

<i>DEPARTMENT OF ZOOLOGY</i>				<i>CLASS: I B.Sc. Zoology</i>				
Semester	Course Type	Course Code	Course Title	Credits	Contact Hours/week	CIA	Ext	Total
II	Core	20U2ZMC3	Chordata - I	3	3	25	75	100

Course Objectives:

1. To understand the basic and systematic classification of Chordates.
2. To identify the Prochordate to Pisces animals and recognize their distinguishing features.
3. To appraise the affinities of animals in a phylogenetic context.
4. To understand how different body designs solve biological problems related to physiological and environmental challenges.
5. To develop an appreciation for the role of vertebrates in biological communities and ecological interactions.

Unit-I: Introduction, Prochordata - Urochordates

General characters and classification of Chordata (up to class) with examples.

General characters and classification of Urochordates (up to class) with examples.

Type Study: Ascidian

General topics: Retrogressive metamorphosis in Ascidia.

Unit-II: Prochordata - Cephalochordates

General characters and classification of Cephalochordates (up to class) with examples.

Type Study: *Amphioxus*

General topics: Affinities of *Amphioxus*.

Unit-III: Prochordata - Hemichordates

General characters and classification of Hemichordates (up to class) with examples.

Type Study: *Balanoglossus*

General topics: Affinities of Hemichordates.

Unit-IV: Agnatha

General characters and classification of Agnatha (up to class) with examples.

Type Study: *Petromyzon*

General topics: Salient features of Cyclostomata & Ostracoderm.

Unit-V: Pisces

General characters and classification of Pisces (up to order with examples) with examples.

Type Study: *Scoliodon*

General topics: Accessory respiratory organs in fishes, Types of Fins and function, Migration of Fishes.

Books for Study

1. Thangamani A, Prasannakumar S, Narayanan L.M, Arumugam N, 2017. *A Text Book of Chordates*, SarasPublication, Nagercoil.
2. Kotpal R.L, 2017. *Modern Text Book of Zoology: Vertebrates*, Rastogi Publications, Meerut.
3. Arumugam N, 2019. *Animal Diversity – Chordata, Volume - 2*, Saras Publication, Nagercoil.

Books for References

1. EkambaranathaAyyar and Ananthakrishnan T.N. (Recent Edition), *Manual of Zoology Vol-II*, S. Viswanathan Pvt. Ltd. Chennai.
2. Young J.Z, 1950. *Life of Vertebrates*, Clarendon Press, Oxford, UK.
3. Pough Harvey F, Christine M, Janis and John B, Heiser, 2002. *Vertebrate Life*, Pearson Education Inc. New Delhi.
4. Verma P.S, 2010. *Chordate Zoology*, S Chand Publishers, New Delhi.

Web Resources

1. <https://www.khanacademy.org/science/biology/crash-course-bio-ecology/crash-course-biology-science/v/crash-course-biology-123>
2. <https://ucmp.berkeley.edu/vertebrates/vertintro.html>
3. <https://ucmp.berkeley.edu/chordata/chordata.html>

Pedagogy

Chalk and Talk, PPT, group discussion, seminar, interaction, quiz, tutorial and virtual labs.

Course Learning Outcomes:

	CLO Statement	Knowledge level
CLO-1	Understand the diversity and basic taxonomy from Prochordate to Pisces.	K1
CLO-2	Describe the general characters and outline classification from Prochordate to Pisces.	K2
CLO-3	Apply the knowledge to identify the fauna based on their unique characters.	K3
CLO-4	Analyse the importance and adaptation of fauna in their habitat.	K4
CLO-5	Examine the role of Chordates in biological communities and ecological interactions.	K4

Mapping with Programme Specific Outcomes:

	PSO-1	PSO-2	PSO-3	PSO-4	PSO-5	PSO-6	PSO-7	PSO-8
CLO-1	1	2	2	2			1	
CLO-2	1	3	3	3			2	
CLO-3	1	3	3	3			3	
CLO-4	1	2	3	3			3	
CLO-5	1	2	2	2			3	

3- Advance application; 2- Intermediate level; 1- Basic level

Mapping with Programme Outcomes:

	PO-1	PO-2	PO-3	PO-4	PO-5
CLO-1	2	2	1	2	
CLO-2	2	2	2	2	1
CLO-3	2	2	2	2	1
CLO-4	2	2	2	2	3
CLO-5	2	2	2	2	3

3- Advance application; 2- Intermediate level; 1- Basic level

LESSON PLAN (Total hours: 45)

Unit	Description	Staff Name	Hours	Mode
I	General characters of Chordata		1	Group Discussion
	Classification of Chordata (up to class) with examples		1	Interaction
	General characters of Urochordates		1	Group Discussion
	Classification of Urochordates (up to class) with examples		1	Interaction
	Type Study: <i>Ascidian</i>		4	Chalk and Talk
	Retrogressive metamorphosis in <i>Ascidia</i>		1	Lecture
II	General characters of Cephalochordates		1	Group Discussion
	Classification of Cephalochordates (up to class) with examples		1	Interaction
	Type Study: <i>Amphioxus</i>		5	Chalk and Talk
	Affinities of <i>Amphioxus</i>		2	Lecture
III	General characters of Hemichordates		1	Group Discussion
	Classification of Hemichordates (up to class) with examples.		1	Interaction
	Type Study: <i>Balanoglossus</i>		5	Chalk and Talk
	Affinities of Hemichordates		2	PPT
IV	General characters of Agnatha		1	Group Discussion
	Classification of Agnatha (up to class) with examples		1	Interaction
	Type Study: <i>Petromyzon</i>		5	Chalk and Talk
	Salient features of Cyclostomata		1	Lecture
	Salient features of Ostracoderm		1	PPT
V	General characters of Pisces		1	Group Discussion
	Classification of Pisces (up to order with examples) with examples		1	Interaction
	Type Study: <i>Scoliodon</i>		4	Chalk and Talk
	Accessory respiratory organs in fishes		1	PPT
	Types of Fins and function		1	Interaction
	Migration of Fishes		1	Lecture

Course designers: Dr. C. Selvakumar and Dr. B. Latha