

UNIT WISE CONTENT (BSCZO204)

A complete record of laboratory work will be maintained by every student. The practical work will be consists of following:

Block I: Chordata

Unit1: Protochordata (study of Permanent slides & Museum specimens)

- 1.1 Study of Permanent slides: *Amphioxus* and *Balanoglossus* passing through different body regions, *Doliolum*, *Salpa*, *Oikopleura*
- 1.2 Museum specimens of *Herdmania*, *Ciona* and *Balanoglossus*.
- 1.3 Cyclostomata: Museum specimens of *Petromyzon* and *Myxine*

Unit 2: Pisces (Fishes)

- 2.1 Model on general anatomy, afferent and efferent branchial arteries, carnial nerves and internal ear of *Scoliodon*
- 2.2 Study of permanent slides of shark T.S. Passing through different body regions and different kinds of scales of fish.
- 2.3 Study of Museum specimens of following: *Sphyrna*, *Pristis*, *Torpedo*, *Trygon*, *Acipenser*, *Polypterus*, *Hippocampus*, *Exocoetus*, *Anguilla*, *Echeneis*, *Diodon*, *Protopterus*, *Synaptura* and *Chimera*

Unit 3: Amphibia

- 3.1 Model on cranial nerves, hyoid apparatus, brain and columella of frog.
- 3.2 Study of skeleton of frog and permanent histological slides of amphibia.
- 3.3 Study of museum specimens of *Salamandra*, *Proteus*, *Amphiuma*, *Nectures*, *Siren*, *Ambyostoma*, *Axototal* larva, *Rhacophorus*, *Alytes* and *Hyla*, *Pipid* and *Bufo*.

Unit 4: Reptilia

- 4.1 Study of skeleton of *Varanus*.
- 4.2 Study of museum specimens of following: *Varanus*, *Heloderma*, *Hemidactylus*, *Phrynosoma*, *Chaemelon*, *Draco*, *Calotes*, *Cobra*, Pit-viper, Pitless viper, Rattle snake, Krait, Dhaman, Typhlops and marine snake, Alligator, Crocodile, Gavialis, Turtle and Tortoise.

Unit 5: Aves

- 5.1. Study of the skeleton of fowl.
- 5.2. Study of museum specimens of following: *Psittacula*, *Corvus*, *Pavo*, *Bubo*, and model/chart of *Archaeopteryx*.

Unit 6: Mammalia

- 6.1 Study of permanent slides of mammals.
- 6.2 Study of the skeleton of rabbit
- 6.3 Study of the museum specimens of *Tachyglossus* and *Ornithorhynchus* (models), *Pangolin*, *Funambulus*, *Pteropus* and *Loris*.

Unit 7: Environmental Biology

- 7.1 Estimation of pH of water/ soil sample.

- 7.2 Determination of dissolved oxygen and carbon dioxide in water sample.
- 7.3 Study of adaptations in animals inhabiting different ecological environments.
- 7.4 Study of wild animals with the help of models/charts/photographs
- 7.5 Study of Rare and Endangered faunal species of the Uttarakhand State through charts and photograph

Unit 8: Developmental biology

- 8.1. Study of the permanent slides of the chick embryos (whole mounts)
- 8.2. Study showing the embryology of frog.

Unit 9: Applied Zoology

- 9.1 Specimens/ slides of Apis, Silk moth, Lac insect,
- 9.2 Phytoparasitic nematodes, major carps and store grain pests
- 9.3 Pictures of economically important varieties of poultry and cattle
- 9.4 Parasites/Slides *Entamoeba*, *Trypanosoma*, *Leishmania*, *Giardia*, *Ascaris*, *Ancylostoma*, *Enterobius*, *Wuchereria* and *Schistosoma*.