Unit I**

**(10 Hours)**

Statistics-What and Why: Introduction – Origin and growth of Statistics – Statistics defined – Statistics : Science or Art – Functions of Statistics – Applications of Statistics – Limitations of Statistics. Organising a Statistical Survey: Statistical Survey-An Introduction – Planning the Survey.

Chapter 1 and 2

#### **Unit II**

**(11 Hours)**

Collection of Data: Introduction – Primary and Secondary data – Methods of collecting primary data – Drafting the Questionnaire – Pre-testing the Questionnaire – Specimen Questionnaires – Sources of Secondary data – Editing primary and secondary data –Precautions in the use of secondary data. Classification and Tabulation of data: Introduction – Meaning and Objectives of classification – Types of classification – formation of a discrete frequency distribution – formation of continues frequency distribution – Tabulation of data – Parts of a data – General rules of Tabulation.

Chapter 3 and 5

#### **Unit III**

**(10 Hours)**

Diagrammatic and Graphic Presentation: Introduction – Significance of Diagrams and Graphs – General rules for constructing Diagrams – Types of Diagrams – Graphs – Graphs of frequency distribution – Miscellaneous Illustrations – Limitations of Diagrams and Graphs.

Chapter 6

#### **Unit IV**

**(11 Hours)**

Measure of central value: Introduction – Average defined – Objectives of average – Requisites of a good average – Types of average – Geometric mean – Harmonic mean – Relationship among the averages – Miscellaneous Illustrations – Which average to use – General Limitations of average.

Chapter 7

#### **Unit V**

**(10 Hours)**

Sampling and Sample Designs: introduction – Census and sample method – Theoretical basis of Sampling – Method of sampling – Size of sample – Merits and Limitations of sampling – Sampling and non-sampling errors.

Chapter 4

#### **Book For Study:**

S.P. Gupta : Statistical Methods, Sultan Chand & Sons, Forty Forth Edition, 2014, New Delhi.

## Books for Reference

1. S.C.Gupta and V.K.Kapoor : Fundamentals of Mathematical Statistics, Sultan chand and Sons, Eleventh Edition Reprint, 2016, New Delhi.
2. P.R.Vittal : Mathematical Statistics(2002), Margham Publications, Chennai.

Course Designed by : S.AZHAGESWARI

Course Reviewed by : A.ANIS FATHIMA

Course Checked by : A.ANIS FATHIMA

## B.Sc. Statistics

### Semester I

### Part III - Core II - DESCRIPTIVE STATISTICS 116W02

[For students admitted from the academic year 2016-2017 onwards]

#### Preamble:

**52 Hours**

The main objective of this course is to introduce some concepts of statistics and elementary statistical methods of analysis of data. It provides the students

- To compute various measures of moments, skewness and kurtosis
- To compute various correlation coefficient
- To fitting curves and to make regression lines
- To apply the above measures in the various fields.

#### Unit I

**(10 Hours)**

Measure of Dispersion: Introduction – Significance of measuring variation – Properties of good measure of variation – Methods of Studying Variation – Which Measures of dispersion to use – List of Formulae.

Chapter 8

#### Unit II

**(11 Hours)**

Skewness, Moments and Kurtosis: Introduction – Tests of skewness – Measures of Skewness – Moments- Kurtosis.

Chapter 9

#### Unit III

**(10 Hours)**

Correlation Analysis : Introduction – Signification of the study of Correlation – Correlation and Causation – Types of Correlation – Methods of studying Correlation – Graphic Method – Karl Pearson's Coefficient of correlation – Coefficient of Correlation and Probable Error – Coefficient of Determination – Properties of the Coefficient of Correlation – Rank Correlation Coefficient.

Chapter 10

#### Unit IV

**(10 Hours)**

Regression Analysis : Introduction –Uses of Regression Analysis – Difference between Correlation and Regression Analysis - Regression line – Regression Equations –Regression Equations in case of Correlation Table – Standard Error of Estimate – Miscellaneous Illustrations – Limitations of Regression Analysis.

Chapter 11

#### Unit V

**(11 Hours)**

Association of Attributes :Introduction – Difference between Correlation and Association – Notation and Terminology – Consistency of Data – Association and Disassociation – Methods of Studying Association – Miscellaneous Illustrations – Association of three Attributes – Partial Association – First

method – Second Method – Third Method(Yule's Coefficient) – Illusory Association.

Chapter 12

**Book For Study:**

S.P. Gupta : Statistical Methods, Sultan Chand & Sons, Forty Forth Edition, 2014, New Delhi

**Books for Reference**

1. S.C.Gupta and V.K.Kapoor : Fundamentals of Mathematical Statistics, Sultan chand and Sons, Eleventh Edition, Reprint, 2016, New Delhi.
2. P.R.Vittal : Mathematical Statistics (2002), Margham Publications, Chennai.

Course Designed by : S.AZHAGESWARI

Course Reviewed by : A.ANIS FATHIMA

Course Checked by : A.ANIS FATHIMA

**B.Sc. Statistics**

**Semester I**

**Part III – Allied I – MATHEMATICS FOR STATISTICS I**

**116AW1**

**[For students admitted from the academic year 2016-2017 onwards]**

**Preamble**

**75 Hours**

This Course is framed for the statistics students with inclusion of the topics set theory, Matrices and Differential calculus

The objectives of this course are:

- To know the basic concepts of sets and learn to solve various types of problems on sets.
- To familiarize students with matrices and develop matrix multiplication, row operations, determinants and applications including the solutions of linear equations.

**Unit I**

**(15 Hours)**

Set Theory : Definition, Notations – Methods of Description sets – Kinds or Types of sets – Venn Diagram – Set operations – Laws and properties of sets – Number of elements.

Part I : (Pages 104 – 136)

**Unit II**

**(15 Hours)**

Matrices, Determinants, Input – Output Analysis : Definition of a Matrix – Order of a Matrix – Types of Matrices – Matrix operations-I – A system of Linear equations.

Part I : (Pages 147 – 164)

**Unit III**

**(15 Hours)**

Matrices, Determinants, Input-Output Analysis : Determinants – Matrix operations II – Rank of a Matrix – Consistency of system of simultaneous Linear equations – Miscellaneous Illustrations.

Part I : (Pages 164 – 200)

**Unit IV**

**(15 Hours)**

Differentiation : Derivatives of standard functions from first principle – Rules of differentiations – Function of a function rule or chain rule.

Part I : (Pages 247 – 266)

**Unit V** **(15 Hours)**

Differentiation : Differentiation of implicit functions – Parametric form – value of a derivative at specified values of x – Successive differentiation.

Part I : (Pages 267 – 280)

**Book for study**

PA.Navanitham, Business Mathematics and statistics, Jai publishers, Latest edition.

**Book for Reference**

Matrices by A.R.VASISHTA (Krishna Prakashan Mandir (P) Ltd. Meerut).

Course Designed by : T.VANJIKKODI

Course Reviewed by : J.PRIYADHARSHINI

Course Checked by : A.ANIS FATHIMA

**B.Sc. Statistics**

**Semester II**

**Part III - Core III-TIME SERIES AND INDEX NUMBERS**

**216W03**

**[For students admitted from the academic year 2016-2017 onwards]**

**Preamble** **52 Hours**

The main objective of this course is to acquaint student with knowledge on time series and index numbers. Index number is very useful in measuring the relative changes in the value of money and also it is helpful for the guidance and formulation of economic policies.

In time series analysis, there are two main goals

- identifying the nature of the phenomenon represented by the sequence of observations
- forecasting (predicting future values of the time series variable).

**Unit I** **(10 Hours)**

Analysis of time series: components of time series – Trend- Irregular (or Random) Component- Analysis of time series- Measurement of trend.

Book 1: Chapter 2 (Pages 2.1 to 2.36)

**Unit II** **(11 Hours)**

Measurement of Seasonal Variation: Methods of simple average – Ratio to trend Methods – Ratio to Moving average methods – Link relative methods – Measurement of cyclic variation – Random components in a time series.

Book 1: Chapter 2 (Pages 2.41 to 2.67)

**Unit III** **(10 Hours)**

Index Number: Uses of Index Numbers – Problems in the construction index numbers –Miscellanies Illustrations.

Book 2: Chapter 13 (Pages 516 to 537)

**Unit IV** **(10 Hours)**

Index Number: Value Index Numbers – Tests of Adequacy of Index Number Formulae – Chain Index Number – Consumer Price Index Numbers – Index Number of Industrial Production – Miscellaneous Illustrations.

Book 2: Chapter 13 (Pages 545 to 587)

**Unit V****(11 Hours)**

National Income Statistics: Methods of Calculation- Computational difficulties in India- Uses of National Income Estimates. National Sample Survey: Scope and working of National Sample Survey - National Sample Survey Organisation.

Book 3: Chapter 9 (Pages 1034 to 1052), Book 3: Chapter10 (Pages 1053 to 1061)

**Books for Study :**

Book 1: For Units I and II: S.C. Gupta and V.K. Kapoor, Fundamentals of Applied Statistics- Sultan Chand & Sons, Forth Edition, Reprint, 2015.

Book 2: For Units III and IV: S.P. Gupta – Statistical Methods- Sultan Chand & Sons.

Book 3: For Unit V: D. N. Elhance, Fundamentals of Statistics. Twentieth Edition (1978).

**Books for Reference:**

1. Croxton and Cowden, Applied General Statistics, prentice – Hall of India (Private)Ltd, Second edition, 1956, New Delhi.
2. B.L.Agarwal, Programmed statistics, New Age International, Chennai.
3. D. N. Elhance, Fundamentals of Statistics.-Twentieth Edition(1978).

Course Designed by : S.AZHAGESWARI

Course Reviewed by : A.ANIS FATHIMA

Course Checked by : A.ANIS FATHIMA

**B.Sc. Statistics****Semester II****Part III-Core IV - NUMERICAL ANALYSIS****216W04****[For students admitted from the academic year 2016-2017 onwards]****Preamble****52 Hours**

The study of Numerical Methods has become very important due to the wide spread use of these methods by scientists and engineers.

This course is designed in such a way that

- it develops the problem solving skills of the students .
- it provides confidence and motivation to solve problems with higher degree of complexity.

**Unit I****(11 Hours)**

Finite differences: First difference-Express any value of  $y$  in term of  $y_n$  and the backward differences of  $y_n$ – Differences of a polynomial – Factorial polynomial. Interpolation (for Equal Intervals): Introduction – Gregory-Newton forward Interpolation formula – Gregory-Newton backward Interpolation Formula – Equidistant terms with one or more missing values.

Chapter 5 (Sections 5.1-5.4) Chapter 6 (Sections 6.1-6.3, 6.7)

**Unit II****(10 Hours)**

Central Difference Interpolation formulae (For Equal Intervals): Central differences and central difference table – Central difference interpolation formula – Gauss's forward interpolation formula – Gauss's backward interpolation

formula – Stirling’s formula – Bessel’s formula – Laplace-Everett formula – Relation between Bessel’s and Everett’s formulae.

Chapter 7 (Sections 7.1-7.8)

**Unit III (11 Hours)**

Interpolation With Unequal Intervals: Introduction – Divided differences – Properties of divided differences – Relation between divided differences and forward differences – Theorem: Newton’s interpolation formula for unequal intervals – Deduction: Deduce Gregory Newton interpolation forward formula for equal intervals – Lagrange’s interpolation formula (for unequal intervals) – Different form of Lagrange’s interpolation formula – Inverse Interpolation.

Chapter 8 (Sections 8.1-8.8)

**Unit IV (10 Hours)**

Numerical differentiation and Integration: Introduction – Newton’s forward difference formula to get the derivative – Newton’s backward difference formula to compute the derivative – Derivative using Stirling’s formula – Caution – To find maxima and minima of the function given the tabular values.

Chapter 9 (Sections 9.1-9.6)

**Unit V (10 Hours)**

Numerical Integration: Introduction – Trapezoidal rule – Simpson’s one-third rule – Simpson’s three-eighths rule. Numerical Solution of Ordinary Differential Equations: Introduction – Solution by Taylor Series (Type I) – Euler’s Series – Runge-Kutta Method.

Chapter 9 (Sections 9.7, 9.9, 9.13 and 9.14). Chapter 11 (Sections 11.5, 11.9, 11.12).

**Book for study**

Dr.P.Kandasamy, Dr. K.Thilagavathy, Dr. K.Gunavathi, Numerical Methods, S.Chand & Company limited, Third Revised Edition Reprint (2010).

**Books for Reference**

1. Dr.M.K.Venkataraman, Numerical Methods in Science and Engineering, National Publishing company, fifth edition, 1995.
2. H.C.Saxena, Finite differences and Numerical Analysis, S.Chand & Company limited, New Delhi,2001.

Course Designed by : T.VANJIKKODI

Course Reviewed by : A.SAMSATH

Course Checked by : A.ANIS FATHIMA

**B.Sc. Statistics**

**Semester – I & II**

**Core Practical I – STATISTICAL PRACTICAL I**

**216WP1**

**(Manual calculations and practicals using MS- EXCEL) 30 Hours**

1. Formation of frequency distribution: Calculation of Arithmetic Mean, Geometric Mean, Harmonic mean, Median, Mode.
2. Formation of charts and diagrams: Histogram, Bar diagram, Pie diagram, Frequency line, Scatter diagram.
3. Calculation of measures of dispersion: Range, Variance, Standard Deviation, Mean Deviation.

4. Calculation of Coefficient of Variation.
5. Calculation of Percentiles and Quartiles.
6. Calculation of Skewness and Kurtosis.
7. Calculation of correlation coefficient.
8. Calculation of regression coefficients and formation of regression lines.
9. Fitting Straight line, Non- linear trend lines and calculation of trend values using moving averages.
10. Calculation of Index Numbers.

Course Designed by : S.AZHAGESWARI  
 Course Reviewed by : A.ANIS FATHIMA  
 Course Checked by : A.ANIS FATHIMA

## B.Sc. Statistics

### Semester II

#### Part III – Allied II – MATHEMATICS FOR STATISTICS II

216AW2

[For students admitted from the academic year 2016-2017 onwards]

#### Preamble

75 Hours

This course provides the students

- to solve differential equations and is used extensively in electrical engineering
- to apply Fourier concepts in the field of image processing
- to acquire knowledge about the convergence and divergence concepts of the given series.
- to get familiar with the applications of binomial, exponential and logarithmic expansion for finding the sum of an infinite series.

#### Unit I

(15 Hours)

Integration : Indefinite integrals – standard forms – determination of c – Definite integrals – Method of substitution – Method of partial fractions – Method of Integration by parts.

Book 1 (Pages 303 – 318)

#### Unit II

(15 Hours)

The Laplace Transforms: Definition-Results from the definition-Laplace transforms of periodic functions – Some general theorems – \*Evaluation of certain integrals using Laplace transforms

Book 2: Chapter 5 (Sections 1 – 5)

#### Unit III

(15 Hours)

Fourier Series : Fourier Series – Even and Odd functions – Half range fourier series – Development in cosine and sine series.

Book 2: Chapter 6 (Sections 1 – 5)

#### Unit IV

(15 Hours)

Convergency and Divergency of series: Definitions and elementary results – Some general theorems concerning infinite series – Series of positive terms – Comparison tests – Convergence and Divergence of series – Cauchy's condensation test – D'Alembert's ratio test – \*Cauchy's root test.

**Note** : Only Statement of the tests are included.

Book 3: Chapter 2 (Sections 8 –17)



**Unit V****(15 Hours)**

Binomial Theorem: Binomial Theorem (statement only) – Application of the Binomial Theorem to the summation of series. Exponential and Logarithmic series: The Exponential Theorem (statement only) –\*Summation – The Logarithmic series – Modification of the Logarithmic series – Series which can be summed up by the Logarithmic series.

Book 3: Chapter 3 (Sections 1, 10) Chapter 4 (Sections 2, 3, 5, 6, 7 and 9)

**Books for study**

- Book 1: For Unit I : PA. Navanitham, Business Mathematics and Statistics, Jai publishers, Latest edition
- Book 2: For Unit II & III : S. Narayanan and T.K. Manicavachagom Pillay, Calculus (Major) Volume III, S.Viswanathan (Printers and Publishers) Pvt. Ltd, Reprint 2012.
- Book 3: For Unit IV & V : T. K. Manicavachagam Pillay, T. Natarajan and K. S. Ganapathy, Algebra Volume I, S.Viswanathan (printers and publishers) Pvt., Ltd., Eleventh Revised Edition, Reprint –2009.

**Books for Reference**

1. P.Kandasamy, K.Thilagavathy, Mathematics for B.Sc Br-I, First Semester, Volume I, S.Chand & Company Ltd, First Edition, 2004.
2. George .F.Simmons, Differential Equations with applications and Historical notes, McGrawHill,Inc, 2<sup>nd</sup> Edition 1991.
3. Shanthi Narayanan, Integral Calculus, S. Chand & Co, 1987.

Course Designed by : A.ANIS FATHIMA

Course Reviewed by : J.PRIYADHARSHINI

Course Checked by : A.ANIS FATHIMA

**B.Sc Statistics****Semester III****Part III – Core V – DEMOGRAPHIC METHODS****316W05****[For students admitted during the academic year 2016 – 2017 only] 39 Hours****Subject description:**

This course introduces the concepts, methods and analysis of data relating to vital events such as births, deaths, marriage, migration etc.

**Goal:** To enable the students to have an exposure on the application of Statistical methods to analyze the demographic problems.

**Objective:**

On successful completion of the course the students should have understood about registered information of vital events, measurement of the events such as birth and death rates, life tables and population projection techniques.

**Unit I****(8 Hours)**

Mortality measurements: crude death rate – specific death rates – standardized death rates – direct and indirect methods.

Book 1: Chapter 9 (Sections 9.4.1–9.4.3)

**Unit II****(8 Hours)**

Comparative mortality index – infant mortality rate – maternal mortality rate – cause of death rate – case fatality rate – force of mortality – graduation of

mortality rates – Gompertz and Makeham’s laws.

Book 1: Chapter 9 (Sections 9.4.3, 9.5.4, 9.9)

**Unit III (7 Hours)**

Assumptions, description and construction of various columns of a life table and their relationships – uses of a life table – age pyramid.

Book 1: Chapter 9 (Sections 9.5, 9.5.5, 9.5.6)

**Unit IV (8 Hours)**

Construction of an abridged life table – Reid and Merrell method – Greville’s method – migration – factors effecting migration – gross and net migration rates.

Book 1: Chapter 9 (Sections 9.6, 9.6.1, 9.6.2)

Book 2: Chapter 10

**Unit V (8 Hours)**

Population projection – population estimates and projection – arithmetic, geometric and exponential growth rates – logistics curves – Pearl and Reed method – method of Rhodes – Basic ideas of stationary and stable population.

