INVERTEBRATA

Semester	Subject Code	Category	Lecture		Theory		Practical	Credits
			Hrs/ week	Total Hours/ Semester	Hrs/ week	Total Hours/ Semester		
I	21CZO1A	Core I	6	90	6	90	Nil	6

COURSE OBJECTIVES

- To understand the systematic and functional morphology of various groups of invertebrates.
- To study their economic importance, affinities and adaptations.

COURSE OUTCOMES (CO)

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

CO Number	CO Statement	Knowledge Level (K1-K4)
CO1	To acquire knowledge on diversity of animals and to apply the general taxonomical rules on animal classification	K2, K3
CO2	To Classify phylum porifera and coelenterata with taxonomic keys To analyse the economic importance of sponges and coelenterate animals To recognize the importance of coral reefs as the habitat for various aquatic organisms	K3, K4
CO3	To analyse the causes for the diseases caused by helminth parasites To acquire the knowledge on the significance of Earthworm as "Farmer's Friend"	K3, K4
CO4	To recognise the economic importance of animals To understand the basic concept of prawn culture, apiculture and pollination.	K2, K3
CO5	To create the basic knowledge of pearl culture and to understand the economic importance of molluscs To relate the phylogenetic significance of echinoderm larvae	K3, K4

Knowledge Level: K1- Remember; K2 – Understand; K3 – Apply; K4 – Analyze.

MAPPING WITH PROGRAMME OUTCOMES

COS	PO1	PO2	PO3	PO4	PO5
CO1	S	S	M	S	S
CO2	M	S	S	M	M
CO3	M	M	S	S	S
CO4	S	S	M	M	S
CO5	S	S	M	S	M

S- Strong; M – Medium; L- Low

Distribution of Marks: Theory 100% and Problems Nil %

UNIT – I **(16 Hours)**

1.1 Principles of Taxonomy – Binomial nomenclature –Rules of nomenclature; Levels of Organisation; Outline Classification of the animal kingdom.

1.2 Protozoa: General characters and classifications upto class level with examples;Type Study: Plasmodium (Morphology and Life History); Parasitic protozoans in human-Entamoeba, Trypanosoma, Leishmania

UNIT – II **(18 Hours)**

2.1 Porifera : General characters and classification upto classes with examples; Type Study: Sycon: Structure, histology and canal system; Economic importance of sponges

2.2 Coelenterata : General characters and classification upto classes with examples; Type Study: Obelia (Morphology and Metagenesis); Polymorphism in coelenterates; Coral and coral reefs

UNIT – III **(19 Hours)**

3.1 Helminthes : General characters and classification upto classes with examples; Type Study: Taenia solium – Morphology and Life History; Parasitic adaptations of Helminthes and disease control; Nematode Parasite – Ascaris lumbricoides, Wuchereria brancrofti (Morphology and Life History)

3.2 Annelida : General characters and classification upto classes with examples; Type study Earthworm : Morphology, Digestive system, Excretory System and Reproductive System Parasitic adaptations of Leech; Metamerism

UNIT –IV **(19 Hours)**

4.1 Arthropoda : General characters and classification upto classes with examples; Type Study: Prawn – Morphology, Appendages, Digestive system, Excretory System, Respiratory system and Reproductive System; Mouth parts of insects (Cockroach, Mosquito, Honey Bee, House Fly and Butterfly).

4.2 Economic importance of insects; Larval forms of Crustacea and their significance; Insecta type study : Cockroach - Digestive system, Nervous system and Urinogenital system

UNIT – V **(18 Hours)**

5.1 Mollusca : General characters and classification upto classes with examples; Type Study: Fresh water mussel – Morphology and Musculature, Digestive, Respiratory and Excretory system; Torsion in Gastropods; Economic importance of Molluscs : Pearl culture and Oyster culture

5.2 Echinodermata : General characters and classification upto classes with examples; Type study: Sea Star – Morphology and Water Vascular system; Echinoderm larvae and their significance.

TEXT BOOKS:

S.No	Authors	Title	Publishers	Year of publication
1.	Ekambaranatha Ayyar M. and T.N. Ananthakrishnan	Manual of Zoology Vol 1 (Invertebrate), Part I and II	S.Viswanathan Pvt.Ltd., Chennai	1992
2.	Jordan E.L. and P.S.Verma	Invertebrata, (12th Edition)	S.Chand and Co.Ltd., New Delhi	(Revised Edition 2013)
3.	Kotpal R.L.	oa, Porifera, Coelenterata, Helminthes, Annelida, Arthropoda, Mollusca, Echinodermata	Rastogi Publishers, Meerut	1992 ed edition 2012)

REFERENCE BOOKS:

S. No	Authors	Title	Publishers	Year of publication
1	Parker and Haswell	Textbook of Zoology, Vol I (Invertebrate)	A.Z.T.B.S. Publishers and Distributors, New Delhi	1964
2	Borradile L.A. and F.A.Pott	The Invertebrates	Cambridge University Press, UK	1978
3	Adam Sedgwick	A Student text book of Zoology, Vol I and II	Low Edit Publishers	1972
4	Kotpal R.L., S.K.Agarwal, R.P.R. Khetarpal	Modern Textbook of Zoology	Rastogi Publishers	1989
5	Barnes R.D.	Invertebrate Zoology IV Edition	Holt Saunders International Edition	1992
6	Barrington E.J.W	Invertebrate Structure and Function, 2nd Edition	and Nelson	1979

WEB SOURCES:

www.sciencedirect.co.
www.pebmed.com
www.khansacademy.com
www.epatsala.com
www.swayam.com

TEACHING METHODOLOGY

- Class room teaching
- Charts/ Models
- Power point Presentations
- Discussions
- Assignments
- Home test

SYLLABUS DESIGNERS

- Dr. D. Sasikala, Assistant Professor and HOD
- Dr. V. Kiruthiga, Assistant Professor
- Dr. V. Rekha, Assistant Professor
- Dr. A. Vinodhini, Assistant Professor
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