

Attainment of Programme Outcome

B.SC ZOOLOGY

CO, PO and PSO Mapping

Name of the Course: Invertebrata

Blueprint of the question paper	Section	Unit I	Unit II	Unit III	Unit IV	Unit V
	Section A	2	2	2	2	2
	Section B Any FIVE	2	2	1	1	1
	Section C Either OR	2	2	2	2	2
	Section D Any THREE	1	1	1	1	1

SEMESTER I			
Core I		Invertebrata	
Course Code: 21UZOC11	Hrs/Week : 6	Hrs/Sem : 90	Credits : 6

Objectives:

- To impart knowledge on invertebrate animals.
- To elaborate the organization, functional morphology, anatomy and taxonomic position of representative invertebrates.

Unit I Protozoa and Porifera

Salient features of invertebrates.

Protozoa- General characters and outline classification up to classes with Indian or local examples.

Type study: *Paramecium caudatum*: Morphology, nutrition, osmoregulation, excretion. Reproduction (Binary fission and conjugation).

General topic: Life cycle, pathogenicity and control measures of *Entamoeba histolytica*.

Porifera - General characters and outline classification up to classes with Indian or local examples.

Type study: *Leucosolenia*- External morphology – body wall – Reproduction.

- General topics – Canal system in sponges
- Unit II Coelenterata and Platyhelminthes**
 Coelenterata - General characters and outline classification up to classes with Indian or local examples.
 Type study: *Obelia* – External characters and reproduction
 General topic: Polymorphism in coelenterates.
 Platyhelminthes - General characters and outline classification up to classes with Indian or local examples.
 Type study: *Taenia solium*- Morphology and reproduction
 General topic: Parasitic adaptations in Platyhelminthes
- Unit III Aschelminthes and Annelida**
 Aschelminthes - General characters and classification up to classes with Indian or local examples.
 Type study: *Ascaris* – External morphology and life cycle
 General topic: Nematode parasites – *Wuchereria bancrofti*, *Ancylostoma duodenale*
 Annelida- General characters and classification up to classes with Indian or local examples.
 Type study: Earthworm – Morphology and reproduction
 General topic: Biological significance of earthworm
- Unit IV Arthropoda**
 General characters and classification up to classes with Indian or local examples.
 Type of study: *Penaeus* – external morphology – reproduction and life history.
 General topic: Beneficial insects (Honey bee).
- Unit V Mollusca and Echinodermata**
 Mollusca -General characters and classification up to classes with Indian or local examples.
 Type of study: *Pila globosa*– morphology, reproduction and nervous system
 General topic: Pearl formation in bivalves
 Echinodermata - General characters and classification up to classes with Indian or local examples.
 Type study: *Asterias* – External morphology – water vascular system
 General topic: Larval forms of echinoderms and their phylogenetic significance.

Text Books:

1. Kotpal R.L. *Modern Text Book of Zoology: Invertebrates*. Meerut: Rastogi Publications 2009.
2. EkambaranathaIyer M. and T.N. Ananthakrishnan. *A Manual of Zoology*. Vol. 1. India: S. Viswanathan Pvt Ltd 1977.

Books for Reference

1. Nair N.C. Leelavathi. S and N.A. Soundara Pandian. *Text book of Invertebrates*. Nagercoil: Saras Publication 2006.
2. Murugan. T and N. Arumugam. *Invertebrates*. Nagercoil: Saras Publication,

2006.

3. Jordan. E.L and P.S. Verma. *Invertebrate Zoology*. New Delhi: S. Chand and Company Ltd, 2007.
2. Mary. S. Gardiner. *The Biology of Invertebrates*. New York : Mc Graw-Hill Book Company 1972.
5. Robert. D Barnes. *Invertebrate Zoology*. Japan Holt Saunders, International Editions 1982.

Websites for Reference

<http://www.enchantedlearning.com/subjects/invertebrates/index.shtml>

<http://animalkingdom.net/category/invertebrates/>

<http://animaldiversity.org/>

Course Outcomes:

CO. No	Upon completion of this course, students will be able to	PSO addressed	CL
CO- 1	explain the distinctive features of taxonomic classes within the phyla covered	1	Un
CO – 2	illustrate the important concepts in invertebrate body structure and organization, including body symmetry, body cavity, gut formation, segmentation	2	Un
CO – 3	examine the important biological processes in invertebrates, including locomotion, body support, reproduction, development, feeding, digestion, excretion, osmoregulation etc.	3	An
CO – 4	outline the ecological and economic importance of invertebrates.	3	An
CO – 5	analyse of the importance and diversity of invertebrates	5	An
CO – 6	develop basic laboratory skills including microscopy, dissection and careful observation.	6	Cr