Book 1: Chapter 9 (Sections 9.5.1, 9.5.2)

**Books for Study**

1. Fundamentals of Applied Statistics by Gupta.S.C and Kapoor ,V.K (Sultan Chand & Sons) (2017)
2. Principles of Population studies by Asha A.Bende and Tara karitkar (Himalaya publishing)(2006)

**Books for Reference**

1. Indian Population Problems by Agarwala, S.N(Tata Mc Graw Hill, Bombay)
2. Fundamentals of Statistics Vol.II by Goon A.M, Guptha.M.K and Das Guptha (World press)
3. An introduction to the study of population by Mishra D.E (South India publishers, Madras)
4. Fundamentals of Demography by Dr..Hansraj (Surjeet publications Delhi)

**B.Sc Statistics**

**Semester III**

**Part III – Core VI – PROBABILITY DISTRIBUTION – I 316W06**

**[For students admitted during the academic year 2016 – 2017 only] 39 Hours**

**Subject description:**

This course introduces the various concepts, functions and properties and theorems related to random variables.

**Goal:** To enable the students to understand and study random phenomena mathematically.

**Objective:**

On successful completion of the paper the students should have understood the concepts of random variable, discrete, continuous, joint, marginal, conditional probability functions, expectation, conditional expectation and variance, generating functions, law of large numbers and central limit theorem and their applications.

- Unit I** (8 Hours)  
 Random variables – discrete and continuous random variables – distribution function – Properties – probability mass function and probability density function – various statistical measures of continuous probability distribution.  
 Book 1: Chapter 5 (Sections 5.1 – 5.4)
- Unit II** (8 Hours)  
 Joint, marginal and conditional distribution functions and density functions – independence of random variables – Transformation of variables (one and two dimensional – concepts only).  
 Book 1: Chapter 5 (Sections 5.5 – 5.7)
- Unit III** (8 Hours)  
 Mathematical expectation –properties – addition and multiplication theorems – Cauchy-Schwartz inequality, conditional expectation and conditional variance.  
 Book 1: Chapter 6
- Unit IV** (7 Hours)  
 Moment generating function, cumulant generating function, characteristic function and their properties.  
 Book 1: Chapter 7 (Sections 7.1 – 7.3)
- Unit V** (8 Hours)  
 Tchebychev's inequality, convergence in probability, weak law of large numbers and central limit theorem  
 Book 1: Chapter 7 (Sections 7.5, 7.6, 7.7)  
 Book 2: Chapter 5 (Pages 192–195)

**Books for Study**

1. Fundamentals of Mathematical statistics by Gupta.S.C & Kapoor.V.K  
 (Sultan chand & sons)
2. Introduction to Mathematical statistics by Hogg.R.V and Craig, A.G. (Amerind)

**B.Sc Statistics**

**Semester III**

**Part III – Allied III – COMPUTER PROGRAMMING FOR**

**STATISTICAL ANALYSIS – I**

**316AW3**

**[For students admitted during the academic year 2016 – 2017 only] 65 Hours**

**Subject description:**

This course introduces structured high level Computer programming Language C

**Goal:** To enable the students to understand and develop programs in C.

**Objective:**

On successful completion of this course the students should have obtained the capability to develop programs for Statistical problems.

**Unit I** (13 hours)

Constants, Variables and Data types: Introduction – Character set- C tokens – Keywords and identifiers – Constants- Variables – Data types – Declaration of variables – Declaration of storage class-Assigning Values to variables – Defining symbolic constants – Declaring a variable as constant – Declaring a variable as Volatile. Operators and Expression: Introduction – Arithmetic operators – Relational operators – Logical operators – Assignment Operators – Increment and decrement operators – Conditional operator – Bit wise operators – Special operators – Arithmetic Expressions – Evaluation of expressions – Precedence of

Arithmetic Operators – Some computational problems – Type Conversions in Expressions – Operator precedence and associativity – Mathematical functions.  
Chapter 2 and 3 (Pages 83 – 150)

**Unit II** **(13 hours)**

Managing Input and Output Operations: Introduction – Reading a Character – Writing a character – Formatted Input – Formatted Output. Decision making and branching: Introduction – Decision making with IF statement – Simple IF statement – The IF...ELSE statement – Nesting of IF...ELSE statements – The ELSE IF ladder – The switch statement – The ?: operator – The GOTO statement.  
Chapter 4 and 5 (Pages 22 – 82)

**Unit III** **(13 hours)**

Decision making and looping: Introduction – The WHILE statement – The DO statement – The FOR statement – Jumps in loops. Arrays: Introduction – One dimensional arrays – Declaration of one dimensional arrays – Initialization of One dimensional arrays – Two dimensional arrays – Initializing two dimensional arrays – Multi-dimensional arrays.  
Chapter 6 and 7 (Pages 151 – 236)

**Unit IV** **(13 hours)**

Character arrays and strings: Introduction – Declaring and initializing string variables – Reading strings from terminal – Writing strings to screen – Arithmetic operations on characters – Putting strings together – Comparison of two strings – String handling functions. User-Defined functions: Introduction – Need for user defined functions – A multi-function program – Elements of user defined functions – Definition of functions – Return values and their types – Function calls – Function Declaration – Category of functions – No arguments and no return values – Arguments but no return values – Arguments with return values – No arguments but returns a value – functions that return multiple values – Nesting of functions – Recursion – Passing Arrays to functions – Passing strings to functions – The scope, visibility and lifetime of Variables.  
Chapter 8 and 9 (Pages 237 – 323)

**Unit V** **(13 hours)**

Structures and Unions: Introduction-Defining a Structure – Declaring Structure variables – Accessing Structure members – Structure Initialization Copying and comparing Structure variables – Operations on Individual members – Arrays of Structure – Arrays within Structures – Structures within Structures – Structures and functions – Unions – Size of Structures. Pointers: Introduction – Understanding Pointers – Accessing the Address of a Variable – Declaring Pointer Variables – Initialization of Pointer Variables – Accessing a Variables through its Pointer – Chain of Pointers – Pointer Expressions – Pointer Increments and Scale Factor-Pointers and Arrays – Pointers and Character Strings – Array of Pointers – Pointers as Function Arguments –Functions Returning Pointers –Pointers to Functions – Pointers and Structures – Troubles with Pointers.  
Chapter 10 and 11 (Pages 324 – 394)

**Book for Study**

Programming in ANSI C, Balagurusamy, E, Tata McGraw Hill.(2014)

**Book for Reference**

Let us C, Yaswant Kanetker, BPB publications New Delhi.

## **B.Sc Statistics**

### **Semester III**

#### **Part IV – Skill Based Course I – ACTUARIAL STATISTICS - I 316WS1**

**[For students admitted during the academic year 2016 – 2017 only] 39 Hours**

#### **Subject description:**

This course introduces the underlying principles, history of life insurance

**Goal:** To enable the students to understand the sound financial line insurance.

#### **Objective:**

On completion of this course the students should have understood the principal terms used and major life insurance products covered in Indian life insurance and the selection and purpose of risk, and how mortality table is essential for life insurance.

#### **Unit I (8 Hours)**

Principles of Life Assurance: Nature of Insurance – Classification of Insurance – History of Life Insurance in India.

Chapter 1 (Pages 3 – 7), Chapter 2 (Pages 8 – 11)

#### **Unit II (8 Hours)**

Definition of whole life assurance – term assurance – pure endowment – endowment assurance – critical illness assurance – whole life level annuity – temporary level annuity premium, benefit – assurance and annuity contracts.

Chapter 6 (Pages 43 – 50), Chapter 7 (Pages 82 – 84)

#### **Unit III (8 Hours)**

Selection of Risk – Purpose of selections – Factors affecting risks – Sources of risk information – Insurance of ladies and minors – Non-medical business – Classes of risk – Methods of risk classification – Measurement of Risk – Treatment of sub-standard risks – Methods of treating sub-standard risks – Mortality table – Features – Construction of death rate on yearly basis – Sources of mortality information – Construction of mortality table – Types of mortality tables – Interest factor.

Chapter 8 (Pages 85 – 100), Chapter 9 (Pages 103 – 113),

Chapter 11 (Pages 128 – 131)

#### **Unit IV (8 Hours)**

The Reserve: Nature, definition, origin, sources, need - Methods of calculating Reserve – Investment of funds: Need, Sources – Problems of investment – The principles of investment – Suitability of various types of investments – Surrender value – Basis of calculating surrender value – Forms of payment – Valuation and Surplus – The calculation process – Sources of surplus – Difference between surplus and profit – Bases of allotment of profit – Distribution of surplus – Bonus – Classification – Options.

Chapter 12 (Pages 132 – 138), Chapter 13 (Pages 140 – 146),

Chapter 14 (Pages 156 – 159), Chapter 15 (Pages 160 – 165)

#### **Unit V (7 Hours)**

Policy condition – Life insurance for under privileged – Industrial life insurance – Group life insurance – Disability Benefit policies – Social security schemes – Pension Plans – Micro life insurance.

Chapter 16 (Pages 166 – 171), Chapter 17 (Pages 178 – 191)

**Book for Study**

Insurance Principle and practice : M.N. Mishra and S.B. Mishra  
S. Chand & Co, New Delhi (21<sup>st</sup> edition)(2014)

**B.Sc Statistics****Semester IV****Part III – Core VII – PROBABILITY DISTRIBUTION – II 416W07**

[For students admitted during the academic year 2016 – 2017 only] 52 Hours

**Subject description:**

This course introduces probability functions for random variables that are defined for different probabilistic situations.

**Goal:** To enable the students to understand the properties and applications of various probability functions

**Objective:**

On successful completion of the course the students should have understood the applications and nature of the probability distributions such as binomial, poisson ....normal, t,  $\chi^2$  and F.

**Unit I****(10 Hours)**

Binomial, Poisson and Negative – Binomial distributions – Moments, m.g.f, cumulants, additive property, recurrence relation for the probabilities – simple problems.

Chapter 8 (Sections 8.4 – 8.6)

**Unit II****(11 Hours)**

Geometric distribution – moments, m.g.f – Hyper - geometric distribution – mean, variance, m.g.f, Binomial as a limiting form of Hyper - geometric distribution – Multinomial distribution – moments.

Chapter 8 (Sections 8.7 – 8.9)

**Unit III****(11 Hours)**

Normal distribution – limiting form of Binomial distribution, properties, median, mode, moments, m.g.f, cumulants, mean deviation, area property, simple problems – Rectangular distribution – moments, m.g.f. characteristic function, mean deviation – Bivariate normal distribution.

Chapter 9 (Sections 9.2 - 9.3)

**Unit IV****(10 Hours)**

Gamma, Beta distributions of me kind and II kind – constants – Exponential distribution – additive property.

Chapter 9 (Sections 9.5 – 9.8 )

**Unit V****(10 Hours)**

Functions of normal random variable leading to  $\chi^2$ , t and F distributions – inter relationship between the distributions and their properties.

Chapter 15 (Sections 15.2, 15.3), Chapter 16 (Sections 16.2 – 16.6)

**Book for Study**

Fundamentals of mathematical statistics by Gupta. S.C and Kapoor. V.K.,  
(Sultan chand & sons)(2016)

**Book for Reference**

Introduction to Mathematical Statistics by: Hogg R.V and Craig, A.G., (Amerind.)

## B.Sc Statistics

### Semester IV

#### Part III – Core Practical II (Manual Calculation)

416WP2

[For students admitted during the academic year 2016 – 2017 only]

26 Hours

(Calculator based)

#### Demographic methods:

1. Construction of life table.
2. Determination of mortality, fertility and reproduction rates.
3. Population projection using polynomials and exponential function.
4. Fitting Gompertz curve.
5. Fitting logistic curve to population data by the method of Pearl and Reed.
6. Fitting of Logistic curve by Rhodes method.

#### Probability and Distributions I & II

1. Fitting of Binomial distribution.
2. Fitting of Poisson distribution.
3. Fitting of Normal distribution by the method of ordinates.
4. Fitting Normal distribution by area method.

## B.Sc Statistics

### Semester IV

#### Part III – Allied IV – COMPUTER PROGRAMMING FOR

#### STATISTICAL ANALYSIS – II

416AW4

[For students admitted during the academic year 2016 – 2017 only]

65 Hours

#### Subject description:

This course introduces the concept of object oriented programming language which is a higher version of C programming language

**Goal:** To enable the students to understand and develop programs in C++.

#### Objective:

On successful completion of this course the students should have obtained the capability to develop programs for Statistical problems using OOP's concept

#### Unit I

(13 Hours)

Principles of Object Oriented Programming: Basic concepts of Object Oriented Programming – Benefits of OOPS. Beginning with C++ : Applications of C++ – Structure of C++ program. Tokens, Expressions and Control Structures: Introduction – Tokens – Keywords – Identifiers and Constants – Basic data Types – User-Defined Data Types – Derived data types – Symbolic constants – Type Compatibility – Declaration of variables – Dynamic initialization of Variables – Reference Variables – Operators in C++ – Scope Resolution Operator – Member Dereferencing Operators – Memory Management Operators – Manipulators – Typecast Operator – Expressions and their Types – Special Assignment Expressions – Implicit Conversions – Operator Overloading – Operator Precedence – Control Structures.

Chapter 2, 3

#### Unit II

(13 Hours)

Functions in C++: Introduction – The Main Function – Function prototyping – Call by Reference – Return by reference – Inline functions – Default arguments – const Arguments – Recursion – Function Overloading – Friend and Virtual

Functions – Math Library Functions. Classes and Objects: Introduction – C Structures Revisited – Specifying a Class – Defining Member Functions – A C++ Program with Class – Making an Outside Function Inline – Nesting of Member Functions – Private Member Functions – Arrays within a Class – Memory allocation for Objects – Static Data Members – Static Member Functions – Arrays of Objects – Objects as Function Arguments – Friendly Functions – Returning Objects – const Member functions – Pointers to Members – Local classes.

Chapter 4, 5

**Unit III (13 Hours)**

Constructors and Destructors: Introduction – Constructors – Parameterized Constructors – Multiple Constructors in a Class – Constructors with Default Arguments – Dynamic Initialization of Objects – Copy constructor – Dynamic Constructors – Constructing Two-Dimensional Arrays – const Objects – Destructors. Operator overloading and Type Conversions: Introduction – Defining Operator Overloading – Overloading Unary Operators – Overloading Binary Operators – Overloading Binary Operators using Friends – Manipulation of Strings Using Operators – Rules for Overloading Operators – Type Conversions.

Chapter 6, 7

**Unit IV (13 Hours)**

Inheritance: Extending Classes: Introduction – Defining Derived Classes – Single Inheritance – Making a Private Member Inheritable – Multilevel Inheritance – Multiple Inheritance – Hierarchical Inheritance – Hybrid Inheritance – Virtual Base Classes – Abstract Classes – Constructors in Derived Classes – Member Classes: Nesting of Classes. Pointers, Virtual Functions and Polymorphism: Introduction – Pointers- Pointers to Objects – this Pointer – Pointers to Derived Classes – Virtual Functions – Pure Virtual functions.

Chapter 8, 9

**Unit V (13 Hours)**

Working with files: Introduction – Classes for File Stream Operations – Opening and Closing a File – Detecting End-of-File – More about Open():File modes – File Pointers and their Manipulations – Sequential Input and Output Operations – Updating a File: Random Access – Error handling During File Operations – Command – Line Arguments. Exception Handling: Introduction – Basics of Exception Handling – Exception Handling Mechanism-Throwing Mechanism – Catching Mechanism – Rethrowing an Exception – Specifying Exceptions.

Chapter 11(Pages 323 - 358), Chapter 13(Pages 380 - 400)

**Book for Study**

Object oriented programming with C++ : Balagruramy,E (Tata McGraw Hill)  
(4<sup>th</sup> edition, 2008)

**Book for Reference**

Programming with C++ : D.Ravichandran (Tata McGraw Hill)



**Part III – Allied Practical - C AND C++ PROGRAMMING FOR  
STATISTICAL ANALYSIS 416AWP**  
**[For students admitted during the academic year 2016 – 2017 only]**

**26 Hours**

1. Program to form a frequency distribution for the given data  $X_1, X_2, X_3, \dots, X_n$ , give the number of class intervals  $K$  and the width of the class intervals  $W$ .
2. Program to find the arithmetic mean, geometric mean and harmonic mean for the given frequency distribution.
3. Program to find Mean, Variance, Standard Deviation and Coefficient of variation.
4. Program to find the three quartiles  $Q_1, Q_2$  and  $Q_3$  and the coefficient of skewness.
5. Program to find the first four moments about origin  $A$  and to find  $\beta_1, \beta_2, \gamma_1$  and  $\gamma_2$ .
6. Program to find simple correlation and regression coefficients for the given bivariate data.
7. Program to fit a straight line of the form  $y = ax + b$  using the principle of least squares to the given bivariate data.
8. Program to fit Binomial distribution.
9. Program to fit a Poisson distribution.
10. Program to arrange one dimensional array of numbers in ascending and descending order.
11. Program to evaluate a matrix polynomial of the type  $aX^2 + bX + cI$  where  $X$  is a matrix of order  $3 \times 3$  and  $I$  is an identity matrix and  $a, b$  and  $c$  are constants.
12. Program to solve the given system of simultaneous equations of three variables.
13. Program to open a file and store data in it and to read and display the data from the file.

**B.Sc Statistics  
Semester IV**

**Part IV – Skill Based Course II – ACTUARIAL STATISTICS – II 416WS2**  
**[For students admitted during the academic year 2016 – 2017 only] 39 Hours**

**Subject description:**

This course introduces the types of marine insurance products and premium calculations

**Goal:** To enable the students to gain more knowledge in life insurance products.

**Objective:**

On completion of this course the students should have understood various concepts relating to marine insurance and the types, policy conditions and payments of marine insurance.

