

CHORDATA

Semester	Subject Code	Category	Lecture		Theory		Practical	Credits
			Hrs/ week	Total Hours/ Semester	Hrs/ week	Total Hours/ Semester		
I	21CZO2A	Core II	5	75	5	75	Nil	5

COURSE OBJECTIVES:

To understand the systematic and functional morphology of various groups of chordates.

To study their affinities and adaptations to different modes of life.

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 understand the phylogenetic relationship of non- chordates and chordates	K1, K2
CO2	To apply the knowledge in identifying different types of fishes and to develop fish culturing practices To analyse the adaptations of amphibians	K2, K3
CO3	To recognize the poisonous and nonpoisonous snakes and to understand the biting mechanism	K2, K3, K4
CO4	To recall the connecting link between animals To understand the migration and flight adaptations of birds	K1, K2
CO5	To understand the phylogenetic relationship among various mammals	K2, K3

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

Mapping with Programme Outcomes

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

S- Strong; M – Medium; L- Low

Distribution of Marks: Theory 100% and Problems Nil

UNIT – I

GENERAL CHORDATA AND PROCHORDATA

(15 Hours)

1.1 General characters of Chordata; Classification of Chordates-Protochordata, Cephalochordata, Hemichordata, Urochordata; Origin of Chordates; Morphology of Balanoglossus, Herdmania and Amphioxus;

1.2 Affinities and phylogenetic relationship of Cephalochordata with Hemichordata, Affinities and phylogenetic relationship of Cephalochordata with Urochordata; Structure and affinities of Cyclostomata- Petromyzon

UNIT – II

PISCES AND AMPHIBIA

(15 Hours)

2.1 Pisces - General characters and classification upto orders with examples; Comparative study of Chondrichthyes and Osteichthyes; Type Study: Shark- Morphology, Digestive system, Respiratory system, Circulatory system, Reproductive system- Yolk sac Placenta and Sense organs; Parental care in fishes; Migration of Fishes-Anadromous, Catadromous and Amphidromous.

2.2 Amphibia - General characters and classification upto orders with examples; Type Study: Frog – Morphology, Digestive system, Respiratory system- Cutaneous, Buccopharyngeal and Pulmonary, Circulatory system, Reproductive system and Life cycle-Metamorphosis; Adaptive features of Anura, Urodela and Apoda; Parental care in Amphibia

UNIT – III

REPTILIA

(15 Hours)

3.1 Reptilia - General characters and classification upto orders with examples; Type Study: Calotes – Morphology, Digestive system, Circulatory system and Male and Female Urinogenital system.

3.2 Identification of poisonous and non-poisonous snakes; Types of poisons; South Indian snakes. Poison apparatus and biting mechanism of poisonous snake

UNIT – IV

AVES

(15 Hours)

4.1 Aves - General characters and classification upto orders with examples; Type Study: Pigeon – Morphology, Digestive system, Respiratory system with Air sacs and Circulatory system.

4.2 Archaeopteryx as a connecting link; Migration of Birds; Flight adaptations; Flightless Birds; Typical structure of Feather and their Types.

UNIT – V

MAMMALIA

(15 Hours)

5.1 Mammalia- General characters and classification upto orders with examples; Type Study: Rabbit- Morphology, Integument, Digestive system, Respiratory system, Circulatory system and Reproductive system.

5.2 Chiroptera- Flying mammals: Prototheria- Egg laying mammals; Metatheria- Marsupial mammals; Dentition in mammals.

TEXT BOOKS:

S.no	Authors	Title	Publishers	Year of publication
1	Ekambaranatha Ayyar M. and T.N. Ananthakrishnan	Manual of Zoology.Vol. I (Invertebrate), Part I and II	S. Viswanathan and (Printers and Publishers	1992.
2	Jordan E.L. and P.S. Verma	Invertebrata Zoology 12 th Edition	S.Chand and Co. Ltd., New Delhi.	1993
3	Kotpal, R.L.	Vertebrate	Rastogi Publishers, Meerut	1992

REFERENCE BOOKS:

S. No	Authors	Title	Publishers	Year of publication
1.	Nigam H.C.	Zoology of Chordates	Vishal Publications, Jalandhar.	1983
2.	Waterman, Allyn J. et al.,	Chordate structure and functions.	Mac. Millan and Co., New York	1971
3.	Jollie M.	Chordate Morphology.	East West Press Pvt. Ltd., New Delhi.	1968
4.	Hyman L.H..	Comparative vertebrate Zoology	McGraw Hill Co., New York	1982

WEB SOURCES:

www.sciencedirect.co.

www.pebmed.com

www.khansacademy.com

www.epatsala.com

www.swayam.com

TEACHING METHODOLOGY

- Class room teaching
- Charts/ Models
- PPT 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
- Dr. G. Vidhya, Assistant Professor