21UZOC11 Invertebrata

	PO									PSO								
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	Avg	PSO-1	PSO-2	PSO-3	PSO-4	PSO-5	PSO-6	PSO-7	PSO-8	Avg
CO-1	2	2	3	2	3	3	3	2	2.5	3	3	3	3	3	2	2	2	2.6
CO-2	3	3	3	3	3	2	2	2	2.6	3	3	3	3	3	2	2	2	2.6
CO-3	3	2	3	3	2	2	2	2	2.4	3	3	2	3	3	2	2	2	2.5
CO-4	3	3	2	3	3	2	3	2	2.6	3	3	3	3	2	2	2	3	2.8
CO-5	3	3	3	2	2	2	3	2	2.5	3	3	3	3	3	2	2	3	2.8
CO-6	3	2	3	3	3	3	2	2	2.6	3	3	3	3	3	3	3	3	3.0
Average	2.8	2.5	2.8	2.6	2.6	2.3	2.5	2		2.8	3	2.8	3	2.8	2.2	2.2	2.5	
PO Mean									2.5	PSO Mean								2.7
Strength of PO Correlation				Strong						Strength of PSO Correlation						Strong		

Attainment of Course Outcomes of the B.Sc. Zoology Programme

Course Code	Name of the Course	Course Outcomes															
		Programme Outcomes (PO)								Programme Specific Outcomes (PSO)							
		PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PS O-1	PS O-2	PS O-3	PS O-4	PS O-5	PS O-6	PS O-7	PS O-8
21ULTA11	Part-I Tamil	2.8	2.5	2.6	3	2.8	2.5	2.3	3	2.6	2.8	2.8	2.8	2.8	3	2.8	2.6
21UGEN11	Part-II General English	2.5	3.5	2.5	2.5	2.5	2.5	2.6	2.5	2.5	2.5	2.5	2.5	2.6	2.5	2.6	2.5
21UZOC11	Core I-Invertebrata	2.8	2.5	2.8	2.6	2.6	2.3	2.5	2	2.8	3	2.8	3	2.8	2.2	2.2	2.5
21UCHA11	Allied Chemistry - I	2.8	2.8	2	2.7	2.3	2.7	2.5	3	3	2.7	2.8	2.3	2.8	2.3	2.5	3
21UZOPE1	Professional English for Zoology - I	3	3	3	2.8	3	2.2	2	2	2.7	2.8	2.8	3	2.7	2.3	2.5	2.5
21ULTA21	Part-I Tamil	2.8	2.6	2.6	3	2.8	2.5	2.5	2.8	2.6	2.8	2.6	2.8	2.8	2.6	2.8	2.6
21UGEN21	Part-II General English	2.6	2.5	2.6	2.5	2.6	2.5	2.5	2.5	2.6	2.5	2.6	2.5	2.6	2.5	2.6	2.5
21UZOC21	Chordata	3	3	3	3	3	2	2	2	3	3	3	3	3	2.2	2.2	2
21UCHA21	Allied Chemistry – II	2.8	2.8	2	2.7	2.5	2.7	2.5	3	3	2.7	2.8	2.3	2.5	2.5	2.8	3
21UZOPE2	Professional English for Zoology - II	2.7	2.8	2.7	2.8	3	2.2	2.3	2.2	2.7	2.8	2.8	3	2.7	2.3	2.5	2.7
21ULTA31	Part-I Tamil	2.6	2.8	2.6	3	2.8	2.5	2.5	2.8	2.5	2.8	2.6	2.8	2.8	2.6	2.8	2.6
21UGEN31	Part-II General English	2.8	2.6	2.5	3	2.5	2.8	2.6	2.5	2.5	2.8	2.6	2.8	2.8	2.3	2.8	2.5
21UZOC31	Developmental Zoology	2.3	2.3	2.5	2.6	2.8	2.3	2.6	2.6	2.6	2.5	2.6	2.6	2.5	2.5	2.3	2.1
21UBOA31	Plant Diversity	3	3	2	3	2.7	2.3	2.5	2.7	3	3	2.7	3	2.8	2.5	2.7	3
21UZOS31	Fishery Products	3	3	3	3	3	2.1	2	2	3	3	3	3	2.8	2.7	2.1	2.2
21UZON31	Basic Biotechnology	2.7	2.7	2.7	2.8	2.5	2.2	2.5	2.2	2.7	3	2.8	2.8	2.5	2.5	2.7	2.7
21UZOSS1	Wildlife Conservation	2.8	2.6	2.5	3	2.5	2.8	2.6	2.5	2.5	2.8	2.6	2.8	2.8	2.3	2.8	2.5

[illegible]