**Unit I**

**(8 Hours)**

Marine insurance – Definition – Subject matter – Hull insurance – Cargo insurance – Freight insurance – Liability insurance – Documents of marine insurance – Procedure to effect marine insurance – Elements of marine insurance – History – Marine publications – Marine insurance policies – Classes of policies.  
Chapter 19 (Pages 267 – 286), Chapter 20 (Pages 287 – 291)

- Unit II** (8 Hours)  
 Policy conditions – Lloyd’s form of policy – Description of the clauses – Risk covered by ICC (A) – Premium calculation – Rate making in marine insurance – Return of premium.  
 Chapter 21 (Pages 292 – 298), Chapter 22 (Pages 299 – 302)
- Unit III** (8 Hours)  
 Marine losses – Marine perils – Total loss – Partial loss – Particular average loss – Illustration – General average – Types of general average loss – General average contribution – Application of general average to insurance – Expenses.  
 Chapter 23 (Pages 303 – 314)
- Unit IV** (7 Hours)  
 Payment of claims – Documents Required for claim – Documents in different types of claims – Extent of liability – Some practical problems.  
 Chapter 24 (Pages 315 – 321)
- Unit V** (8 Hours)  
 Marine insurance business in India – Business of Indian Insurers progress before Nationalization – Indian Insurers – Gross direct premium income – Net premium income – Underwriting experiences in Marine insurance – Some articles in marine insurance.  
 Chapter 25 (Pages 322 – 350)

**Book for Study**

Insurance Principle and practice: M.N. Mishra and S.B. Mishra  
 (S. Chand & Co, New Delhi) (21 Edition, 2014)

**B.Sc Statistics**

**Semester V**

**Part III – Core VIII – STATISTICAL INFERENCE I** **516W08**

**[For students admitted during the academic year 2016 – 2017 only] 75 Hours**

**Subject description:**

This course introduces concepts, methods and properties relating to estimation

**Goal:** To enable the students to understand and apply various estimation procedures

**Objective:**

On successful completion of this course the students should have understood the concepts of Point estimation and interval estimation, and their properties, calculation of partial and multiple correlation coefficients and multiple linear regression line.

**Unit I** (15 Hours)

Concept of Statistical Inference – Parametric estimation – Sampling distribution – Standard Error. Derivation of Standard Error of mean, variance, proportion, difference between means variances and Proportions – concept of ordered statistics.

Chapter 14 (Sections 14.3 – 14.3.2, 14.8.2 – 14.8.5)

**Unit II** (15 Hours)

Point Estimation: Estimator, properties of point estimator – unbiasedness, consistency, Cramer Rao inequality – efficiency – asymptotic efficiency and sufficiency of the estimator – Rao Blackwell theorem.

Chapter 17 (Sections 17.1 – 17.5, 17.8, 17.9)

**Unit III** (15 Hours)

Methods of point estimation: method of maximum likelihood, method of minimum chi square and method of moments – properties of estimators obtained by these methods (Without proof).

Chapter 17 (Sections 17.6 – 17.6.3)

**Unit IV** (15 Hours)

Interval Estimation: Fiducial limits – derivation of confidence intervals based on Normal, 't',  $\chi^2$  and F distributions. Confidence intervals – using Cramer – Rao inequality – Partial and multiple correlation and regression coefficients – Multiple linear regression lines.

Chapter 17(Section 17.7), Chapter 11(Section 11.2.1), Chapter 12(Section 12.4)

**Unit V** (15 Hours)

Numerical problems in interval estimation, multiple and partial correlation an regression – simple problems only.

Chapter 11, 12, 17

**Book for Study**

Fundamentals of Mathematical Statistics : Gupta S.C and Kapoor V.K  
(Sultan chand & sons).

**Books for Reference**

1. Introduction to mathematical statistics by Hoel P.G : (Wiley International)
2. Statistical methods by Snedecor, GW and Cochran, WG (Oxford and I B H)
3. Introduction to mathematical Statistics by Hogg V and Craig .R (Amerind)
4. Theory and application of Statistics Vol. II by Ramasamy, M.M
5. Introduction to Mathematical Statistics by Brunk, H.D (Ginn and Co.)
6. A first Course in Mathematical Statistics by Weather Burn CE (Cambridge University press)

**B.Sc Statistics**

**Semester V**

**Part III – Core IX – BASIC SAMPLING THEORY 516W09**

**[For students admitted during the academic year 2016 – 2017 only] 75 Hours**

**Subject description:**

This course introduces the concept, methods and analysis of sampling techniques

**Goal:** To enable the students to understand and apply the sampling procedures to different situations

**Objective:**

On successful completion of the course the students should have understood sample and census surveys, errors that occur in surveys and various sampling methods and the different types of populations to which these sampling methods are applicable.

- Unit I** (15 Hours)  
 Sampling from a finite population – Random sampling – simple sampling with and without replacement – unbiased estimates of the mean and the variance of the population and of the variance of the estimator of the mean – Estimation of the sample size.
- Unit II** (15 Hours)  
 Stratified sampling – proportional and optimum allocation with regard to stratified random sampling – unbiased estimates of the mean and the variance of the population and of the variance of the estimator of the mean.
- Unit III** (15 Hours)  
 Systematic sampling – Unbiased estimates of the mean and the variance of the population and of the variance of the estimator of the mean.
- Unit IV** (15 Hours)  
 Cluster and two stage sampling – unbiased estimates of the mean and variance of the population and of the variance of the estimator of the mean.
- Unit V** (15 Hours)  
 Design, organization and execution of sample surveys – sampling and non-sampling errors and methods to deal with sampling errors.

### Books for Study

1. Fundamentals of Mathematical Statistics : Gupta S.C and Kapoor V.K  
(Sultan chand & sons).
2. Fundamentals of Applied Statistics : Gupta S.C and Kapoor V.K  
(Sultan chand & sons).

### Books for Reference

1. Sampling Techniques : Cochran, W.G (Wiley East)
2. Sampling theory of survey with applications : Sukathme P.V and sukathme B.V  
(Asia publishing House)
3. Sampling theory and Methods : Murthy, M.N (Statistical publishing)

## B.Sc Statistics

### Semester V

#### Part III – Core X – DESIGN OF EXPERIMENTS 516W10

[For students admitted during the academic year 2016 – 2017 only] 75 Hours

#### Subject description:

This course introduces various experimental designs, selection of appropriate designs in planning a scientific experimentation

**Goal:** To enable the students to understand the principles of experimentation and employ suitable designs in experiments

#### Objective:

On successful completion of this course the students should have understood the concept of analysis of variance, to compare more than two treatments with the help of F distribution for various designs employed, to estimate missing observations, to compare the efficiencies of various designs and the concept of ANCOVA

- Unit I** (15 Hours)  
 Linear design models – Least Square estimates of parameters and variance of estimates – Analysis of variance: One way and two way classifications.
- Unit II** (15 Hours)  
 Fundamentals of experimentation: Plot and pen techniques – determination of shape and size of plots – Uniformity trials – Replication, randomization and local control techniques.
- Unit III** (15 Hours)  
 Analysis of different experiments: CRD, RBD and LSD and their efficiencies
- Unit IV** (15 Hours)  
 Missing plot techniques (at most two values) – Analysis of covariance (ANCOVA) with one concomitant variable to CRD and RBD.
- Unit V** (15 Hours)  
 Factorial designs –  $2^2, 2^3$  and  $3^2$  factorial designs with and without confounding.

### Books for Study

1. Fundamentals of Applied Statistics, Gupta S.C and Kapoor V.K (Sultan chand & sons).
2. Design and Analysis of Experiments by Das, M.N., and Giri, N.L (wiley Eastern)

### Books for Reference

1. Experimental designs by Cochran W.G and Cox G.M (john Wiley)
2. Experimental design: Theory and applications by Federar, WT (Oxford and IBH)
3. Statistical theory in research by Anderson RL and Bangrtt TA (McGraw HILL)
4. The design of Analysis of Experiments by Kempthorne, B (Wiley Eastern)
5. Fundamentals of Statistics by Goon.A.M., Guptha M.K and Das Guptha (World press)

## B.Sc Statistics

### Semester V

#### Part III– Elective I - PSYCHOLOGICAL STATISTICS 516WE1

[For students admitted during the academic year 2016 – 2017 only] 75 Hours

#### Subject Description:

This paper introduces the concepts of statistical measures that are used in Psychology for the students of Statistics

**Goal:** To enable the students to learn the application of Statistical tools in Psychology

#### Objective:

On successful completion of this course the students gain knowledge in the application of scaling procedure, reliability and validity tests and different types of correlation.

#### Unit I (15 Hours)

Introduction – scaling procedures – Z or  $\sigma$  scores – standard scores – Normalized scores – T-scores – Percentile score – Scaling of rankings in terms of Normal Probability curve – scaling of ratings in terms of Normal Probability curve.

#### Unit II (15 Hours)

Reliability of test scores – definition of reliability – index of reliability – Parallel tests – methods for determining test reliability – the test – retest method –

Alternate or parallel forms method – split half method – effect of test length on the reliability of the test – effect of different ranges on the reliability of the test.

**Unit III (15 Hours)**

Estimation of validity – types of validity – validity and test length – comparison between reliability and validity – Intelligence tests – Mental age – Intelligence quotient.

**Unit IV (15 Hours)**

Biserial correlation – correlation from fourfold tables – the contingency coefficient – curvilinear relationship.

**Unit V (15 Hours)**

Correlation ratio – intra-class correlation – partial and multiple correlation – definition – formula for three variables – limitations – simple problems.

**Books for Study**

1. Fundamentals of Applied Statistics : S.C.Gupta and V.K.Kapoor  
(Chapter 8 for Units I, II and III)– Sultan Chand and Sons
2. Fundamentals of Mathematical Statistics : S.C.Gupta and V.K.Kapoor  
(Chapter 12 for Unit V) – Sultan Chand and Sons
3. Statistics in Psychology and Education : H.E.Garrett  
(Chapter 14 for Unit IV) International Book Bureau

**B.Sc Statistics**

**Semester V**

**Part IV– Skill Based Course III – ACTUARIAL STATISTICS - III 516WS3**

**[For students admitted during the academic year 2016 – 2017 only] 39 Hours**

**Subject description:**

This paper introduces fire insurance and various insurance legislation act in India

**Goal:** To enable the students to have exposure on various acts relating to insurance business environment.

**Objective:**

On completion of this course the students should have understood the concept of fire insurance, policies on fire insurance, progress of fire insurance and the various insurance legislation act in India.

**Unit I (9 Hours)**

Fire insurance – Definition and nature – Functions – Causes and prevention – Fire insurance contracts – Elements of fire insurance contract – Reinstatement value(RIV)

**Unit II (8 Hours)**

Kinds of policies – Policy conditions – standard form of policy – Perils insured – Policy conditions.

**Unit III (8 Hours)**

Rate fixation in fire insurance – System of rate fixation – Principles of rate fixation – tariff rates – The tariff system in practice – Payment of claim – salvage corps – Application of average clause in payment of claim – Contribution – Payment and discharge – Waiver and Estopped.

**Unit IV** (7 Hours)

Progress of Fire insurance – Indian insurers – Progress after nationalization – insurance legislation in india – History – Defects – Reasons of replacement act of 1912 – Demand for another act.

**Unit V** (7 Hours)

Act of 1938 – The insurance act 1938 – Life insurance act, 1956 – Marine insurance act, 1963 – General insurance act, 1972 – Insurance Regulatory and Development authority act, 1999

**Books for Study**

Insurance Principle and practice : M.N. Mishra and S.B. Mishra  
(S. Chand & Co, New Delhi)

**B.Sc Statistics**

**Semester VI**

**Part III – Core XI - STATISTICAL INFERENCE - II** 616W11

[For students admitted during the academic year 2016 – 2017 only] 65 Hours

**Subject description:**

This course introduces the concepts of hypothesis testing

**Goal:** To enable the students to give inference on statistical population based on sample statistics

**Objective:**

On completion of the course the students should have gained knowledge on the methods of testing the hypothesis on different distributions and also the nature of statistics to which such test procedure can be used

**Unit I** (13 Hours)

Testing of Statistical hypothesis: Statistical hypothesis – simple and composite hypothesis, null and alternative hypotheses – sample and parameter space – two types of errors – critical region – power a test – Neyman-Pearson Lemma – simple applications.

**Unit II** (13 Hours)

Most powerful tests – uniformly most powerful and unbiased tests based on Normal, t, and  $\chi^2$  and F distributions (without proof) – likelihood ratio criterion – definition and simple applications.

**Unit III** (13 Hours)

Test of significance – Asymptotic and exact tests based on Normal, t, and  $\chi^2$  and F distributions with regard to mean, proportion, variance, Standard deviation, coefficient of correlation, regression coefficients, partial and multiple correlation coefficients – Concept of observed significance level.

**Unit IV** (13 Hours)

Contingency table – Test for independence by contingency tables – goodness of fitness tests – tests of homogeneity of variances, correlation and proportions .Test of Normality (application only).

**Unit V** (13 Hours)

Elementary ideas on distribution – free and non-parametric tests – Run, Median, Sign and Mann Whitney tests (without proof) – Equality of two distributions.

**Book for Study**

Fundamentals of Mathematical statistics : Gupta S.C and Kapoor V.K  
(Sulthan chand & sons).

## Books for Reference

1. Introduction to Mathematical statistics by Hogg, R.V and Craig, AG (amrend )
2. Introduction to Mathematical statistics by Hoel, P.G (Wiley International)
3. Statistical Methods by Snedecor, G.W and Cochran W. G (oxford and IBH)
4. Introduction to Mathematical Statistics by Brunk .H.D (Gann Co)
5. Practical Non-parametric Statistics by Conover (wiley International)

## B.Sc Statistics

### Semester VI

#### Part III – Core XII - STATISTICAL QUALITY CONTROL 616W12

[For students admitted during the academic year 2016 – 2017 only] 65 Hours

#### Subject description:

This course introduces the application of statistical tools on industrial environment to study, analyze and control the quality of products

**Goal:** To enable the students to know the concepts of process control and product control.

#### Objective:

On successful completion of the course the students should have understood various tools used such as control charts, sampling plans, quality system standards and reliability concepts to control the quality of industrial outputs.

#### Unit I (13 Hours)

Need for SQC – Role of frequency distribution – Statistical basis for SQC – variable control charts –  $\bar{X}$ , R and  $\sigma$  charts.

#### Unit II (13 Hours)

Control Chart for attributes – np, p, c and u chart – Group control chart, OC and ARL of control charts, CUSUM charts using V – mark and decision intervals (concepts only).

#### Unit III (13 Hours)

Acceptance sampling for Attributes – Single sampling plan – Double sampling plan – OC, AOQ, ASN and ATI curves – sequential sampling plan and their properties.

#### Unit IV (13 Hours)

Quality system standards – ISO 9000– Elements of ISO – 9000 – Benefits of ISO 9000 – Elements of a quality system – Documentation ISO 9000 accreditation.

#### Unit V (13 Hours)

Reliability concepts and measures, components and systems, reliability function, hazard rate, common life distribution viz, exponential, gamma and weibull.

## Book for Study

Fundamentals of Applied statistics: Gupta S.C and Kapoor, V.K  
(Sultan Chand & Son)

## Books for Reference

1. Quality control and Industrial Management by Dunkan A.J.(Richard D.Irwin Inc.USA)
2. Statistical Quality Control by R.S. Leaven worth (Mc Graw Hill)
3. Statistics of Quality control, Sampling Inspection and Reliability by Biswas S (1996)(New Age Intl )



4. Statistical Analysis of Reliability and Life Testing Models, by Bain, L.J and Englehard. M. (1991) (Maral Dekker)

## **B.Sc Statistics**

### **Semester VI**

#### **Part III – Core Practical III - STATISTICAL SOFTWARE PACKAGE**

**616WP3**

**[For students admitted during the academic year 2016 – 2017 only] 26 Hours**

#### **Unit I**

Essential terminology for all SPSS users – getting to SPSS for windows – the components of window – SPSS for windows screens – crucial preliminaries – entering data into SPSS – editing data – saving data file – retrieving data file.

#### **Unit II**

Merging data files – adding scores to existing cases – add variables – running a simple analysis and obtaining the output.

#### **Unit III**

Checking the data – Box plots of score distributions – listing of the data using case summaries graphs – bar, line, pie chart, scatter plots and histograms.

#### **Unit IV**

Frequency distribution – measures of frequency distributions–cross tabulations – obtaining two sample chi–square tests – log linear analysis – parametric statistical tests – comparing means paired and unpaired t-tests.

#### **Unit V**

Correlation and multiple regression – analysing nominal and ordinal data – non - parametric analysis – Wilcoxon, mann–whitney, Kruskal Wallis tests –ANOVA: one way.

#### **Books for Study**

1. Clifford E.Lunneborg (2000). Data analysis by resampling: concepts and applications. Dusbury Thompson learning .Australia.
2. Everrit, B.S and Dunn, G(2001).Applied Multivariate Data Analysis. Amol London. Jeremy J.foster (2001).data analysis using SPSS for windows. New edition. Versions 8\_10 Sage Publications, London.
3. Michael S Louis–Beck (1995).Data analysis an introduction, series: quantitative applications in the social sciences. Sage publications. London.

## **B.Sc Statistics**

### **Semester VI**

#### **Part III– Elective II - ELEMENTS OF ECONOMETRICS**

**616WE2**

**[For students admitted during the academic year 2016 – 2017 only] 65 Hours**

#### **Subject description:**

This course introduces the application of statistical methods to economic phenomena.

**Goal:** To enable the students to establish and verify economic relationships

#### **Objective:**

On successful completion of the course the students should have understood econometric Model, estimation and testing of parameters, forecasting and verification of economic theory and application of models in planning.

- Unit I** (13 Hours)  
 Definition – Scope – objectives of Econometrics – Limitations – Divisions of Econometrics.
- Unit II** (13 Hours)  
 Single equation model two variable case – Reasons for introducing error term in the Model – least square method of estimation and testing of parameters of the model – Estimation of error variance – Simple problems.
- Unit III** (13 Hours)  
 General linear model – Assumptions – Least square method of estimation and testing of the parameters of the models – problems under failure of assumptions.
- Unit IV** (13 Hours)  
 Multicollinearity – Effects of multicollinearity – detecting multicollinearity – Remedies – Autocorrelation – sources of autocorrelation – Durbin–Watson test – Dummy variables (conceptonly) – Specification errors.
- Unit V** (13 Hours)  
 Econometric models in planning: Mahalanobis four sector model – criticism of the model problems – problems relating to three variable linear model and test for auto correlation.

### Books for Study

1. Econometrics Basic and applied by Aaron C Johnson Jr, Marvin B Johnson and Rueben C Buse (Maxwell Macmillan Intl editions).
2. Econometric methods by Johnston. J (McGraw Hill Intl student's editions).
3. Theory of Econometrics by Koutsoyannis. A (Palgrave publications Ltd).
4. Econometrics and mathematical Economics by S.P Singh, Anil K. Parashar and H P Singh (S.Chand & Co).

## B.Sc Statistics

### Semester VI

#### Part III – Elective III – OPERATIONS RESEARCH 616WE3

[For students admitted during the academic year 2016 – 2017 only] 65 Hours

#### Subject description:

This course introduces the concepts, models and problem solving techniques of optimization problems

**Goal:** To enable the students gain knowledge about various optimization techniques

#### Objective:

After completion of the course the students will be able to solve problems related to business and industry using linear programming techniques, Transportation, Assignment, sequencing and network analysis techniques.

