

**Semester 2**  
**Multidisciplinary Course 2 (MDC-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.

<b>MDC-2: Diversity of Chordates (Theory: 2credits) 20 hrs</b>		
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
<b>TOTAL</b>		<b>20</b>

16

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**MDC-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.

Asin  
14/06/23

PP Sheha  
14/6/23

Rishi  
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