

**Curriculum Design**  
**Sri G.V.G Visalakshi College for Women (Autonomous)**  
 Affiliated to Bharathiar University  
**B.Sc. ZOOLOGY**  
 Scheme of Examination – CBCS and OBE Pattern

(For the students admitted from the academic year 2021-2022 onwards)

Sem	Course Code	Course Title	Ins. Hrs/Week	Examination				Credits
				Dur Hrs	CIA Mark	ESE Mark	Total Marks	
I	121TA1/ 121MY1 / 121HD1/ 121FR1	Part I- Language I	6	3	50	50	100	3
	121EN1	Part II – English I	6	3	50	50	100	3
		Part III						
	121Z01	Core I –Non Chordata	8	3	50	50	100	7
		Core Practical I	2	-	-	-	-	-
	121AZ1	Allied I – Chemistry I	4	3	30	45	75	4
		Allied Chemistry practical	2	-	-	-	-	-
	121VEG	Part IV-Value Education -Human values and Gender Equity	2	2	50	-	50	1
II	221TA2/ 221MY2 / 221HD2/ 221FR2	Part I- Language II	6	3	50	50	100	3
	221EN2	Part II - English II	6	3	50	50	100	3
		Part III						
	221Z02	Core II – Chordata	8	3	50	50	100	7
	221ZP1	Core Practical I	2	3	50	50	100	3
	221AZ2	Allied II – Chemistry II	4	3	30	45	75	4

	221APP/ 221AZP/ 221AMP	Allied Chemistry practical	2	3	25	25	50	2
	221EVS	Part IV-Environmental Studies	2	2	50	-	50	1
III	321TA3/ 321MY3 / 321HD3/ 321FR3	Part I – Language III	6	3	50	50	100	3
	321EN3	Part II -English III	6	3	50	50	100	3
		Part III						
	321Z03	Core III – Cell Biology and Biochemistry	5	3	50	50	100	5
	421ZP1	Core Practical II	2	-	-	-	-	-
	321AZ3	Allied III –Botany I	4	3	30	45	75	4
		Allied Botany practical	2	-	-	-	-	-
	321ZS1	Part IV – Skill Enhancement Course I- Professional English for Zoology	3	3	100	-	100	2
	321NSC	Part IV – Non Major Elective-Sericulture	2	2	50	-	50	2
	321NGA	Part IV- General Awareness -Information security	Self-study	2	50	-	50	Grade
IV	421TA4/ 421MY4 / 421HD4/ 421FR4	Part I – Language IV	6	3	50	50	100	3
	421EN4	Part II- English IV	6	3	50	50	100	3
		Part III						
	421Z04	Core IV – Ecology, Evolution and Zoogeography	5	3	50	50	100	5
	421ZP2	Core Practical II	2	3	50	50	100	3
	421AZ4	Allied IV – Botany II	4	3	30	45	75	4

	421AZP	Allied Botany Practical	2	3	25	25	50	2
	421ZS2	Part IV- Skill Enhancement Course II –Apiculture	3	3	100	-	100	2
	421NGA	Part IV- General Awareness	2	2	50	-	50	2
	421ZA1/ 421ZA2	Advanced Learners Course I -Wildlife Management and Conservation / Online MOOC or Swayam Courses	-	3	-	100	100	4*
		<b>Part III</b>						
	521Z05	Core V– Physiology	4	3	50	50	100	4
	521Z06	Core VI – Biotechnology	4	3	50	50	100	4
	521Z07	Core VII – Biostatistics and Computer Applications	4	3	50	50	100	4
	521Z08	Core VIII– Group Project and Viva voce	5	3	50	50	100	5
	521ZE1/ 521CE1	Elective I – Nursery Techniques, Insect Vectors and Diseases / Agro industrial Chemistry	4	3	50	50	100	4
V		<b>Core Practical III</b>	4	-	-	-	-	-
		Elective Practical / Elective Practical	2	-	-	-	-	-
	521ZS3	Part IV- Skill Enhancement Course III-Ornamental fishes & Poultry farming	3	3	100	-	100	2
	521NGO / 521NGA	Part IV- General Awareness - Online MOOC or Swayam Courses/ Life skills	Self-Study	2	50	-	50	Grade
		<b>Part III</b>						
	621Z09	Core IX– Genetics	5	3	50	50	100	5
	621Z10	Core X – Developmental Biology	4	3	50	50	100	4
	621Z11	Core XI – Microbiology and Immunology	4	3	50	50	100	4
	621Z12	Core XII – Sericulture	4	3	50	50	100	4
	621ZE2/ 621ZE3	Elective II- Clinical Laboratory Techniques/ Bioinstrumentation	4	3	50	50	100	4
VI	621ZP3	<b>Core Practical –III</b>	4	3	50	50	100	5
	621ZE4/ 621ZE5	Elective Practical / Elective Practical	2	3	50	50	100	3
	621ZS4	Part IV - Skill Enhancement Course IV – Internship	3	-	100	-	100	2

621NGA	Part IV- General Awareness/ Professional Ethics	Self- Stud y	2	50	-	50	Grade
621EX1/ 621EX2/ 621EX3/ 621EX4/ 621EX5	Part V- Extension activity	-	-	50	-	50	2
621ZA3/ 621ZA4	Advanced Learners Course II- Bioinformatics / Online MOOC or Swayam Courses	-	3	-	100	100	4*
	<b>Total</b>		<b>180</b>			<b>3800</b>	<b>140</b>

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

### B.Sc. ZOOLOGY SEMESTER II

(For the students admitted from the academic year 2021 – 2022 onwards)

As per UGC guidelines No. F.14-63014 (CPP-II) dated 1<sup>st</sup> August 2014

Ensuring a close observance of high ethical considerations, the use of animals for dissection and experimentation is not permitted. Hence virtual dissections have to be done using computer- aided programmes.