#### Unit I (13 Hours)

Origin, Meaning and Scope of operations Research – operations research model building, their types and the outline of the methods of solution. Linear programming: optimization problem – programming problem – solution by graphical method, simplex method – slack, surplus and artificial variables – Improving a basic feasible solution– optimality conditions. Degeneracy (Concept only) and breaking properties – Charne's Big M – technique – conversion of a minimization problem to a maximization problem.

**Unit II** (13 Hours)

Transportation problems :Introduction – the Simplex method and transportation problems – obtaining an initial and feasible solution – by North-West corner rule – Vogel's method – Least cost entry method – MODI method for optimality. Degeneracy (concept only).

**Unit III** (13 Hours)

Assignment problem: The assignment problem as a special case of the transportation problem – solving the problem.

**Unit IV** (13 Hours)

Sequencing: Introduction – n jobs and two machines, n jobs and three machines, n jobs and m machines – idle times and total elapsed time calculations.

**Unit V** (13 Hours)

Network analysis: Introduction – Network construction – Critical path method (CPM) – Labelling method – Method based on time estimates – Earliest and latest times. Project evaluation and Review techniques (PERT) – Algorithm for PERT – Difference between CPM and PERT. – Simple problems.

**(Theory 50% and problems 50% to be asked in the question paper)**

**Book for Study**

Operations Research, Kanti Swarup, Gupta PK and Man Mohan, Sultan Chand and Sons.

**Books for Reference**

1. Linear programming methods and applications by Gass SI (MC Graw Hill)
2. Linear programming by Loomba : (Tata MC Graw Hill)
3. Fundamentals of operations Research by Ackoff , R.I And Sasieni, MW (Wiley International)
4. Operations Research – Methods and problems by Sasieni, Yaspen and Friedman (Wiley International)

**B.Sc Statistics**

**Semester VI**

**Part III – Core Practical IV (Manual Calculation) 616WP4**

**[For students admitted during the academic year 2016 – 2017 only] 65 Hours**

**Unit I** (13 Hours)

**Statistical inference-1:**

1. Estimation of parameters of the distribution by the methods of moments and maximum likelihood with regard to discrete and continuous distributions.
2. Confidence intervals based on Normal,  $\chi^2$ , t and F distributions.
3. Determination of partial and multiple correlation coefficients-Multiple linear regression line and linear prediction involving three variables when the sums of squares and products are given.

**Unit II** (13 Hours)

**Basic sampling theory:**

1. Estimation of mean and variance of the population and the variance of the estimator of the mean using Simple random procedure.
2. Stratified random sampling – Estimation of mean and variance of the population and of the variance of the estimator of the mean under proportional and optimum allocation.
3. Systematic sampling.

**Unit III** (13 Hours)

**Design of experiments:**

1. Analysis RBD and LSD lay outs.
2. Missing plot techniques in RBD and LSD.
3. Analysis of  $2^2, 2^3$  and  $3^2$  factorial designs with and without confounding.
4. Analysis of covariance with one concomitant variable to RBD.

**Unit IV** (13 Hours)

**Statistical inference-II:**

1. Standard Normal and exact tests of significance with regard to mean, variance, proportion, correlation and regression coefficients and partial multiple correlation coefficients.
2. Test for homogeneity several variances – Bartlett test.

**Unit V** (13 Hours)

**Statistical quality control:**

1. Control chart for attributes and variables:  $\bar{X}$ , R, p, np and c charts
2. Single sampling plan for attributes: OC, ATI, AOQ curves.

**B.Sc Statistics**

**Semester VI**

**Part IV – Skill Based Course IV – ACTUARIAL STATISTICS - IV**

**616WS4**

**[For students admitted during the academic year 2016 – 2017 only] 39 Hours**

**Subject description:**

This paper introduces various types of miscellaneous insurances and concepts relating to miscellaneous insurance.

**Goal:** To enable the students to know the basic features of various insurance instruments.

**Objective:**

On completion of the course the students should have gained knowledge in various types of insurance business in India and the policy conditions of some miscellaneous insurances.

**Unit I** (8 Hours)

Miscellaneous Insurance – Transport Insurance: Nature of cover – Class of business – Structure – Progress of transport insurance – Challenges of transport insurance – kinds of policies – Procedures of insurance.

**Unit II** (8 Hours)

Miscellaneous form of insurance – Employer's liability insurance – House holder's insurance policy – Fidelity guarantee insurance – pedal cycles insurance – Plate glass insurance – Aviation insurance – Livestock insurance – Cattle insurance – Engineering insurance – Construction insurance – Operational insurance – Sports insurance – Shopkeeper's insurance – Export risk insurance.

**Unit III** (8 Hours)

Rural insurance – Crop insurance – Regulations of IRDA – Micro insurance – Prospects of Agriculture insurance in India – Managing Agricultural risks – Role of insurance – Traditional insurance: Burglary Insurance – Underwriting – Burglarly (private dwellings) insurance.

**Unit IV** (7 Hours)

Personal accident insurance – Non-traditional insurance – Progress of miscellaneous general insurance – Progress after Nationalization.

**Unit V****(8 Hours)**

Progress of total general insurance – Reinsurance – Methods of reinsurance – Advantages of treaty method – Evolution of excess of Loss reinsurance – Compulsory tariff and IRDA – Mandatory reinsurance cessions – Nuclear insurance pool in India – Global reinsurance market – IRDA regulations.

**Books for Study**

Insurance Principle and practice : M.N. Mishra and S.B. Mishra  
(S. Chand & Co, New Delhi)

**Programme - B.A Economics with Logistics and Freight Management**

Scheme of Examination – CBSE Pattern

(For the Students admitted from the academic year 2017-2018 onwards)

Course Code	Course Title	Ins. Hrs/ week	Examination				Credits
			Dur Hrs	CIA Marks	ESE Marks	Total Marks	
	<b>Semester I</b>						
117TA1/ 117MY1/ 117HD1/ 117FR1	<b>Part I – Language I</b>	6	3	25	75	100	4
117EN1	<b>Part II – English I</b>	6	3	25	75	100	4
117T01	<b>Part III</b> Core I – Managerial Economics –I	5	3	25	75	100	4
117T02	Core II - Logistics Management	5	3	25	75	100	4
<b>117AT1</b>	<b>Allied I – Principles of Management</b>	<b>6</b>	<b>3</b>	<b>25</b>	<b>75</b>	<b>100</b>	<b>4</b>
117EVS	<b>Part IV – Environmental Studies</b>	2	2	50	-	50	2
217TA2/ 217MY2/ 217HD2/ 217FR2	<b>Semester II</b> <b>Part I – Language II</b>	6	3	25	75	100	4
217EN2	<b>Part II – English II</b>	6	3	25	75	100	4
217T03	<b>Part III</b> Core III– Managerial Economics II	5	3	25	75	100	4
217T04	Core IV – Logistics Information System	5	3	25	75	100	4
<b>217AT2</b>	<b>Allied-II- Organisational Behaviour</b>	<b>6</b>	<b>3</b>	<b>25</b>	<b>75</b>	<b>100</b>	<b>4</b>
217VEC	<b>Part IV – Value Education</b>	2	2	50	-	50	2
317TA3/ 317MY3/ 317HD3/ 317FR3	<b>Semester III</b> <b>Part I – Language III</b>	6	3	25	75	100	4
317EN3	<b>Part II – English III</b>	6	3	25	75	100	4
317T05	<b>Part III</b> Core V– Macro Economics	4	3	25	75	100	4
317T06	Core VI – Supply Chain Management	3	3	25	50	75	3
317AT3	Allied III-Mathematical Methods	6	3	25	75	100	4

317NCT	<b>Part IV</b> Non Major Elective - Introduction to Logistics	2	2	50	-	50	2
317TS1	Management Skill Enhancement Course I – Communication Skills for Business	3	3	75	-	75	3
417TA4/ 417MY4/ 417HD4/ 417FR4	<b>Semester IV</b> <b>Part I – Language IV</b>	6	3	25	75	100	4
417EN4	<b>Part II – English IV</b>	6	3	25	75	100	4
417T07	<b>Part III</b> Core VII– Monetary Economics	3	3	25	50	75	3
417T08	Core VIII- Materials Management	4	3	25	75	100	4
417AT4	Allied IV–Business Statistics	6	3	25	75	100	4
417NGA 417TS2	<b>Part IV</b> General Awareness Skill Enhancement Course II – Tally Accounting Programme- Practical	- 3	1 3	50 75	- -	50 75	2 3
417GIS	Information Security	2	2	50	-	Grade	Grade
417ALT	<b>ALC I - Subject Viva Voce</b>	-	-	-	100	100	4*
517T09	<b>Semester V</b> <b>Part III</b> Core IX – Fiscal Economics	6	3	25	75	100	4
517T10	Core X–Production and Operations Management	6	3	25	75	100	4
517T11	Core XI- Freight Management	5	3	25	75	100	4
517T12	Core XII – Foreign Trade Procedures and Documentation	5	3	25	75	100	4
517TE1/ 517TE2	Elective I -E- Commerce /Transport Economics	5	3	25	75	100	4
517TS3	<b>Part IV</b> Skill Enhancement Course III – Computer Applications in Business-Practical	3	3	75	-	75	3
617T13	<b>Semester VI</b> <b>Part III</b> Core XIII– Global Marketing	6	3	25	75	100	4
617TE3/ 617TE4	Elective II- Total Quality Management/ Strategic Management	6	3	25	75	100	4
617TE5/	Elective III – Marketing	6	3	25	75	100	4

617TE6	Management/ Brand Management						
617TPV	Group Project	9	-	100	100	200	8
617TS4	<b>Part IV</b> –Skill Enhancement Course IV – Creative and Innovative Management	3	3	75	-	75	3
617EX1/ 617EX2/ 617EX3/ 617EX4/ 617EX5	<b>Part V</b> –Extension Activity	-	-	50	-	50	2
617ALT	<b>ALC II - Subject Viva Voce</b>	-	-	-	100	100	4*
	<b>Total</b>					<b>3500</b>	<b>140</b>

\*Starred Credits are treated as additional credits which are optional.

### B.A. Economics with Logistics and Freight Management Semester I

#### Part III - Allied I – Principles of Management 117AT1

(For the students admitted from the academic year 2017-2018 onwards)

**Credits: 4**

**Hours: 75**

**Course Objective:**

This course endeavours to impart the basic knowledge of organizing and managing a firm in an efficient manner.

**Unit I**

(15 Hours)

Management: Definition – Features – Functions – Importance - Administration and Management - Manager: Functions – Role – Responsibilities - Entrepreneur and Manager.

**Unit II**

(15 Hours)

Planning: Definition – Characteristics – Objectives - Advantages and Limitations - Steps in Planning Process - Management by Objectives (MBO) - Decision Making - Decision Making Process.

**Unit III**

(15 Hours)

Organisation: Functions – Nature – Importance - Classification of Organisation: Formal and Informal Organisation - Difference between Formal and Informal Organisation - Directing: Meaning and Principles.

**Unit IV**

(15 Hours)

Delegation: Elements – Principles – Types – Advantages - Problems. Decentralization – Advantages – Disadvantages - Departmentation: Need – Factors - Basis.

**Unit V**

(15 Hours)

Controlling – Steps - Requirements of Effective Control System – Features - Need – Advantages – Limitations - Coordination - Features – Importance – Types - Problems- Steps for effective Co-ordination.

**Book for Study:**

1. Ramasamy. T, Principles of Management, Himalaya Publishing House, Mumbai, 2017



**Book for Reference:**

1. Tripathi. P.C & Reddy. P.N, Principles of Management, Tata McGraw Hill Ltd., New Delhi, 2015.

**B.A. Economics with Logistics and Freight Management  
Semester II****Part III - Allied II – Organizational Behaviour 217AT2****(For the students admitted from the academic year 2017 -2018 onwards)****Credits: 4****Hours: 75****Course Objectives:**

- To gain a solid understanding of human behaviour in the workplace from an individual, group, and organizational perspective.
- To obtain frameworks and tools to effectively analyze and approach various organizational situations.

**Unit I****(15 Hours)**

Organizational Behaviour: concept – Nature and scope – role – disciplines contributing OB – Hawthorne Experiments – Human Behaviour Approach – OB Models - Emerging challenges and opportunities for Organizational Behaviour – Nature of human behaviour: Process of behaviour – Individual differences – Factors.

**Unit II****(15 Hours)**

Personality: Concept – Theories of personality – determinants of personality – Personality and behaviour – organizational applications of personality. Perception – concept – Managerial applications of personality.

**Unit III****(15 Hours)**

Attitude: Concept – factors in attitude formation – attitude change. Motivation: Concept – nature – Motivation and behaviour – theories of Motivation: X, Y and Z theories, Maslow's need hierarchy theory, Herzberg's theory, Vroom's Expectance theory - Financial and non financial Motivation.

**Unit IV****(15 Hours)**

Job Satisfaction: Determinants – effects of Job Satisfaction. Group Dynamics: Concept: Types of Groups – group Norms – Factors influencing Norms – Group Cohesiveness – Factors affecting Group Cohesiveness. Organizational Conflict: Concept – Stages of Conflict – Types – Merits and Demerits of Conflict – Conflict Management.

**Unit V****(15 Hours)**

Leadership: Concept – Functions - Importance – Qualities of a good leader – Leadership styles – theories of leadership: Trait theory, Managerial Grid, Fiedler's Contingency model. Organizational Culture and Climate – Meaning – Importance – Features.

**Book for study:**

1. Prasad. L.M, Organizational Behaviour, Sultan Chand & Sons, New Delhi, 2015.

**Books for Reference:**

1. Aswathappa .K, Organizational Behaviour, Himalaya Publishing House, 2016.
2. Stephan. P Robbins, Organizational Behaviour, Timothy A. Judge, NeharikaVohra, Pearson Indian Education Services Pvt. Ltd. 2016

**B.A. Economics with Logistics and Freight Management**  
**Semester IV**  
**Advanced Learners Course I - Subject Viva-Voce      417ALT**  
**(For the students admitted from the academic year 2017-2018 onwards)**

**Credits: 3**

**Course Objectives**

- To determine the students' understanding and in-depth knowledge of economics.
- To examine what was learned and whether updated information in economics was generated.
- To consider the students ability to communicate her subject and to defend their views.

A subject viva voce is to be taken up by the candidate covering Core and Allied courses in the current semester. The viva voce is to be conducted by the external and internal examiners for 100 marks.

## CURRICULUM DESIGN

Sri G.V.G. Visalakshi College For Women (Autonomous), Udumalpet

Affiliated to Bharathiar University

Department of Economics with Logistics and Freight Management

**Programme-B.A. Economics with Logistics and Freight Management**

Scheme of Examination – CBCS Pattern

(For the Students admitted from the academic year 2015-2016 onwards)

Course Code	Course Title	Ins. Hrs/ week	Examination				Credits
			Dur Hrs	CIA Marks	ESE Marks	Total Marks	
	<b>Semester I</b>						
115TA1/ 115MY1/ 115HD1/ 115FR1/	<b>Part I</b> – Language I	6	3	25	75	100	4
115EN1	<b>Part II</b> – English I	6	3	25	75	100	4
115T01	<b>Part III</b> Core I – Managerial Economics and Decision Making I	5	3	25	75	100	4
115T02	Core II - Logistics Management	5	3	25	75	100	4
115AT1	Allied I – Principles of Insurance	6	3	25	75	100	4
115EVS	<b>Part IV</b> – Environmental Studies	2	2	50	-	50	2
215TA2/ 215MY2/ 215HD2/ 215FR2/	<b>Semester II</b> <b>Part I</b> – Language II	6	3	25	75	100	4
215EN2	<b>Part II</b> – English II	6	3	25	75	100	4
215T03	<b>Part III</b> Core III– Managerial Economics and Decision Making II	5	3	25	75	100	4
215T04	Core IV – Logistics Information System	5	3	25	75	100	4
215AT2	Allied II – General Insurance and Risk Coverage	6	3	25	75	100	4
215VEC	<b>Part IV</b> – Value Education	2	2	50	-	50	2
315TA3/ 315MY3/ 315HD3/ 315FR3/	<b>Semester III</b> <b>Part I</b> – Language III	6	3	25	75	100	4
315EN3	<b>Part II</b> – English III	6	3	25	75	100	4
315T05	<b>Part III</b> Core V– Macro Economics	4	3	25	75	100	4
315T06	Core VI – Supply Chain Management	3	3	25	50	75	3
315AT3	Allied III – Business Statistics	6	3	25	75	100	4

315TS1	<b>Part IV</b> Skill Based Course I – Communication Skills for Business	3	3	75	-	75	3
315NCT	Non Major Elective Course I - Introduction to Logistics Management	2	2	50	-	50	2
415TA4/ 415MY4/ 415HD4/ 415FR4/	<b>Semester IV</b> <b>Part I</b> – Language IV	6	3	25	75	100	4
415EN4	<b>Part II</b> – English IV	6	3	25	75	100	4
415T07	<b>Part III</b> Core VII– Monetary Economics	3	3	25	50	75	3
415T08	Core VIII- Materials Management	4	3	25	75	100	4
415AT4	Allied IV – Mathematical Methods	6	3	25	75	100	4
415TS2	<b>Part IV</b> Skill Based Course II – Management Information System	3	3	75	-	75	3
415NCT	Non Major Elective Course II- General Awareness (Online)	-	1	50	-	50	2
415GIS	Information Security	2	2	-	-	Grade	Grade
415ALT	ALC I - Subject Viva Voce	-	-	-	100	100	3*
515T09	<b>Semester V</b> <b>Part III</b> Core IX – Fiscal Economics	6	3	25	75	100	4
515T10	Core X– Production and Operations Management	6	3	25	75	100	4
515T11	Core XI- Marketing Management	5	3	25	75	100	4
515T12	Core XII – Foreign Trade Procedures and Documentation	5	3	25	75	100	4
515TE1	Elective I -E- Commerce	5	3	25	75	100	4
515TS3	<b>Part IV</b> Skill Based Course III – Computer Applications in Business-Practical	3	3	75	-	75	3
615T13	<b>Semester VI</b> <b>Part III</b> Core XIII– Global Marketing	6	3	25	75	100	4
615TE2	Elective II- Total Quality Management	6	3	25	75	100	4

615TE3	Elective III – Freight Management	6	3	25	75	100	4
615TPV	Group Project	9	-	100	100	200	8
615TS4	<b>Part IV</b> –Skill Based Course IV –Computerized Tally-Practical	3	3	75	-	75	3
615EX1/ 615EX2/ 615EX3/ 615EX4/ 615EX5	<b>Part V</b> – Extension	-	-	50	-	50	2
<b>615ALT</b>	<b>ALC II - Subject Viva Voce</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>100</b>	<b>3*</b>
	<b>Total</b>					<b>3500</b>	<b>140</b>

\*Starred Credits are treated as additional credits which are optional.

