

SEMESTER II. ZY2CMTO2.

COMPLEMENTARY COURSE 2

CHORDATE DIVERSITY

36 Hrs
Credits 2

Objectives

1. To make the student observe the diversity in chordates and their systematic position.
2. To make the a student ware of the economic importance of some chordates.
3. To learn the physiological and anatomical peculiarities of some vertebrate species through type study.
4. To stimulate the students' curiosity in vertebrates living associated with them.

Module I

4 Hrs

Phylum Chordata: Fundamental characters and outline classification upto class.

Sub phylum Urochordata: General characters,

Classification:

Class 1: Larvacea (eg: Oikopleura)

Class 2: Ascidiacea (eg: Ascidia) , Retrogressive metamorphosis.

Class 3: Thaliacea (eg: Salpa)

Sub phylum Cephalochordata: Salient features (eg: Branchiostoma)

Module II

6 Hrs

Sub phylum Vertebrata: Salient features

Division Agnatha : salient features and classification

Class 1: Cyclostoma (eg: Petromyzon)

Class 2: Class Ostracodermi (eg: Cephalapsis)

Division Gnathostomata: Salient features

Super class Pisces

Super class Tetrapoda.

Super class Pisces: Salient features and classification

Class 1: Chondrichthyes (eg: N
arcine)

Class 2: Osteichthyes (eg: Latimeria)

General Topic: Accessory respiratory organs in fishes.

Module III

14 Hrs

Super class Tetrapoda: Salient features

Class 1: Amphibia : Salient features. **Type study:** *Euphlyctis hexadactyla* - Habitat, morphology, sexual dimorphism, coelom and viscera, skeletal system, digestive system, respiratory system, circulatory system, excretory system, nervous system, sense organs, reproductive system, development..

Classification up to order:

Order 1: Urodela (eg: Amblystoma)

Order 2: Anura (eg: Bufo)

Order 3: Apoda (eg: Ichthyophis)

Module IV

6 Hrs

Class Reptilia: Salient features and classification up to subclass

Sub class 1: Anapsida (eg: Chelone)

Sub class 2: Diapsida (eg: Chamaeleon)

Sub class 3: Parapsida (eg: Ichthyosaurus)

General Topics: Poisonous and non poisonous snakes of Kerala.

Class Aves: Salient features and classification up to subclass

Sub class Archeornithes (eg: Archaeopteryx)

Sub class Neornithes (eg: Struthio)

General Topics: Flight adaptation of birds

Module V

6 Hrs

Class Mammalia: Salient features and classification up to subclass

Sub class 1: Protheria (eg: Echidna)

Sub class 2: Metatheria (eg: Macropus)

Sub class 3: Eutheria (eg: Elephas)

General Topic: General adaptation of aquatic mammals with example.

References

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SEMESTER II

COMPLEMENTARY COURSE 2- PRACTICAL CHORDATE DIVERSITY

**36 Hrs
Credit I**

1. Simple identification of 10 chordates, out of which 5 by their scientific names
2. Osteology - Vertebrae and girdles of Frog
3. Snake identification - 3 poisonous and 3 non poisonous snakes with key
4. Mounting of placoid scales of shark
5. Dissections: Frog: Photographs/Diagrams/ models may be used for the study.
 1. Frog - Viscera
 2. Frog - Digestive System
 3. Frog - Arterial System
 4. Frog - Brain