<b>Course: PART III – CORE PRACTICAL I (Based on Core I, II and III)</b>	<b>Course Code: 221ZP1</b>
<b>Semester: I &amp; II</b>	<b>No. of Credits: 3</b>
<b>No. of hours : (30 + 30)</b>	<b>P:R 52: 8</b>
<b>Internal components Marks: 50</b>	<b>ESE Max. Marks: 50</b>

(P: Practical; R: Record)

#### Course Objectives:

- To recognize the general and distinguishing characters of Invertebrates and Vertebrates.
- To illustrate the organization, relate structure with functions of Invertebrates and Vertebrates and to inculcate the practical skills.
- To understand the habitat, adaptations and the biodiversity of animals.
- To equip the students with the knowledge about the biological significance of Invertebrates and Vertebrates.
- To expertise the culture of earthworms.

**Course Outcomes: On completion of the Course the student will be able to**

CO	Statement	Bloom's Taxonomy level
CO 1	identify the Nonchordates and Chordates	A
CO 2	recognise the taxonomy of Nonchordates and Chordates	A
CO 3	gain knowledge about biodiversity of organisms	A
CO 4	interpret the significance of specific structure and function	A
CO 5	implement the biological significance of Nonchordates and Chordates and conservation awareness of the biosphere by field visit	A

## A-Apply

### Syllabus:

**1. Identify and comment on the virtual specimen / virtual dissection exposed in Monitor/dissect the virtual specimen, label and comment on it with suitable diagrams.**

1. Cockroach – Mouth parts, Digestive system and Nervous system
2. Fish - Digestive system

**1. SPOTTERS:** Study of Invertebrate and Chordate forms which belongs to different Phyla with special reference to the following aspects.

**I. Classify giving reasons.**

- |                |                  |                         |
|----------------|------------------|-------------------------|
| 1. Paramecium  | 2. Obelia colony | 3. <i>Taenia solium</i> |
| 4. Scorpion    | 5. Sepia         | 6. Hippocampus          |
| 7. Ichthyophis | 8. Calotes       | 9. King Fisher          |
| 10. Loris.     |                  |                         |

**II. Draw Labelled Sketch**

- |                              |                 |                   |
|------------------------------|-----------------|-------------------|
| 1. <i>Taenia solium</i> T.S. | 2. Ascaris T.S. | 3. Earthworm T.S. |
|------------------------------|-----------------|-------------------|

- |  |                         |
|--|-------------------------|
| 4. Liver fluke T.S.                      | 5. Amphioxus T.S.       |
| 6. Pigeon – Pelvic girdle with synsacrum | 7. Hind Limb of Pigeon. |

**III. Relate Structure and Function**

- |                             |                     |                           |
|-----------------------------|---------------------|---------------------------|
| 1. Sponge – Spicules        | 2. Tapeworm- Scolex | 3. Mosquito – Mouth parts |
| 4. Nereis – Parapodium      | 5. Pila – Radula    | 6. Shark - Placoid scales |
| 7. Snake – Poison Apparatus | 8. Quill feather    |                           |

**IV. Comment on Respiration**

- |             |                         |                   |
|-------------|-------------------------|-------------------|
| 1. Ascaris  | 2. Scorpion – Book lung | 3. Pila           |
| 4. Sea star | 5. Anabas               | 6. Frog – Tadpole |

**V. Comment on Biological Significance:**

- |                  |              |               |
|------------------|--------------|---------------|
| 1. Physalia      | 2. Peripatus | 3. Bipinnaria |
| 4. Balanoglossus | 5. Sphenodon | 6. Chaemeleon |
| 7. Archaeopteryx |              |               |

- 3.** 1. Culture and identification of Unicellular organisms (Paramecium and Euglena)  
2. Culture and identification of Multicellular organism (Earthworm)

**4. Field visit**

1. Field visit report and *viva voce* on Biodiversity of the campus /field (Each group with five students).
2. Submission of written / typed report preferably with photographs / tables / graphs.

**5. Record**

The practical work done in laboratory must be submitted by record note for the practical examination.

**Note: Comprehensive Examination by External and Internal Examiners.**

**Books for Reference:**

Name of the Book	Author s	Publishers with Edition
The text book of practical Zoology Invertebrate	Lal. S.S.	Rastogi Publication Meerut (2004)
The text book of practical Zoology Chordates	Lal. S.S.	Rastogi Publication Meerut (2004)

**E-Resources: (Web resources & E-books)**

- <https://www.youtube.com/watch?v=VTUX5CkKXOY>
- <https://www.youtube.com/watch?v=Xc9JE8mmFig>

**Mapping of Course outcome with POs and PSOs**

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO7	PO8	PSO 1	PSO 2	PSO3	Bloom's Taxonomy level
CO 1	H	H	H	H	-	-	L	H	H	H	H	A
CO 2	H	H	H	H	-	-	L	H	H	H	H	A
CO 3	H	H	H	H	-	-	L	H	H	H	H	A
CO 4	H	H	H	H	-	-	L	H	H	H	H	A
CO 5	H	H	H	H	-	-	L	H	H	H	H	A

Correlation level: H- high, M-Moderate, L-Low