### **B.A. Economics with Logistics and Freight Management Semester III**

#### **Part IV-Skill Based Course I-Communication Skills for Business 315TS1**

**(For the students admitted from the academic year 2015-2016 onwards)**

**Credits: 3**

**Hours: 38**

**Preamble:**

The objective of the course is

- ❖ to develop self-confidence in managing the business
- ❖ to equip the students with correct and effective Communication Skills for successful entrepreneurship

**Unit I** (7 Hours)

Communication - Meaning – Importance - Objectives – Principles of Communication - Media of Communication.

**Unit II** (7 Hours)

Oral Communication , Verbal, Non verbal and Audio-Visual Presentation, Telephone Skills and Etiquettes.

**Unit III** (8 Hours)

Written Communication –Kinds of business letter – Essentials of a business letter – Enquiries and replies - Orders and their execution- Sales letters - Application letters.

**Unit IV** (8 Hours)

Agency correspondence – Insurance - Bank Correspondence – Correspondence with public authorities and other agencies- Letter to the editor of news papers.

**Unit V** (8 Hours)

Report writing - Importance - Kinds – Characteristics of a good report -Report by individuals and committees.

**Books for Study:**

1.Reddy,Appannaiah&Nagaraj and Raja Rao ,Essentials of Business Communication, Himalaya Publishing House, New Delhi, 2003

**Books for Reference:**

- 1.RajendraPal&J.S.Korlahalli ,Essentials of Business Communication, Sultan Chand and Sons, New Delhi, 1997.
- 2.Krishna Mohan &MeeraBanerji, Developing Communication Skills, Rajiv Beri for Macmillan Indian Ltd., Chennai,1987
- 3.M.S.Ramesh&.C.Pattenshetti,BusinessCommunication,S.Chand&Co,Delhi,2000.
- 4.L.A.Woolcott&W.R.Unwin,MasteringBusinessCommunication, Macmillan Education Ltd, Chennai.2002.

**B. A. Economics with Logistics and Freight Management  
Semester IV****Part III – Core VIII – Materials Management 415T08****(For the students admitted from the academic year 2015-2016 onwards)****Credits: 4****Hours: 52****Preamble**

The course aims at

- understanding the role of materials used for logistics services
- analyzing the planning and budgeting materials for inventory management

**Unit I****(10 Hours)**

Materials Management: Introduction- Management in relation to materials function- Functions of management- Management of material resources- Objectives- Achieving objectives- Effects of business changes.

Integrated Materials management- Activities-Importance of materials department- Costs- Need –Areas of materials management- production control-Inspection of purchased items- Advantages.

**Unit II****(9Hours)**

Classification and Codification of materials: Need- Classification- Nature of codification- Process- Merits and Demerits of Codification systems- Alphabetical system-Numerical system- Decimal system.

**Unit III****(10 Hours)**

Material planning: Definition- Importance-Flow chart- Techniques: Past consumption analysis- Material requirements planning.

Budgeting and Material Planning: Master Budget- Sales budget- Production budget- Materials budget- Labour budget- Maintenance budget- Overhead budget- Administrative budget- Capital- Expenditure budget.

**Unit IV****(12Hours)**

Stores and Store Keeping: Objectives- Functions- Features of successful store- keeping- Relationship of store department with other departments- Benefits of store keeping- Stores organisation-Location- Layout- Receipt section- Types of stores- Preservation of stores- Stock taking. Storage Equipment: Types- Selection.Marking of stores: Colour marking- Secret marking.

**Unit V****(11 Hours)**

Principles of Material Handling: Planning principles- Operating principles-Principles related with equipment- Cost reduction- General principles-Classification of Material Handling Equipment- Material Handling Equipment.

Selective Inventory Control: Importance and scope- Selective treatment- ABC Categorization- VED Analysis- Three- dimensional Approach for selective control of Inventory.

**Book for Study:**

- 1.A.K.Chitale&R.C.Gupta , Material Management- Text and Cases, PHI Learning Pvt.Ltd., New Delhi, 2013.

**Books for Reference:**

- 1.S.C.Sharma, Materials Management&Materials,Handling, KhannaPublishers, Delhi, 2008.
- 2.M.M.Varma, Materials Management, Sultan Chand& Sons, New Delhi,2010.

**B.A. Economics with Logistics and Freight Management  
Semester IV**

**Part IV-Skill Based Course II-Management Information System 415TS2  
(For the students admitted from the academic year 2015-2016 onwards)**

**Credits: 3**

**Hours: 38**

**Preamble:**

The aim of the Course is to equip students with

- the knowledge of information systems adopted in office management
- to develop the skill in determining the information requirements and formulation of an information system plan

**Unit I** (9 Hours)

Management Information System: Meaning-Definition-Computer Based- User - Machine System-Integrated system- Need for a data base- Utilisation of Database-MIS and Decision Support Systems.

**Unit II** (8 Hours)

Structure of MIS: Structure: Programmable decisions- Unstructured –Non-Programmable Decisions-Production Subsystem- Logistics Subsystem.

**Unit III** (7Hours)

Information Based Support System: Transaction Processing Support System- Operational Control- Management Control- Strategic Planning Support System.

**Unit IV** (7 Hours)

Information System Requirements: Master Plan-Goals- Objectives- Architecture-Current Capabilities- Forecast of developments affecting the plan- Maintenance of the Master Plan.

**Unit V** (7 Hours)

Implementation of Management Information System: Meaning- Theories of Organisational change- The Change Agent- Mechanisms for Successful Implementation-Socio-Technical Approach to System Design and Implementation

**Book for Study:**

1. Gordon B. Davis & Margrethe H. Olson, Management Information Systems, Conceptual Foundations, Structure and Development, 2<sup>nd</sup> Edition, Tata Mc-Graw Hill Publishing Company, New Delhi, 2007

**Books for Reference:**

1. Jawa Dekar (Wamans), Management Information Systems, I Edition, Tata Mc-Graw Hill Publishing Company, New Delhi, 2013.
2. Gagan Varshini & Others, Management Information System, Global Book Publishing Company, Coimbatore, 2011

**B.A. Economics with Logistics and Freight Management  
Semester IV**

**Advanced Learners Course I– Subject Viva Voce 415ALT  
(For the students admitted from the academic year 2015-2016 onwards)**

**Credits: 3**

A subject viva voce is to be taken up by the candidate covering the core and allied subjects in the current semester. The viva voce is to be conducted by the external and internal examiners for 100 marks.

**B.A. Economics with Logistics and Freight Management  
Semester V**

**Part III-Core XI– Marketing Management**

**515T11**

**(For the students admitted from the academic year 2015-2016 onwards)**

**Credits: 4**

**Hours: 65**

**Preamble:**

The aim of the Course is to equip students with

- intelligent marketing which is an essential and functional area of business management
- to develop self -employment skills in marketing

**Unit I**

(13 Hours)

Marketing : Meaning of marketing - Classifications of marketing- Marketing functions - Marketing Information System-Kinds of Marketing Information System.

**Unit II**

(13 Hours)

Marketing mix : Concept- Components - Product mix, Price mix, Promotion mix and Place mix: Product: Meaning- Product planning, Product positioning, New product development - Product life cycle

**Unit III**

(13 Hours)

Branding -Packaging -Labelling : Pricing: Pricing objectives -Factors, methods and procedures. Distribution: Channels of distribution -Evaluating the channel alternatives -Physical distribution. Objectives- Order processing, Transport, Storage and Warehousing, inventory control.

**Unit IV**

(13 Hours)

Promotion: Meaning, advertising, sales promotion, personal selling and publicity. Marketing services: Kinds of services- Character of service. Marketing of securities : Stock exchange -Functions of Stock Exchange - Methods of Trading - Kinds of dealers.

**Unit V**

(13 Hours)

Competitive Marketing Strategies : Leaders -Challengers -Followers -Nichers , Marketing Control: Meaning, Types, Steps, Essentials of Effective Marketing Control. Marketing and society: Consumer protection -Needs - Methods -Consumer protection in India.

**Book for Study:**

RajanNair,N ,Marketing Management, Himalaya Publishing House , Mumbai, 2014

**Books for Reference**

Rajan Nair N.&SanjithR.Nair , Marketing, Sultan Chand & sons, New Delhi, 2014.

Sonatakki. C.N, Marketing Management, Kalyani Publishers, New Delhi, 2012

RajanSaxena , Marketing Management, Tata McGraw -Hill Publishing Co.Ltd., New Delhi, 2011

Philip Kotler, Marketing Management, Tata McGraw-Hill Publishing Co. Ltd., Delhi, 2012

Indian Education Services Pvt. Ltd. 2016

**B.A. Economics with Logistics and Freight Management  
Semester VI**

**Advanced Learners Course II– Subject Viva Voce**

**615ALT**

**(For the students admitted from the academic year 2015-2016 onwards)**

**Credits: 3**

A subject viva voce is to be taken up by the candidate covering the core and allied subjects in the current semester. The viva voce is to be conducted by the external and internal examiners for 100 marks.



**B.A Economics with Logistics and Freight Management**  
**Semester wise Distribution with Scheme of Examination**  
**(For the candidates admitted during the academic year 2014-2015 and onwards)**

Semester	Course	Credits	Duration of Exam Hrs (ESE)	Marks		Total
				CIA	ESE	
I	Part I-Language I	3	3	25	75	100
	Part II-English I	3	3	25	75	100
	Part III – Core I – Managerial Economics and Decision Making I	4	3	25	75	100
	Core II – Introduction to Logistics Management	4	3	25	75	100
	Allied I- Computer Applications in Business-Practical	5	3	40	60	100
	Part IV- Environmental Studies	2	3	50	-	50
	II	Part I- Language II	3	3	25	75
Part II- English II		3	3	25	75	100
Part III -Core III – Managerial Economics and Decision Making II		4	3	25	75	100
Core IV – Principles of Logistics Information		4	3	25	75	100
Allied II-Computerized Tally-Practical		5	3	40	60	100
Part IV- Value Education		2	3	50	-	50
<b>ALC I- Business Environment</b>		3*	3	-	100	100
III	Part I – Language III	3	3	25	75	100
	Part II –English III	3	3	25	75	100
	Part III –Core V–Macro Economics	4	3	25	75	100
	Core VI – Supply Chain Management	4	3	25	75	100
	Allied III – Mathematics Methods	5	3	25	75	100
	Part IV- <b>Skill Based Course I- Fundamentals of Insurance</b>	3	3	100	-	100
	<b>NMEC I- Introduction to Logistics Management</b>	2	3	75	-	75
IV	Part I- Language IV	3	3	25	75	100
	Part II-English IV	3	3	25	75	100
	Part III – Core VII- Monetary Economics	4	3	25	75	100
	Core VIII- Introduction to PL/SQL-Practical	4	3	40	60	100
	Allied IV- Statistics	5	3	25	75	100
	Part IV- <b>Skill Based Course II-Life Insurance Products</b>	3	3	100	-	100
	NMEC II – General Awareness	2	3	-	75	75
<b>ALC II-Quantitative Techniques</b>	3*	3	-	100	100	

V	Part III –Core IX-Fiscal Economics	4	3	25	75	100
	Core X – Operation Management	4	3	25	75	100
	Core XI – Foreign Trade Procedures and Documentation	4	3	25	75	100
	Core XII – Banking Practices	4	3	25	75	100
	Elective I - E- Commerce	5	3	25	75	100
	Part IV- Skill Based Course III - General Insurance Products	3	3	100	-	100
	VI	Part III- Core XIII- Indian Economic Issues	4	3	25	75
	Core XIV – Industrial Marketing	4	3	25	75	100
	Project Individual	4	3	50	50	100
	Elective II – Total Quality Management	5	3	25	75	100
	Elective III – Freight Management	5	3	25	75	100
	Part IV – Skill Based Course IV - Insurance Risk and Management	3	3	25	75	100
	ALC III-Enterprise Resource Planning	3*	3	-	100	100

\*Starred Credits are treated as additional credits which are optional.

## B.A. Economics with Logistics and Freight Management Semester II

### Advanced Learners Course I- Business Environment

(For the candidates admitted during the academic year 2014-2015 and onwards)

**Credit: 3**

**Preamble:**

The aim of the course is

- To provide basic knowledge about the complex and intrinsic business environment
- To study the opportunities and constraints of the economic system and its impact on the business

#### **Module I: Business and Environment**

Meaning of business- Scope- Characteristics of today's business. Environment: Meaning- Types of environment- Internal – External

#### **Module II: Business Ethics**

Business and social structure- Business Ethics- Social Responsibilities of Business- Consumer rights- Exploitation of consumers- Consumer Protection- Utility of Consumerism- Consumerism in India.

#### **Module III: Public Sector and Privatisation**

Public Sector- Meaning, Features and Importance- Privatisation: Meaning and Methods of Privatization – Conditions for success of privatization- Benefits of privatization- Arguments against privatization.

#### **Module IV: Globalisation of Business**

Globalisation of Business- Meaning and features of Globalisation- Foreign market entry Strategies- Pros and Cons of Globalisation- Globalisation of Indian Business.

#### **Module V: Foreign investment**

Significance of Foreign investment- Foreign Direct Investment- Foreign Institutional Investors(FII)- Government policy towards foreign investments in India- MNC's : Merits and Demerits of MNC's.

**Books for Reference:**

K.Aswhathappa :Essentials of Business Environment,  
Himalaya Publishing House, New Delhi,2001.  
Francis Cherunilam :Business Environment and Policy,  
Himalaya Publishing Co.Ltd.,New Delhi,2001.

**This course is a self-study course.**

**B.A Economics with Logistics and Freight Management  
Semester III**

**Part IV-Skill Based Subject-I- Fundamentals of Insurance**

**(For the candidates admitted during the academic year 2014-2015 and onwards)**

**Credits: 3**

**Hours: 38**

**Preamble:**

The Course aims to provide

- knowledge about Insurance

**Module :I**

Introduction-Definition and Nature of Insurance-terms used in insurance-role and importance of insurance-Principles of insurance-Insurance in India.

(7 Hours)

**Module:II**

Types of Insurance: Life, Non-Life and Miscellaneous-Insurance  
Organization:LIC,GIC,ESI,UTI and SBI.

(7 Hours)

**Module -III**

Contract and Principles of Insurance-Meaning and Definition-elements-kinds of contract-Principles-Insurance Documents: Proposal form-policy form, cover note-certificate of insurance-endorsement-cancellation.

(8 Hours)

**Module -IV**

Insurance Legislation in India: Insurance Act 1938, Life Insurance Act-1956,Marine Insurance Act1963,GIC of India, IRDA Act-1999.

(7 Hours)

**Module -V**

Insurance Intermediaries: Insurance Broker-functions of broker-insurance agents-duties of agents-procedure for becoming agent-pre-requisites for obtaining a license, duration of license, cancellation of license-termination of agent appointment. Code of conduct: Unfair practices-procedures regarding settlement of policy claims.

(8hours)

**Books for Reference:**

Mishra, M.N& S.B.Mishra :Insurance: Principles and Practice,  
S.Chand & Co Ltd., New Delhi, 2007  
Dr.P.Periyasamy :Principles and Practice of Insurance,  
Himalaya Publishing House,Mumbai ,2011  
Inderjit Singh,Rakesh Kartyal :Insurance: Principles and Practice  
Sanjay Arora Kalyani Publishers,New Delhi-2003.  
B.D.Bhargava :Insurance Theory and Practice,  
Pearl Books, New Delhi-2008.

**B.A. Economics with Logistics and Freight Management  
Semester III**

**Part IV Non-Major Elective Course I – Introduction to Logistics Management  
(For the candidates admitted during the academic year 2014-2015 and onwards)**

**Credits: 2**

**Hours: 25**

**Preamble:**

The aim of the paper is to

- Know how a logistic strategy fits into an organisation's broader decisions.
- Understand the role of logistic providers.
- Realize the meaning of customer service and understand its importance to logistics management.

**Module I**

Logistics- Definition - Objectives-Elements-Activities-importance-The work of logistics-Logistics interface with marketing .

(4 Hours)

**Module II**

Logistics Management-Definition- Importance of Logistics management in business - Integrated Logistics Management-Evolution of the concept- model - process-activities (in brief)

(6Hours)

**Module III**

Outsourcing logistics-reasons-Third party logistics provider-Fourth party Logistics providers (4 pl)-Stages-Role of logistics providers

(4 Hours)

**Module IV**

Logistics Strategy-Strategic role of logistics-Definition-role of logistics managers in strategic decisions-Strategy options, lean strategy, Agile Strategies -Designing & implementing logistical strategy.

(5 Hours)

**Module V**

Quality customer service & integrated logistics-customer service-importance-elements-the order cycle system-distribution channels-Functions performed-Types-designing.

(6 Hours)

**Books for Reference:**

David J. Bloomberg, Stephen LeMay  
& Joe B. Hanna

:Logistics,  
Prentice-Hall of India Pvt Ltd.,  
New Delhi, 2003.

Donald J. Bowersox & David J. Closs

:Logistical Management,  
Tata McGraw Hill Publishing Co. Ltd, New Delhi,  
2004

Satish C. Ailawadi & Rakesh Singh

:Logistics Management,  
Prentice-Hall of India Pvt Ltd.,  
New Delhi, 2005

Donald Waters

:Logistics.  
Palgrave Macmillan, New York, 2004

Krishnaveni Muthiah :Logistics Management & World Sea borne Trade, Himalaya Publishing House, Mumbai, 1999.

**B.A Economics with Logistics and Freight Management**  
**Semester IV**  
**Part IV-Skill Based Subject-II-Life Insurance Products**  
**(For the candidates admitted during the academic year 2014-2015 and onwards)**

**Credits: 3**

**Hours: 38**

**Preamble:**

The Course aims to provide

- knowledge about Life Insurance Corporation as a major player in Insurance sector and an indepth information on the various policies of it.

**Unit :I**

LIC of India: Origin-Meaning and Objectives-Need for Life Insurance –Benefits of Life Insurance –Procedure for taking a Policy – Kinds of Policies - riders on policies- Role of Private players in India.

(8 Hours)

**Unit :II**

Whole Life Policy –Whole Life Policy with Profits and without Profit –Limited Payment Life Policy with Profit –Types of plans- Features-Tax Treatment-Merits and Demerits.

(8 Hours)

**Unit :III**

Endowment Policy-Endowment with Profits-Convertible Whole Life, Limited Payment with Profits, Endowment plus whole life plans – Types of Plans-features –Tax treatment-merits and demerits.

