DEPARTMENT OF ZOOLOGY				*CLASS: II B.Sc. Botany*				
Sem	**Course Type**	**Course Code**	**Course Title**	**Credits**	**Contact Hours/week**	**CIA**	**Ext**	**Total**
III	Allied	20U3ZAP1	Zoology Ancillary Practical – I	1	2	40	60	100

Nature of Course				
Knowledge and skill			Employability oriented	
Skill oriented	✓		Entrepreneurship oriented	

Course Objectives

By the end of the course, students will be able:

1. To learn the dissection and mounting techniques.
2. To understand the different organisms of Invertebtares and Chordates.

S.No.	**Dissection**
1.	Digestive system of Cockroach
2.	Reproductive system of Cockroach
3.	Fifth cranial nerve
	Mountings
4.	Earth worm: Body Setae
5.	Cockroach: Mouth parts and Salivary glands
6.	House fly: Mouth parts
7.	Honey Bee: Mouth parts
	Spotters
	Trypanosoma, *Obelia*, Ephyra, *Taenia*, *Ascaris*, Leech, Trochophore larva, Nauplius, *Albunia*, Star fish, Amphioxus, Axolotl larva, Poisonous snakes of south India, Feather of bird.

(Note: Mounting and dissections are to be done by using live specimen or virtual method or slides and preserved specimens from archives).

Books for References

1. Jayasurya, Nair N.C, Soundarapandian N, Arumugem N, Leelavathy S and Murugan T, 2013. *Practical Zoology Vol. 1 Invertebrata*, Saras publication, Nagercoil.
2. Jayasurya, Thangamani A, Arumugam N, Prasanakumar S and Narayanan L.M, 2013. *Practical Zoology Vol. 2 Chordata*, Saras publication, Nagercoil.
3. Sinha J, Chatterjee A.K and Chattopadhyay P, 2011. *Advanced Practical Zoology*, Books and Allied (P) Ltd., Kolkata.

Web Resources

https://www.youtube.com/watch?v=mWpWUZKo3Wo
https://www.youtube.com/watch?v=wF7ew2w24as
https://www.youtube.com/watch?v=4WKdnPqj9N0

https://www.youtube.com/watch?v=aFd7tq_fyBY

Pedagogy

PPT, group discussion, interaction, tutorial and virtual labs.

Rationale for Nature of the course

The course will help to enrich the basic and advanced skills of students on dissection and mounting techniques. It provides opportunity to learn diversity of Invertebrates and Chordates in a hands-on training.

Activities having direct bearing on Skill development/Employability/Entrepreneurship

The acquiring of skills in dissection and mounting will be very helpful for their experimental work in their project work, higher studies and research career.

Course designers:

Dr. L. D. Devasree

Dr. R. Eswaran

LESSON PLAN (Total hours: 30)

Cycle	Description	Staff Name	Hrs	Mode
Dissection				
1	Digestive system of Cockroach		2	Procedure with illustration
2	Reproductive system of Cockroach		2	Procedure with illustration
3	V^{th} Cranial nerve of frog		2	Procedure with illustration
Mountings				
4	Body setae of Earthworm		2	Mounting
5	Mouth parts of Cockroach		2	Mounting
6	Mouth parts of Housefly		2	Mounting
7	Mouth parts of Honey bee		2	Mounting
Spotters				
8	*Trypanosoma*, *Obelia*, Ephyra,		2	Specimen & Image
9	*Taenia*, *Ascaris*, Leech		2	Specimen & Image
10	Trochophore larva, Nauplius,		2	Specimen & Image
11	*Albunia*, Star fish		2	Specimen & Image
12	Amphioxus, Axolotl larva		2	Specimen & Image
13	Poisonous snakes of south India, Feather of bird		2	Specimen & Image
14	Internal Practical Test			
15	Summative Practical Examination			

Course Learning Outcomes:

On successful completion of the course, the student will able to:

CLOs	CLO Statements	Knowledge level
CLO-1	Describe the diversity of Invertebrates and Chordates.	K2
CLO-2	Explain the structure and functions of the organism.	K3
CLO-3	Classify and identify the Invertebrate and Chordate fauna based on their unique characters.	K3
CLO-4	Examine the organs/systems and their role in Invertebrate and Chordates.	K4
CLO-5	Inspect the role of Invertebrates and Chordates in biological communities and ecological interactions.	K4

Mapping with Programme Specific Outcomes

	PSO-1	PSO-2	PSO-3	PSO-4	PSO-5	PSO-6	PSO-7	PSO-8
CLO-1	2	2	3	3	3	3	3	2
CLO-2	2	3	3	3	2	2	2	2
CLO-3	2	3	3	3	3	3	3	2
CLO-4	2	2	3	3	2	3	2	2
CLO-5	2	3	3	3	3	3	3	3

3- Advance application; 2- Intermediate level; 1- Basic level

Mapping with Programme Outcomes

	PO-1	PO-2	PO-3	PO-4	PO-5
CLO-1	2	2	2	2	3
CLO-2	2	2	2	3	2
CLO-3	2	3	2	3	2
CLO-4	2	3	2	3	2
CLO-5	3	3	2	3	2

3- Advance application; 2- Intermediate level; 1- Basic level