

Course Code:

Life Science Lab-III

Course Code: BEB353

Contact Hours: 60

Credit: 02 (L-0, T-0, P-4)

MM: 50 Course

Outline:

Lab Based on Zoology

Urochordata

(a) Herdmania (i) External characters (ii) Dissection (iii) Permanent preparation of branchial wall (iv) Larva and metamorphosis- prepared slides.

(b) Cephalochordata: Branchistoma ( Amphioxus ) (i) General features (ii) Transverse section through the body – prepared slides.

Cyclostomata Petromyzon ( Lamprey ) – External characters

Chondrichthyes

(a) Fish (i) External characters

(b) (ii) Exo-skeleton Glycerine and permanent preparation of placoid scales

(c) (iii) Endoskeleton

(d) (1) Axial skeleton (a) skull (b) Visceral Skeleton (c) Vertebral column

(e) (2) Appendicular skeleton (a) Pectoral girdle and fins

(f) (b) Pelvic girdle, fins and claspers

(g) (c) Median fins

(h) (v) Dissection

(i) (a) Digestive system Examination of the folds of stomach and “ scroll valve”

(j) (b) Vascular system 14 Heart, ventral aorta, dorsal aorta, arterial arches ( afferent and efferent )

(k) ( c) Gills

(l) (d) Urinogenital system

(m)(e) Nervous system : Cranial nerves

(n) (f) Internal ear

(o) (g) Eye muscles

(p) Osteichthyes (a) Labeo rohita ( rohu )- General morphology and dissected specimen. (b) Acipenser (sturgeon ), Lepidosteus ( gar-pike ), Hippocampus ( sea horse) Antennarius (Indian angler ), Anguilla (eel), Pleuronectes ( sole ), Exocoetus ( flying fish ), Clarius ( cat fish ), Anabas ( climbing perch ) and Neoceratodus ( lungfish ).

(q) (c) Different kinds of scales-

(r) prepared slides Amphibia (a) Rana tigrina ( The Indian bull-frog )


(s) Development of frog from models


(t) (b) Urodela : Necturus, Ambystoma and Axolotal larva

(u) (c) Anura : Bufo, Rhacophorus (tree frog), Alytes (midwife toad).

(v) (d) Gymnophiona : Ichthyopnis Reptillia a. Varanus (i) External characters (ii) Skeleton

(w) (1) Axial Skeleton (a) Skull (b) Vertebral column (c ) Ribs and sternum (2) Appendicular Skeleton (a) Pectoral girdle and fore-limb. (b) Pelvic girdle and hind-limb. b. Ophidia Difference between poisonous and non-poisonous snakes, Naja (cobara), Vipera ( viper), Typhlops ( burrowing snake ) and Python. Biting mechanism of a poisonous snake (model Aves (A) Columba livia intennedia (pigeon) External Characters. Structure of Feather. Varieties of feathers. Developments of feather-prepared slide. (ii) Skeleton of fowl - (1) Axial skeleton: (a) Skull (b) Vertebral column (c) Ribs and sternum (2)

  
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### Chemistry Lab III

Course Code: BEB351

Contact Hours: 30

Credit: 01 (L-0, T-0, P-2)

MM: 50

#### Course Outline:

1. Determination of sodium carbonate and sodium bicarbonate in a mixture.
2. Determination of the amount of calcium carbonate in chalk .
3. Determination of available chlorine In bleaching powder.
4. Determination the strength of unknown  $\text{KMnO}_4$  solution.
5. Determination of Cu and Ni gravimetrically and volumetrically.

Note: Experiments may be added/deleted subject to availability of time and facilities



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