(8 Hours)

**Unit :IV**

Money Back Policy-Children Policies-Policies for handicapped –Policies high risk-low premium plans-Whole life and Money back plans –features –tax treatment-merits and demerits.

(7 Hours)

**Unit :V**

Group Insurance –Group Gratuity Insurance – Group Super Annotation Insurance, Group Savings Linked Insurance, Unit Linked Insurance Plan, Senior Citizen Plan, Children Savings Plan.

(7 Hours)

**Books for Reference:**

R.Haridas	:Life Insurance In India New Century Publications,2011
Mishra, M.N& S.B.Mishra	:Insurance: Principles and Practice, S.Chand & Co Ltd., New Delhi, 2007
Gupta, P.K	:Insurance Management, Himalaya Publishing House,Mumbai ,2004
Dr.P.Periyasamy	:Principles and Practice of Insurance, Himalaya Publishing House,Mumbai ,2011
Inderjit Singh,Rakesh Kartyal	:Insurance: Principles and Practice
Sanjay Arora	Kalyani Publishers,New Delhi-2003.
B.D.Bhargava	:Insurance Theory and Practice, Pearl Books, New Delhi-2008.

**B.A. Economics with Logistics and Freight Management  
Semester IV**

**Advanced Learners Course II - Quantitative Techniques**

**(For the candidates admitted during the academic year 2014-2015 and onwards)**

**Credits: 3**

**Preamble:**

The aim of the course is

- ❖ To analyse and interpret the data relating to current economic events in an intelligent manner
- ❖ By using appropriate quantitative techniques

**Unit I:**

Sets & Relations - Derivatives and its Interpretations - Maxima and Minima- Higher Order Derivatives & Partial Derivatives.

**Unit II:**

Optimization with Equality Constraint - Lagrangian Multiplier - Introduction to Matrix Algebra and Determinants.

**Unit III:**

Methods of Collection and Presentation of Data - Measures of Central Tendency - Mean, Median and Mode.

**Unit IV:**

Measures of Dispersion- Range, Mean Deviation, Standard Deviation & Co-Efficient of Variation.

**Unit V:**

Correlation and Regression - Method of Least Squares with one independent variable- Index Number - Laspeyre's, Paasche's and Fisher's Ideal Index.

**Books for Reference:**

- Srinath Baruah :Basic Mathematics and its application in Economics, Macmillan India Press, Chennai,2001
- Mehta & Madnani : Mathematics for Economists, Sultan Chand & Sons, New Delhi, 2000.
- R.S.N Pillai & V.Bagavathi : Statistics, S.Chand & Co Ltd,New Delhi,2007.
- S.P.Gupta : Statistical Methods, Sultan Chand & Sons,Delhi,2009.

**This course is a self-study course.**

**B.A Economics with Logistics and Freight Management  
Semester V**

**Part IV-Skill Based Subject-III-General Insurance Products**

**(For the candidates admitted during the academic year 2014-2015 and onwards)**

**Credits: 3**

**Hours: 38**

**Preamble:**

The objectives of this course are

- to understand the basic concepts of General Insurance
- to learn the principles, practices, procedures and treatment of general insurance products

**Module I**

Introduction-basic concepts –Growth of General Insurance-Types of General Insurance- Principles of Insurance-Public and Private Players in General Insurance. (7 Hours)

**Module II**

Fire Insurance: Principles- Types and Policy Conditions- - Claims- Loss of stock- loss of profit- important terms for claims. (7 Hours)

### **Module III**

Marine Insurance –Essential elements of marine insurance- re insurance-mutual insurance- Kinds and Policy Conditions – important clauses in marine policy-Marine Losses- Total and Partial Losses-Payment of Claims. (9 Hours)

### **Module IV**

Miscellaneous Insurance I: Motor Insurance –Kinds of Policies-Procedures of Motor Insurance-Benefits –Motor Cycle Policy –Private Car Policy-Parking Insurance. Burglary Insurance-Personal Accident Insurance-Health Insurance-Meaning and Types- Insurance Claims. (8 Hours)

### **Module V**

Miscellaneous Insurance II: Employer’s liability insurance-Third Party Legal liability- Jeweller’s Block Insurance-Aviation insurance-Engineering Insurance-Agriculture Insurance: Crop, Cattle - Group Insurance. (7 Hours)

### **Books for Reference:**

- |                               |  |
|-------------------------------|--|
| Bodla, B.S.,                  | : Insurance, Fundamentals ,  |
| Garg M.C. & Singh             | Environmental Procedures,<br>Deep & Deep Publications,<br>New Delhi, 2003.           |
| Gupta , P.K                   | : Insurance Management, Himalaya<br>Publishing House, Mumbai , 2004.                 |
| Mishra, M.N                   | : Insurance: Principles and Practice,<br>S.Chand & Co Ltd., New Delhi, 2005.         |
| R.Haridas                     | :Life Insurance In India<br>New Century Publications,2011                            |
| Dr.P.Periyasamy               | :Principles and Practice of Insurance,<br>Himalaya Publishing House,<br>Mumbai ,2011 |
| Inderjit Singh,Rakesh Kartyal | :Insurance: Principles and Practice  |
| Sanjay Arora                  | Kalyani Publishers,New Delhi-2003.   |
| B.D.Bhargava                  | :Insurance Theory and Practice,<br>Pearl Books, New Delhi-2008.                      |

## **B.A Economics with Logistics and Freight Management Semester VI**

### **Part IV-Skill Based Course IV- Insurance and Risk Management**

**(For the candidates admitted during the academic year 2014-2015 and onwards)**

**Credits: 3**

**Hours: 38**

### **Preamble:**

The objectives of this Course are

- to know about risk, risk management process and techniques
- to provide an overall view of the risk management and control systems
- to understand the role of information technology in Insurance

### **Module I**

Introduction to Risk –Concept –Risk and Uncertainty –Types of Risks -Classifying Pure Risks - Methods of Handling Pure Risk –Principles of Risk -Classification – Liability Insurance. (7 Hours)

### **Module II**

Risk Management and Control –Conceptual Framework- Objectives – Risk Management Information Systems. Risk Management by Individual – Factors affecting Individual’s demand for Insurance-Corporate risk management and modeling.

(9 Hours)

### **Module III**

Settlement of Claims in Insurance Claims in Life Insurance: Death, Maturity, Survival, Claims in Non-Life: Fire –Motor Vehicle, Marine Insurance, Claims on Consignment by Rail & Road, Marine and Cargo, Engineering Insurance. (8 Hours)

### **Module IV**

Reinsurance & Underwriting: Introduction to Reinsurance – Role of reinsurers- Techniques-Nature of Reinsurance Risks. Underwriting – underwriting basics- Objectives and principles of underwriting- underwriting in life Insurance and Non-life Insurance. (7 Hours)

### **Module V**

Enterprise Risk Management –ERM Basics identifying risk exposures- Emerging Role of CRO-ERM in Insurance –Risk Management Information Systems (RMIS). Information Technology in Insurance – Need, Technology and Applications. (7 Hours)

### **Books for Reference:**

- Mishra , M.N : Insurance: Principles and Practice, S.Chand & Co Ltd., New Delhi, 2005.
- Bodla, B.S., Garg M.C & Singh : Insurance, Fundamentals, Environmental Procedures, Deep & Deep Publications, New Delhi, 2003.
- Inderjit Singh,Rakesh Kartyal :Insurance: Principles and Practice Kalyani Publishers,New Delhi-2003.
- Sanjay Arora :RiskManagement&Insurance PerspectivesinaGlobalEconomy, BlackWell Publishing, 2008
- Harold D.Skipper&W.Jean Kwon :Principles of Risk Management and Insurance, Cyber- Tech Publications New Delhi, 2010.
- Deeraj Razdaw

## **B.A. Economics with Logistics and Freight Management Semester VI**

### **Advanced Learners Course III – Enterprise Resource Planning (For the candidates admitted during the academic year 2014-2015 and onwards)**

**Credit:3**

#### **Preamble:**

This Course aims to

- provide knowledge about the basic concepts of Enterprise Resource Planning
- acquire adequate knowledge and skills in ERP Technologies and Modules
- Gives knowledge about the vendor selection and implementation of ERP

#### **Module I:**

ERP- Introduction-Evolution- Integrated Management Information- Reasons for the growth of ERP market- Business Model - advantages of ERP.

#### **Module II:**

ERP Related Technologies- BPR- Data Warehousing- Data Mining- OLAP, PLM, SCM, CRM, GIS, MIS- Intranets and Extranets.

#### **Module III:**

ERP Functional Modules- Finance, Manufacturing, Human Resource.

#### **Module IV:**

ERP Modules- Material Management, Production, Plant Maintenance, Quality Management, Purchasing & Marketing, Sales & Distribution.

#### **Module V:**

ERP Implementation: Life Cycle- vendors, consultants and users.



**Text Book:**

Alexis Leon : Enterprise Resource Planning (2<sup>nd</sup> Edition) Tata Mc- Graw Hill  
Pvt. Ltd., New Delhi, 2010.

**Reference Books:**

Parag Diwan & Sunil Sharma : Enterprise Resource Planning,  
Pentagon Press, New Delhi, 2001  
Pankaj Sharma : Enterprise Resource Planning, APH  
Publishing Corporation, New Delhi, 2004.

**This course is a self-study course.**

**B.A Economics with Logistics and Freight Management**

**Semester wise Distribution with Scheme of Examination**

**(For the candidates admitted during the academic year 2012-2013 & 2013-2014 only)**

Semester	Course	Credits	Duration of Exam Hrs (ESE)	Marks		Total
				CIA	ESE	
I	Part I-Language I	3	3	25	75	100
	Part II-English I	3	3	25	75	100
	Part III – Core I – Managerial Economics and Decision Making I	4	3	25	75	100
	Core II – Introduction to Logistics Management	4	3	25	75	100
	Allied I- Computer Applications in Business-Practical	5	3	40	60	100
	Part IV- Environmental Studies	2	3	50	-	50
II	Part I- Language II	3	3	25	75	100
	Part II- English II	3	3	25	75	100
	Part III -Core III – Managerial Economics and Decision Making II	4	3	25	75	100
	Core IV – Principles of Logistics Information	4	3	25	75	100
	Allied II-Computerized Tally- Practical	5	3	40	60	100
	Part IV- Value Education	2	3	50	-	50
	ALC I- Business Environment Internship I	3*	3	-	100	100
III	Part I – Language III	3	3	25	75	100
	Part II –English III	3	3	25	75	100
	Part III –Core V–Macro Economics	4	3	25	75	100
	Core VI – Supply Chain Management	4	3	25	75	100
	Allied III –Statistics	5	3	25	75	100
	Part IV- Skill Based Course I- Introduction to Retailing	3	3	25	75	100
	NMEC I- Consumerism	2	3	75	-	75
IV	Part I- Language IV	3	3	25	75	100
	Part II-English IV	3	3	25	75	100
	Part III – Core VII- Monetary Economics	4	3	25	75	100
	Core VIII- Introduction to PL/SQL-	4	3	25	75	100
	Allied IV-Business Mathematics	5	3	25	75	100
	Part IV-Skill Based Course II- RetailMerchandising Management and Retail Pricing	3	3	25	75	100
	NMEC II – Social Issues of Indian Economy	2	3	-	75	75
	ALC II-Quantitative Techniques Internship II	3*	3	-	100	100

V	Part III –Core IX-Fiscal Economics	4	3	25	75	100
	Core X –OperationsManagement	4	3	25	75	100
	Core XI – Foreign Trade Procedures and Documentation	4	3	25	75	100
	Core XII – Banking Practices	4	3	25	75	100
	Elective I - E- Commerce	5	3	25	75	100
	Part IV- Skill Based Course III – Retail Business Management	3	3	25	75	100
	VI	Part III- Core XIII- Indian Economic Issues	4	3	25	75
Core XIV – Industrial Marketing		4	3	25	75	100
Core XV – Principles of Insurance		4	3	25	75	100
Elective II – Total Quality Management		5	3	25	75	100
Elective III – Freight Management		5	3	25	75	100
Part IV – Skill Based Course IV – Retail Store Planning and Design		3	3	25	75	100
Layout		1	-	50	-	50
Extension						
ALC III-Enterprise Resource Planning		3*	3	-	100	100
Group Project		1	-	-	-	-

## **B.A. Economics with Logistics and Freight Management Semester II**

### **Advanced Learners Course I- Business Environment**

**(For the candidates admitted during the academic year 2014-2015 and onwards)**

**Credit: 3**

**Preamble:**

The aim of the course is

- To provide basic knowledge about the complex and intrinsic business environment
- To study the opportunities and constraints of the economic system and its impact on the business

#### **Module I: Business and Environment**

Meaning of business- Scope- Characteristics of today's business.Environment: Meaning- Types of environment- Internal – External

#### **Module II: Business Ethics**

Business and social structure- Business Ethics- Social Responsibilities of Business- Consumer rights- Exploitation of consumers- Consumer Protection- Utility of Consumerism- Consumerism in India.

#### **Unit III: Public Sector and Privatisation**

Public Sector- Meaning, Features and Importance- Privatisation: Meaning and Methods of Privatization – Conditions for success of privatization- Benefits of privatization- Arguments against privatization.

#### **Unit IV: Globalisation of Business**

Globalisation of Business- Meaning and features of Globalisation- Foreign market entry Strategies- Pros and Cons of Globalisation- Globalisation of Indian Business.

**Unit V: Foreign investment**

Significance of Foreign investment- Foreign Direct Investment- Foreign Institutional Investors(FII)- Government policy towards foreign investments in India- MNC's : Merits and Demerits of MNC's.

**Books for Reference:**

K.Aswathappa :Essentials of Business Environment,  
Himalaya Publishing House, New Delhi,2001.

Francis Cherunilam :Business Environment and Policy,  
Himalaya Publishing Co.Ltd.,New Delhi,2001.

**B.A. Economics with Logistics and Freight Management  
Semester IV**

**Advanced Learners Course II - Quantitative Techniques**

**(For the candidates admitted during the academic year 2014-2015 and onwards)**

**Credits: 3**

**Preamble:**

The aim of the course is

- ❖ To analyse and interpret the data relating to current economic events in an intelligent manner
- ❖ By using appropriate quantitative techniques

**Unit I:**

Sets & Relations - Derivatives and its Interpretations - Maxima and Minima- Higher Order Derivatives & Partial Derivatives.

**Unit II:**

Optimization with Equality Constraint - Lagrangian Multiplier - Introduction to Matrix Algebra and Determinants.

**Unit III:**

Methods of Collection and Presentation of Data - Measures of Central Tendency - Mean, Median and Mode.

**Unit IV:**

Measures of Dispersion- Range, Mean Deviation, Standard Deviation & Co-Efficient of Variation.

**Unit V:**

Correlation and Regression - Method of Least Squares with one independent variable- Index Number - Laspeyre's, Paasche's and Fisher's Ideal Index.

**Books for Reference:**

Srinath Baruah :Basic Mathematics and its application in Economics, Macmillan India Press, Chennai,2001

Mehta & Madnani : Mathematics for Economists, Sultan Chand & Sons, New Delhi, 2000.

R.S.N Pillai & V.Bagavathi : Statistics, S.Chand & Co Ltd,New Delhi,2007.

S.P.Gupta : Statistical Methods, Sultan Chand & Sons,Delhi,2009.

**B.A Economics/ History/Literature/Economics with Logistics and Freight Management/  
Tamil Literature/B.Sc Zoology  
Semester- IV  
Part IV - Information Security 415GIS  
Level - I**

**(For the students admitted from the academic year 2015-2016 onwards) [30 Hours]**

**Unit I**

Introduction- Meaning of Security- Need for Security- Challenges and applications- Security policies and standards.

**Unit II**

Threats –Types of threats-Attacks–Types of attacks-Applications: Bank Sectors, Mobile Applications, Share Investments, System Softwares.

**Unit III**

Introduction to Firewalls- Cryptography-Encryption-Decryption- Basics of Mobile information Security – Social Information Security.

**Books for reference**

- 1."Network Security and Management",Brijendra Singh,PHI Learning Limited,Second Edition.
- 2."Firewalls and Network Security",Whitman,Mattord,Austin,Holden,Cengage Learning India Private Learning
- 3."Cryptography and Information security",V.K.Pachghare, PHI Learning Limited.

**B.Sc Mathematics/Physics/Chemistry/Computer Science/I.T/  
Commerce/BCA/BBA(CA)/B.Com(CA)/B.Com(e-Com)  
Semester - IV  
Part IV-Information Security 415GIS  
Level – II**

**(For the students admitted from the academic year 2015-2016 onwards) [30 Hours]**

**Unit I**

Information Security – Security Concerns - Security Requirements – Security Awareness - Security Challenges - Characteristics – Principles – Applications.

Security Mechanism – Encryption – Digital Signature – Digital Certificates – Public key Infrastructure – Proxy Servers. Information Security polices and Standards.

**Unit II**

Security Analysis: Security in TCP/IP Networks – LAN Security – Levels of Security – Threats - Types of Threats – Attacks. EDI Security – Hijacking EDI Messages in Transit – Security of EDI System while creating, processing and data retention.

**Unit III**

Security Issues – Authentication: Protecting Passwords, Viruses, Firewalls - Security for Smart cards – Safe payments – Electronic Banking – Electronic Fund Transfer.

Mobile Information Security – Bluetooth Security – WLAN Security. Social Networking – Measures for Secured Transactions.

**Books for Reference**

1. "Network Security and Management",Brijendra Singh,PHI Learning Limited,Second Edition.
2. "Firewalls and Network Security",Whitman,Mattord,Austin,Holden,Cengage Learning India Private Learning
3. "Cryptography and Information security",V.K.Pachghare, PHI Learning Limited.

**M.A Economics/ History/Literature**

**Semester - II**

**Cyber Security 15MGCS**

**Level - I**

**(For the students admitted from the academic year 2015-2016 onwards)**

**[30 Hours]**

**Unit I**

Introduction - Cyber law - Features of Cyber Law - Significance of Cyber Law - Advantages. Data Security - Meaning - Fundamentals of Data Security - Requirements of Data Security - Precautionary Measures.

**Unit II**

Cyber Security: Introduction in Cyber Security - Hackers - Attackers - Types of Attackers Examples - Data Recovery.

**Unit III**

Authentication - Authentication Control- User name and Password - Protecting Passwords -Examples.

