

Semester 2

Minor Course 2 (MIC-2)

Course Title	Credit	Credit Distribution	
		Theory	Practical
Diversity of Chordates	3	2	1

Course Outcomes: After completion of the course, the students will be able to:

- CO-1:** To understand the General Characteristics and Classification of Hemichordata, Urochordata and Cephalochordata, the Larval forms of Protochordata and Retrogressive Metamorphosis in Urochordata
- CO-2:** To acquire knowledge about the General Characters and Classification of Agnatha, Pisces and Amphibia.
- CO-3:** To understand the General Characteristics and Classification of Reptilia, Aves and Mammals, Biting Mechanism in Snakes, Flight Adaptations in Birds and Migration in Birds.

MIC-2: Diversity of Chordates (Theory: 2credits) 20 hrs		
Unit	Topics to be covered	No. of Lectures
1	1.General characteristics and classification (upto Order): Cephalochordata, Urochordata, Pisces, Amphibia, Reptilia, Aves, Mammals, Cyclostomata.	5
2	2.Cephalochordata: Amphioxus. 3. Urochordata: Herdmania (including retrogressive metamorphosis).	4
3	4.Pisces: Scoliodon. 5. Reptilia: Biting and feeding mechanism in snakes.	5
4	6.Aves: Flight adaptations, Elementary idea of migration. 7. Mammals: Characters, distribution and affinities of Prototheria & Metatheria.	6
	TOTAL	20

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MIC-2: Diversity of Chordates (Practical) 10 hrs (1 credit)

Practical :

1. Amphioxus: Section through pharyngeal, intestinal, and caudal regions.
2. Herdmania: Whole mount, Spicules
2. Cyclostomata: Petromyzon, Myxine
3. Fish: Scoliodon, Torpedo, Chimaera, Labeo, Exocoetus, Echeneis, Hippocampus; Scales of fishes
4. Amphibia: Ichthyophis, Bufo, Hyla, Alytes, Salamandra, Axolotle larva
5. Reptilia: Chelone, Hemidactylus, Varanus, Vipera, Naja, Bungarus, Uromastix, Chamaeleon, Draco, Calotes, Heloderma; Key for Identification of poisonous and non-poisonous snakes
6. Aves: Types of beaks and claws, Study of pecten from fowl head and brain of fowl.
7. Mammalia: *Sorex*, Bat (Insectivorous and Frugivorous), *Funambulus*, *Loris*, *Herpestes*, *Erinaceus*, *Macropus*, *Echidna*

Suggested Books :

1. Young, J. Z. (2004). *The Life of Vertebrates*. III Edition. Oxford university press.
2. Pough H. *Vertebrate life*, VIII Edition, Pearson International.
3. Darlington P.J. *The Geographical Distribution of Animals*, R.E. Krieger Pub Co.
4. Hall B.K. and Hallgrimsson B. (2008). *Strickberger's Evolution*. IV Edition. Jones and Bartlett Publishers Inc.
5. Classification from Young, J. Z. (2004) to be followed.
6. S.S.Lal, Practical Zoology Vertebrates

Ans
14.06.23

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