**Books for Reference**

1. "Cyber law: The Law of Internet", Jonathan Rosenoer, Springer Verlog, 1997
2. "Cyber Security Operations Handbook", John W Ritting House, William M.Hancock, Read Elsevier 2008.
3. "Computer Security", Dieter Gollmann

**M.Sc., Mathematics/Physics/Computer Science/M.Com**

**Semester - II**

**Cyber Security 15MGCS**

**Level - II**

**(For the students admitted from the academic year 2015-2016 onwards) [30 Hours]**

**Unit I**

Concept of Cyber law and Cyber Space: Introduction - Meaning and Features of Cyber law - Significance and Advantages of Cyber Law - Meaning of Cyber Space - Inclusive of Cyber Space - Facilitating Functions of Cyber Space - Major Issues in Cyber Space. Need for an Indian Cyber law: Plans of National Information Technology Policy (NITP) - Need for Protection of data - Transactions in Security - Electronic Banking.

**Unit II**

Hackers & its Types - Cracking - Pornography - Software privacy - Data Recovery - File Modification & File access, Recover Internet Usage Data, Recover Swap Files/Temporary/Cache Files, and Introduction to Encase Forensic.

**Unit III**

Firewalls - Authentication & Access Control: Identification - Authentication - Authentication by Passwords - Protecting Passwords - Access Control Structure - Evidences - Law of Evidence on Electronic Records.

**Books for Reference**

1. "Cyber law: The Law of Internet", Jonathan Rosenoer, Springer Verlog, 1997
2. "Cyber Security Operations Handbook", John W Ritting House, William M.Hancock, Read Elsevier 2008.
3. "Computer Security", Dieter Gollmann

# Sri GVG Visalakshi College for Women (Autonomous), Udumalpet

## Course: Part V – Extension Activity 1

### **National Service Scheme**



### NSS Curriculum

The **National Service Scheme (NSS)** is an Indian government-sponsored public service program conducted by the Ministry of Youth Affairs and Sports of the Government of India. Popularly known as NSS, the scheme was launched in Gandhiji's Centenary year, 1969. The programme aims to inculcate social welfare in students, and to provide service to society without bias. NSS volunteers work to ensure that everyone who is needy gets help to enhance their standard of living and lead a life of dignity. In doing so, volunteers learn from people in villages how to lead a good life despite a scarcity of resources. It also provides help in natural and man-made disasters by providing food, clothing and first aid to the disaster's victims.

### **Aims and objectives of NSS**

- To understand the community in which volunteers work.
- To develop social and civic responsibility.
- To initiate and involve in community cleanliness.
- To acquire competence for group living and sharing responsibilities.
- To develop capacity to meet emergencies and natural disasters.
- To practice national integration.

### *Motto of NSS*

*The motto or watchword of the National Service Scheme is*

*"NOT ME BUT YOU".*

### **GUIDELINES OF NSS:**

#### **Enrollment in NSS:**

The NSS volunteers will be enrolled from the first and second year degree-class students. One NSS unit consists of 100 student volunteers guided by one Program Officer who will be a faculty member. In this Institution there are 4 NSS units with 400 volunteers and 4 Programme Officers.

#### **Working hours:**

An NSS volunteer needs to devote a total of 240 hours social service in two years duration. Every year, a NSS volunteer has to devote 20 hrs. of orientation and 100 hrs. of community service.

**Regular Activities:**

Under this, students undertake various need based programmes in the adopted villages, College Campuses and Urban slums during weekends or after college hours for 120 hours per year and 240 hours for 2 consecutive years.

<b>Regular Activities</b>	<b>No. of Hours</b>
General Orientation of NSS Volunteers.	20
Career guidance for the NSS Volunteers, by the experts and campus work.	30
Skill development (first aid, disaster management, public speaking, leadership motivation, HIV/AIDS awareness etc.).	20
Community Development Projects (in the adopted village) – Survey in the village, tree plantation, Health, Cleanliness, Road Safety, Visits to Homes, technical training for rural youth and SHG, sanitation, women development programmes, consumer Awareness etc.	50
<b>Total Hours</b>	<b>120</b>

**Special Camp Programme:**

Under this, 7 days camp organized in the adopted villages with a specified theme being given by Govt. of India by involving volunteers. The Special camp should be conducted only in the adopted village at least for three years continuously.

**Evaluation Criteria:**

<b>CIA Components</b>	<b>Marks</b>
Attendance	15
Participation in Camp and other activities	10
Exemplary Awards	5
General Performance	20
<b>Total marks</b>	<b>50</b>

The NSS volunteers on successful completion of the required hours of service are issued a certificate. NSS volunteers can get some weightage during admissions in higher studies and other benefits as decided by the institutions/university.

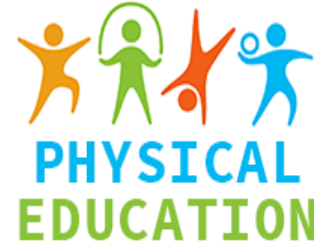


**Sri GVG Visalakshi College for Women (Autonomous), Udumalpet**

**Department of Physical Education**

**Course: Part V – Extension Activity 2**

**General Games**



**Activity Objectives:**

- To Empower, Inspire and motivate the individuals.
- To bring the students together, providing opportunities for social interactions.
- To offer work and life balance.
- To reduce the risk of diseases and obesity.

**Proceedings of the Activity**

With an objective to motivate and encourage the students in sports related activities, the Department of Physical Education offers two years extension activity in physical education. The I & II UG students who have opted Physical Education as an extension activity will be involved in Physical activity once in a week.

During the class, initially attendance will be taken. The students are involved in the following activities.

- Warming Up
- Making the students to play ball games
- Motivating the students to play minor games
- Stimulating the students to play recreative games
- Warming Down
- Again the attendance will be taken at the end of the class

All the I UG students will attend on every Tuesday and all the II UG students will attend on every Thursday between 3.30 pm & 4.30 pm.

## Assessment

The students who have completed the two years program in Physical Education will be evaluated for a maximum of 50 marks and depends on the percentage of the marks, they are also awarded grade points and grade letter.

The breakup details for the maximum marks (50 marks) are as follows:

<b>S. No.</b>	<b>ACTIVITY</b>	<b>MARKS</b>
1.	Attendance	15
2.	Outstanding Sports performance	10
3.	Leadership and Organizing ability	10
4.	Participation in Sports day activities and Intramural tournaments	15
	<b>Total</b>	<b>50</b>

## Number of students enrolled in General Games Class:

<b>S.No</b>	<b>Academic Year</b>	<b>I UG</b>	<b>II UG</b>
1.	2010 - 2011	97	83
2.	2011- 2012	81	97
3.	2012 - 2013	97	81
4.	2013 - 2014	185	97
5.	2014 - 2015	173	185
6.	2015 - 2016	149	173
7.	2016 - 2017	225	173
8.	2017 - 2018	64	225

## Activity Outcomes:

- To promote a healthy and active life style.
- To develop wholesome personality.
- To contribute a lifelong learning.
- To shape our national character and pride.

**Sri GVG Visalakshi College for Women (Autonomous), Udumalpet**

**Course: Part V – Extension Activity 3**

**National Cadet Corps**



**BLOCK SYLLABUS :**  
**COMMON SUBJECTS : SD/SW (ARMY)**  
**(REVISED MAY 2017)**

<b>S No</b>	<b>Subject</b>	<b>First Year</b>	<b>Second Year</b>	<b>Third Year</b>	<b>Total Periods</b>
1.	The NCC	02	02	01	05
2.	National Integration and Awareness	06	07	08	21
3.	Drill	14	13	16	43
4.	Weapon Training	12	10	10	32
5.	Personality Development Life Skills	09	11	10	30
6.	Leadership	04	05	06	15
7.	Disaster Management	03	03	03	09
8.	Social Awareness and Community Development	05	06	06	17
9.	Health and Hygiene	04	05	04	13
10.	Adventure	04	07	04	15
11.	Environment Awareness and Conservation	01	01	02	04
12.	Obstacle Training	02	02	02	06
	<b>Total</b>	<b>66</b>	<b>72</b>	<b>72</b>	<b>210</b>

**DETAILED SYLLABUS**  
**COMMON SUBJECTS : SD/SW (ARMY)**

1. **The NCC (N).**

<b>S No</b>	<b>Code</b>	<b>Subject</b>	<b>1<sup>st</sup> Year</b>	<b>Type</b>	<b>2<sup>nd</sup> Year</b>	<b>Type</b>	<b>3<sup>rd</sup> Year</b>	<b>Type</b>	<b>Total Periods</b>
(i)	N - 1	Aims and Objective of NCC	01	L	-	-	-	-	01
(ii)	N - 2	Organisation and Training and NCC Song	01	L	-	-	-	-	01
(iii)	N - 3	Incentives	-	-	02	L	-	-	02
(iv)	N - 4	Duties, Responsibility & Conduct by NCC Cadet	-	-	-	-	01	L	01
		<b>Total</b>	<b>02</b>	<b>-</b>	<b>02</b>	<b>-</b>	<b>01</b>	<b>-</b>	<b>05</b>

2. **National Integration and Awareness (NI).**

<b>S No</b>	<b>Code</b>	<b>Subject</b>	<b>1<sup>st</sup> Year</b>	<b>Type</b>	<b>2<sup>nd</sup> Year</b>	<b>Type</b>	<b>3<sup>rd</sup> Year</b>	<b>Type</b>	<b>Total Periods</b>
(i)	NI - 1	Heritage of India	03	L	-	-	-	-	03
(ii)	NI - 2	Freedom Struggle and Nationalist Movement in India	03	L/Di	-	-	-	-	03
(iii)	NI - 3	Introduction to Constitution of India	-	-	03	L/Di	-	-	03
(iv)	NI - 4	National Integration : Importance and Necessity	-	-	02	L/Di	-	-	02
(v)	NI - 5	Factors affecting National Integration	-	-	02	L/Di	-	-	02
(vi)	NI - 6	Unity in Diversity	-	-	-	-	02	L/Di	02
(vii)	NI - 7	Slogans & Images of National Integration	-	-	-	-	02	L/Di	02
(viii)	NI - 8	Role of NCC in Nation Building	-	-	-	-	02	L/Di/	02
(ix)	NI - 9	NCC and Nation Integration	-	-	-	-	02	L/Di	02
		<b>Total</b>	<b>06</b>	<b>-</b>	<b>07</b>	<b>-</b>	<b>08</b>	<b>-</b>	<b>21</b>

3. **Drill (D).**

(a) **Foot Drill (FD)**

S No	Code	Subject	1 <sup>st</sup> Year	Type	2 <sup>nd</sup> Year	Type	3 <sup>rd</sup> Year	Type	Total Periods
(i)	FD - 1	Dirll Ki Aam Hidayaten Aur Words of Command	01	L/P	-	-	-	-	01
(ii)	FD - 2	Savdhan, Vishram, Aram Se Aur Mudna	01	L/P	-	-	-	-	01
(iii)	FD - 3	Kadwar Sizing, Teen Line Banana, Khuli Line aur Nikat Line Mein March	01	L/P	-	-	-	-	01
(iv)	FD - 4	Khade Khade Salute Karna Parade Par, Visarjan aur Line Tod	01	L/P	-	-	-	-	01
(v)	FD - 5	Tej Chal-Tham aur Dhire Chal-Tham	01	L/P	-	-	-	-	01
(vi)	FD - 6	Dahine, Baen, Aage aur Piche kadam lena	-	-	01	L/P	-	-	01
(vii)	FD - 7	Tej Chal Se Mudna	01	L/P	01	L/P	-	-	02

(viii)	FD - 8	Tej Chal Se Salute Karna	01	L/P	01	L/P	-	-	02
(ix)	FD - 9	Tej kadam Taal aur tham	-	-	01	L/P	-	-	01
(x)	FD - 10	Tej Kadam Taal Se kadam Badalna	-	-	01	L/P	-	-	01
(xi)	FD - 11	Teenon teen se ek file aur ek file se teenon teen banana	01	-	01	L/P	-	-	02
<b>Total</b>			<b>08</b>	<b>-</b>	<b>06</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>14</b>

(b) **Drill With Arms (AD)**

S No	Code	Subject	1 <sup>st</sup> Year	Type	2 <sup>nd</sup> Year	Type	3 <sup>rd</sup> Year	Type	Total Periods
(xii)	AD - 1	Rifle Ke Saath Savdhan, Vishram aur Aram Se	02	L/P	-	-	-	-	02
(xiii)	AD - 2	Rifle Ke Saath Parade Par aur Saj	01	L/P	01	L/P	-	-	02
(xiv)	AD - 3	Rifle Ke Saath Visarjan aur Line Tod	01	L/P	01	L/P	-	-	02
(xv)	AD - 4	Bhumi Shastra aur Uthao Shastra	01	L/P	-	-	-	-	01
(xvi)	AD - 5	Bagal Shastra aur Baju Shastra	01	L/P	-	-	-	-	01



(xvii)	AD - 6	Salami Shastra	-	-	03	L/P	03	L/P	06
(xviii)	AD - 7	Squad Drill	-	-	02	L/P	02	L/P	04
(xix)	AD - 8	Nirikshan Ke Liye Janch Shastra aur Baju Shastra	-	-	-	-	02	L/P	02
<b>Total</b>			<b>06</b>	<b>-</b>	<b>07</b>	<b>-</b>	<b>07</b>	<b>-</b>	<b>20</b>

(c) **Ceremonial Drill (CD)**

S No	Code	Subject	1 <sup>st</sup> Year	Type	2 <sup>nd</sup> Year	Type	3 <sup>rd</sup> Year	Type	Total Periods
(xxi)	CD - 1	Guard Mounting	-	-	-	-	01	L/P	01
(xxii)	CD - 2	Guard of Honour	-	-	-	-	03	L/P	03
(xxiii)	CD - 3	Platoon/ Coy Drill	-	-	-	-	02	L/P	02
(xxiv)	CD - 4	Instructional Practice	-	-	-	-	02	L/P	02
<b>Total</b>			<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>08</b>	<b>-</b>	<b>08</b>
<b>Grand Total</b>			<b>14</b>	<b>-</b>	<b>13</b>	<b>-</b>	<b>16</b>	<b>-</b>	<b>43</b>

4. **Weapon Training.**

S No	Code	Subject	1 <sup>st</sup> Year	Type	2 <sup>nd</sup> Year	Type	3 <sup>rd</sup> Year	Type	Total Periods
(i)	WT - 1	Characteristics of a rifle/rifle ammunition and its fire power	01	L/P	-	-	-	-	01
(ii)	WT - 2	Stripping, assembling, care and cleaning and sight setting of .22 rifle	01	L/P	-	-	-	-	01
(iii)	WT - 3	Stripping, assembling, care and cleaning of 7.62 mm SLR	01	L/P	-	-	-	-	01
(iv)	WT - 4	Loading, cocking and unloading	01	L/P	-	-	-	-	01
(v)	WT - 5	The lying posn, holding and Aiming - 1	01	L/P	01	L/P	01	L/P	03
(vi)	WT - 6	Trigger control and firing a shot	01	L/P	01	L/P	01	L/P	03
(vii)	WT - 7	Range procedure and safety precautions	01	L/P	01	L/P	01	L/P	03
(viii)	WT - 8	Theory of group and snap shooting	-	-	01	L/P	01	L/P	02
(ix)	WT - 9	Short range firing, aiming II – Alteration of sight	05	P	06	P	06	P	17
<b>Total</b>			<b>12</b>	<b>-</b>	<b>10</b>	<b>-</b>	<b>10</b>	<b>-</b>	<b>32</b>

5. **Personality Development and Leadership (P).**

S No	Code	Subject	1 <sup>st</sup> Year	Type	2 <sup>nd</sup> Year	Type	3 <sup>rd</sup> Year	Type	Total Periods
(i)	P - 1	Introduction to Personality Development	02	L	-	-	-	-	02
(II)	P - 2	Factors influencing/ shaping personality : Physical, Social, Psychological and Philosophical	02	L	-	-	-	-	02
(iii)	P - 3	Self - awareness : Know yourself/ insight	03	L/P	-	-	-	-	03
(iv)	P - 4	Empathy	02	L	-	-	-	-	02
(v)	P - 5	Critical & Creative Thinking	-	-	02	L/Di	-	-	02
(vi)	P - 6	Communication Skills : I	-	-	02	L/P	-	-	02
(vii)	P - 7	Communication Skills : II	-	-	02	L/P	-	-	02
(viii)	P - 8	Decision Making & Problem Solving	-	-	02	L/P	-	-	02
(ix)	P - 9	Coping with stress and Emotion	-	-	02	L/P	-	-	02
(x)	P- 10	Change your Mindset	-	-	01	L/P	-	-	01
(xi)	P- 11	Time Management	-	-	-	-	02	L	02

(xii)	P - 12	Sociability, Social Skills, Etiquettes & Mannerism	-	-	-	-	02	L/P	02
(xiii)	P - 13	Importance of Group/ Team Work	-	-	-	-	02	L/P	02
(xiv)	P - 14	Interview Skills	-	-	-	-	02	P	02
(xv)	P - 15	Career Counselling	-	-	-	-	02	L/P	02
<b>Total</b>			<b>09</b>	<b>-</b>	<b>11</b>	<b>-</b>	<b>10</b>	<b>-</b>	<b>30</b>

6. **Leadership Development (LD).**

S No	Code	Subject	1 <sup>st</sup> Year	Type	2 <sup>nd</sup> Year	Type	3 <sup>rd</sup> Year	Type	Total Periods
(i)	L - 1	Leadership Traits	02	L	-	-	-	-	02
(ii)	L - 2	Indication of Good Leadership	01	L	-	-	-	-	01
(iii)	L - 3	Leadership & Motivation	01	L	-	-	-	-	01
(iv)	L - 4	Case Studies on effects of Leadership in NCC	-	-	02	L	-	-	02
(v)	L - 5	Moral Values & Character traits	-	-	01	L	-	-	01
(vi)	L - 6	Honours Code Concept	-	-	02	L	-	-	02
(vii)	L - 7	Case Study I: Vivekanand	-	-	-	-	02	L	02

(viii)	L - 8	Case Study II : Kiren Bedi	-	-	-	-	02	L	02
(ix)	L - 9	Case Study III : MS Dhoni	-	-	-	-	02	L	02
<b>Total</b>			<b>04</b>	<b>-</b>	<b>05</b>	<b>-</b>	<b>06</b>	<b>-</b>	<b>15</b>

7. **Disaster Management (DM).**

S No	Code	Subject	1 <sup>st</sup> Year	Type	2 <sup>nd</sup> Year	Type	3 <sup>rd</sup> Year	Type	Total Periods
(i)	DM - 1	DM Organisation Legislation Policies	01	L	-	-	-	-	01
(ii)	DM - 2	Types of emergencies/ Natural Disaster	01	L	-	-	-	-	01
(iii)	DM - 3	Essential Service and their maintenance	01	L	-	-	-	-	01
(iv)	DM - 4	Traffic control during disaster under Police Supervision	-	-	01	L	-	-	01
(v)	DM - 5	Role of NCC during Natural Disaster	-	-	02	L	-	-	02
(vi)	DM - 6	Do's & Dont's for NCC Cadet performing DM duties	-	-	-	-	01	L	01
(vii)	DM - 7	Fire Service and Fire Fighting	-	-	-	-	01	L/P	01
(viii)	DM - 8	Civ Defence Organisation & its duties	-	-	-	-	01	L	01
<b>Total</b>			<b>03</b>	<b>-</b>	<b>03</b>	<b>-</b>	<b>03</b>	<b>-</b>	<b>09</b>

8. **Social Awareness and Community Development (SA).**

S No	Code	Subject	1 <sup>st</sup> Year	Type	2 <sup>nd</sup> Year	Type	3 <sup>rd</sup> Year	Type	Total Periods
(i)	SA - 1	Basics of Social Service its needs	01	L	-	-	-	-	01
(ii)	SA - 2	Rural Development Programmes	01	L	-	-	-	-	01
(iii)	SA - 3	NGOs: Role and Contribution	01	L	-	-	-	-	01
(iv)	SA - 4	Civic Responsibility : Swachh Bharat Abhiyan	01	L	-	-	-	-	01
(v)	SA - 5	Contribution of Youth towards Social Welfare	01	L	-	-	-	-	01
(vi)	SA - 6	Social Security Schemes	-	-	01	L	-	-	01
(vii)	SA - 7	Social Evils viz Dowry/ Female Foeticide/ Child abuse and trafficking etc	-	-	01	L	-	-	01
(viii)	SA - 8	Drug Abuse & trafficking	-	-	01	L	-	-	01
(ix)	SA - 9	Causes and Prevention of HIV/ AIDS : Role of Youth	-	-	01	L	-	-	01
(x)	SA - 10	RTI and RTE	-	-	01	L	-	-	01
(xi)	SA - 11	Protection of Children	-	-	01	L	-	-	01

(xii)	SA – 12	Road/Rail Travel Safety	-	-	-	-	01	L/P	01
(xiii)	SA – 13	Govts new Initiative	-	-	-	-	03	L	03
(xiv)	SA – 14	Counter Terrorism	-	-	-	-	02	L	02
<b>Total</b>			<b>05</b>	<b>-</b>	<b>06</b>	<b>-</b>	<b>06</b>	<b>-</b>	<b>17</b>

9. **Health and Hygiene (H).**

S No	Code	Subject	1 <sup>st</sup> Year	Type	2 <sup>nd</sup> Year	Type	3 <sup>rd</sup> Year	Type	Total Periods
(i)	H - 1	Structure and functioning of the human body	01	L	-	-	-	-	01
(ii)	H - 2	Hygiene and Sanitation (Personal and Food Hygiene)	02	L	-	-	-	-	02
(iii)	H - 3	Physical and Mental Health	01	L	-	-	-	-	01
(iv)	H - 4	Infectious and Contagious Diseases and its prevention	-	-	02	L	-	-	02
(v)	H - 5	First Aid in common medical emergencies	-	-	03	L/D/P	-	-	03
(vi)	H - 6	Treatment and Care of Wounds	-	-	-	-	02	L/P	02
(vii)	H - 7	Introduction to Yoga and Exercises	-	-	-	-	02	L/D/P	02
<b>Total</b>			<b>04</b>	<b>-</b>	<b>05</b>	<b>-</b>	<b>04</b>	<b>-</b>	<b>13</b>

10. **Adventure Training (ADV).**

S No	Code	Subject	1 <sup>st</sup> Year	Type	2 <sup>nd</sup> Year	Type	3 <sup>rd</sup> Year	Type	Total Periods
(i)	ADV - 1	Para Sailing	04	L/D/P	-	-	-	-	04
(ii)	ADV - 2	Slithering	-	-	02	L/D/P	-	-	02
(iii)	ADV - 3	Rock Climbing	-	-	05	L/D/P	-	-	05
(iv)	ADV - 4	Cycling/Trekking	-	-	-	-	04	L/P	04
<b>Total</b>			<b>04</b>	<b>-</b>	<b>07</b>	<b>-</b>	<b>04</b>	<b>-</b>	<b>15</b>

11. **Environment Awareness and Conservation (E).**

S No	Code	Subject	1 <sup>st</sup> Year	Type	2 <sup>nd</sup> Year	Type	3 <sup>rd</sup> Year	Type	Total Periods
(i)	E - 1	Natural Resources Conservation and Management	01	L/Di	-	-	-	-	01
(ii)	E - 2	Water Conservation and Rain water harvesting	-	-	01	L/Di	-	-	01
(iii)	E - 3	Waste Management	-	-	-	-	01	L/Di	01
(v)	E - 4	Energy Conservation	-	-	-	-	01	LL/Di	01
<b>Total</b>			<b>01</b>	<b>-</b>	<b>01</b>	<b>-</b>	<b>02</b>	<b>-</b>	<b>04</b>

12. **Obstacle Training (OT).**

S No	Code	Subject	1 <sup>st</sup> Year	Type	2 <sup>nd</sup> Year	Type	3 <sup>rd</sup> Year	Type	Total Periods
(i)	OT - 1	Obstacle Course	02	L/D/P	02	L/D/P	02	L/D/P	06
<b>Total</b>			<b>02</b>	<b>-</b>	<b>02</b>	<b>-</b>	<b>02</b>	<b>-</b>	<b>06</b>
<b>Grand Total</b>			<b>66</b>	<b>-</b>	<b>72</b>	<b>-</b>	<b>72</b>	<b>-</b>	<b>210</b>



**BLOCK SYLLABUS**  
**SPECIALISED SUBJECTS : SD/SW (ARMY)**  
**(REVISED MAY 2017)**

<b>S No</b>	<b>Subject</b>	<b>First Year</b>	<b>Second Year</b>	<b>Third Year</b>	<b>Total Periods</b>
1.	Armed Forces	04	03	03	10
2.	Map Reading	09	08	12	29
3.	Field Craft and Battle Craft	05	06	07	18
4.	Introduction to Infantry Weapons and Equipment	05	05	03	13
5.	Military History	02	05	04	11
6.	Communication	02	03	04	09
	<b>Total</b>	<b>27</b>	<b>30</b>	<b>33</b>	<b>90</b>

**DETAILED SYLLABUS**  
**SPECIALISED SUBJECTS – SD/SW (ARMY)**

1. **Armed Forces (AF).**

<b>S No</b>	<b>Code</b>	<b>Subject</b>	<b>1<sup>st</sup> Year</b>	<b>Type</b>	<b>2<sup>nd</sup> Year</b>	<b>Type</b>	<b>3<sup>rd</sup> Year</b>	<b>Type</b>	<b>Total Periods</b>
(i)	AF - 1	Basic Organisation of Armed Forces	01	L	-	-	-	-	01
(ii)	AF - 2	Organisation of Army	02	L	-	-	-	-	02
(iii)	AF - 3	Badges and Ranks	01	L	-	-	-	-	01
(iv)	AF - 4	Task and role of fighting arms	-	-	02	L/V	-	-	02
(v)	AF - 5	Task and Role of supporting arms and service	-	-	01	L/V	-	-	01
(vi)	AF - 6	Honours and Awards	-	-	-	-	01	L	01
(vii)	AF - 7	Modes of entry to army	-	-	-	-	02	L	01
		<b>Total</b>	<b>04</b>	<b>-</b>	<b>03</b>	<b>-</b>	<b>03</b>	<b>-</b>	<b>10</b>

2. **Map Reading (MR).**

S No	Code	Subject	1 <sup>st</sup> Year	Type	2 <sup>nd</sup> Year	Type	3 <sup>rd</sup> Year	Type	Total Periods
(i)	MR - 1	Introduction of types of Maps and conventional signs	02	L	-	-	-	-	02
(ii)	MR - 2	Scales and Grid system	02	L	-	-	-	-	02
(iii)	MR - 3	Topographical forms and technical terms	02	L	-	-	-	-	02
(iv)	MR - 4	Relief, contours and Gradients	02	L	-	-	-	-	02
(v)	MR - 5	Cardinal points and types of north	01	L/P	-	-	-	-	01
(vi)	MR - 6	Types of Bearings and use of service protractor	-	-	02	L/P	-	-	02
(vii)	MR - 7	Prismatic compass and its use and GPS	-	-	02	L/P	01	L/P	03
(viii)	MR - 8	Setting a map, finding north and own position	-	-	02	L/P	02	L/P	04
(ix)	MR - 9	Map to Ground, Ground to Map	-	-	02	L/P	04	L/P	06
(x)	MR - 10	Point to Point March	-	-	-	-	05	L/P	05
		<b>Total</b>	<b>09</b>	<b>-</b>	<b>08</b>	<b>-</b>	<b>12</b>	<b>-</b>	<b>29</b>

3. **Field Craft and Battle Craft (FC & BC).**

<b>S No</b>	<b>Code</b>	<b>Subject</b>	<b>1<sup>st</sup> Year</b>	<b>Type</b>	<b>2<sup>nd</sup> Year</b>	<b>Type</b>	<b>3<sup>rd</sup> Year</b>	<b>Type</b>	<b>Total Periods</b>
(i)	FC & BC - 1	Introduction	01	L	-	-	-	-	01
(ii)	FC & BC - 2	Judging Distance	01	L/P	-	-	-	-	01
(iii)	FC & BC - 3	Description of ground	01	L/P	-	-	-	-	01
(iv)	FC & BC - 4	Recognition, description and indication of landmarks and targets	02	L/P	-	-	-	-	02
(v)	FC & BC - 5	Observation, Camouflage and Concealment	-	-	02	L	-	-	02
(vi)	FC & BC - 6	Field Signals	-	-	02	L/P	-	-	02
(vii)	FC & BC - 7	Section Formations	-	-	02	L/P	02	L/P	04
(viii)	FC & BC - 8	Fire Control Orders	-	-	-	-	02	L/P	02
(ix)	FC & BC - 9	Fire and Movement	-	-	-	-	01	L/P	01
(x)	FC & BC - 10	Types of knots and lashings	-	-	-	-	02	L/P	02
<b>Total</b>			<b>05</b>	<b>-</b>	<b>06</b>	<b>-</b>	<b>07</b>	<b>-</b>	<b>18</b>

4. **Introduction to Infantry Weapons and Equipments (INF).**

<b>S No</b>	<b>Code</b>	<b>Subject</b>	<b>1<sup>st</sup> Year</b>	<b>Type</b>	<b>2<sup>nd</sup> Year</b>	<b>Type</b>	<b>3<sup>rd</sup> Year</b>	<b>Type</b>	<b>Total Periods</b>
(i)	INF - 1	Characteristics of 5.56 mm INSAS rifle, ammunition, firepower, stripping, assembling and cleaning	03	L/P	02	L/P	-	-	05
(ii)	INF - 2	Organisation of Infantry Battalion	02	L	-	-	-	-	02
(iii)	INF - 3	Characteristics of Infantry Company support weapons	-	-	03	L/P	-	-	02
(iv)	INF - 4	Characteristics of Infantry Battalion support weapons	-	-	-	-	03	L/V	03
		<b>Total</b>	<b>05</b>	<b>-</b>	<b>05</b>	<b>-</b>	<b>03</b>	<b>-</b>	<b>13</b>

5. **Military History (MH).**

<b>S No</b>	<b>Code</b>	<b>Subject</b>	<b>1<sup>st</sup> Year</b>	<b>Type</b>	<b>2<sup>nd</sup> Year</b>	<b>Type</b>	<b>3<sup>rd</sup> Year</b>	<b>Type</b>	<b>Total Periods</b>
(i)	MH - 1	Biographies of renowned Generals (Carriapa/ Sam Manekshaw)	02	L	-	-	-	-	02
(ii)	MH - 2	Indian Army War Heroes - PVCs	-	-	03	L/V	-	-	03
(iii)	MH - 3	Study of battles of Indo Pak War 1965, 1971 and Kargil	-	-	-	-	02	L/Di	02
(iv)	MH - 4	War Movies	-	-	02	V	02	V	04
		<b>Total</b>	<b>02</b>	<b>-</b>	<b>05</b>	<b>-</b>	<b>04</b>	<b>-</b>	<b>11</b>

6. **Communication (C).**

<b>S No</b>	<b>Code</b>	<b>Subject</b>	<b>1<sup>st</sup> Year</b>	<b>Type</b>	<b>2<sup>nd</sup> Year</b>	<b>Type</b>	<b>3<sup>rd</sup> Year</b>	<b>Type</b>	<b>Total Periods</b>
(i)	C-1	Types of Communications	01	L	-	-	-	-	01
(ii)	C-2	Characteristics of Wireless (Mobile, Wi Fi etc)	01	L	-	-	-	-	01
(iii)	C-3	Characteristics of Walkie/ Talkie	-	-	01	L	-	-	01
(iv)	C-4	Basic RT Procedure	-	-	02	L/P	02	L/P	04
(v)	C-5	Latest trends and development (Multi Media, Video Conferencing, IT)	-	-	-	-	02	L	02
<b>Total</b>			<b>02</b>	<b>-</b>	<b>03</b>	<b>-</b>	<b>04</b>	<b>-</b>	<b>09</b>
<b>Grand Total</b>			<b>27</b>	<b>-</b>	<b>30</b>	<b>-</b>	<b>33</b>	<b>-</b>	<b>90</b>

FOR THE PERSONAL ATTENTION OF HEAD OF INSTNS

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Coimbatore - 641018

File No.1021/Trg

20 Sep 17

All head of institutions concerned

NCC TRAINING SYLLABUS : 2017-18 : REVISION FOR SENIOR DIV/WING &  
JUNIOR DIV/WING : INTIMATING OF

1. HQ DG NCC has revised the Trg Syllabus from the trg year 2017-18 for both Senior Division/Wing and Junior Division/Wing. An abstract of allocation of periods (wing wise) are furnished hereunder:-

SENIOR DIV WING					JUNIOR DIV WING			
Details	I Yr	II yr	III Yr	Total Periods	Details	I Yr	II yr	Total Periods
Common syllabus	66	72	72	210	Common syllabus	82	88	170
Specialised syllabus	27	30	33	90	Specialised syllabus	35	35	70
Total	93	102	105	300	Total	117	123	240
In Hours	62	68	70	200	In Hours	78	82	160

2. The ANOs are hereby instructed to carry out necessary amendments/revision in the existing trg syllabus and forward revised trg syllabus accordingly. The Entitled hours will be taken care while submitting claims for Refreshment accordingly.
4. The Soft copy of detailed training syllabus is fwd through email of the instn as well as ANO concerned. Pl confirm and ack

(Priyanka Chauhan)  
Capt  
Adm officer  
for CO



# Sri GVG Visalakshi College for Women (Autonomous), Udumalpet

## Course: Part V – Extension Activity 4



Youth Red Cross

### YOUTH RED CROSS

The Youth Red Cross (YRC) is the most important constituent of its mother organization, Indian Red Cross Society. The motto of Youth Red Cross is "to serve". The society's mission is providing relief in times of disasters/emergencies and promoting health and taking care of the vulnerable people.

### **OBJECTIVE OF YRC**

- To promote health and provide solution for the various health related problems.
- To train the students for crisis/disaster management and organize emergency relief services.
- To motivate the children to participate in the work of YRC.
- To recruit, train and develop volunteers/personnel as necessary for undertaking humanitarian responsibilities

### **Guidelines of YRC**

Each student should necessarily participate in any one of the Part-V extension activity during her period of study and should get a minimum of 40% marks to earn a degree.

NCC/ NSS/ Physical education/YRC/ Red ribbon club

They should continue their participation in YRC for first two years with proper attendance and participation.

Lack of attendance in this regard should be compensated in the following semesters as per the instructions of the faculty- in-charge

Separate mark registers will be maintained for YRC students , marks are assessed and their grades will be mentioned in the 6<sup>th</sup> semester mark sheet.

### **CIA Components**

Attendance	: 15 marks
Participation in campus and other activities	: 10 marks
Exemplary awards	: 05 marks
General performance	: 20 marks
Total	: 50 marks

**Activities:**

- 1) First aid, health and safety training programmes
- 2) Blood donation camp - which is needed for optimum functioning of the health-care system. Only voluntary blood donors can help to maintain an adequate supply of blood to save the lives of those who in need.
- 3) Disaster management programme - to reduce the vulnerability of communities in key disaster prone areas
- 4) Raise the awareness and strengthen the knowledge and understanding of Drug abuse, HIV, AIDS & Cancer by conducting awareness rallies.
- 5) Visit to Orphanage / Old age home - People who are in an orphanage may have been broken from where they came from, unloved, abused, lost their parents, etc. All those people need from others is their love, attention and care.

# Sri GVG Visalakshi College for Women (Autonomous), Udumalpet

## Course: Part V – Extension Activity 5

### RED RIBBON CLUB



Red Ribbon  
Club

### OBJECTIVES

- Transform the youth regarding care, awareness and support requirements of people affected with HIV AIDS.
- Encourage the spirit to reduce the humiliation and prejudice against them.
- To encourage blood donations.
- To impart skills among youth on self-protection, negotiation, and effective group interaction.
- To motivate youth by developing their skills on leadership, advocacy, communication and team building against social problems.

### Guidelines of RRC

- Each Student should necessarily participate in any one of the following activities during the first four semesters and should get a minimum of 40% to earn the degree.  
NCC/NSS/Physical Education/RRC/YRC
- Under Part V courses, every year first year under graduate students should enrol in RRC nearly 100-200 volunteers.
- Students should involve in all activities of RRC for two years.
- Marks will be given on the basis of

Attendance	- 15 Marks
Participation in camps and other activities	-10 marks
Exemplary awards	- 5 marks
General performance	- 20 marks
- The mark has been incorporated in the final year in part V course.

### Activities

- By involving the members of Red Ribbon Club of our college, we are conducting AIDS/HIV Awareness programmes, Cultural Events and so many other activities for the benefit of our students and also for the general public in our adopted villages by inviting Doctors and AIDS affected people.
- Every year we are organizing Blood Group Identification and Test camp for our college students.

- Cleaning of college campus by RRC members under the banner “Swatch Bharat” weekly two days.
- We organize Blood Donation Camp by involving Government Hospital Blood Bank and other Non- Governmental Organisations. On an average, we donate at least 125 units of blood every year from our volunteers.
- A Rally has been planned outside the college to stress the importance and need for awareness of
  - ❖ World Aids Day
  - ❖ Dengue
  - ❖ Cancer
  - ❖ Road safety
  - ❖ Voter’s day
  - ❖ Plastic eradication