

B. Sc. 1st SEMESTER
DISCIPLINE SPECIFIC ELECTIVE (CORE – I)

IFF116C: INDUSTRIAL FISH AND FISHERIES - TAXONOMY AND ANATOMY OF FISH

CREDITS: THEORY: 4, PRACTICAL: 2

SYLLABUS THEORY

UNIT I: Morphology of Fishes

- 1.1 Binomial nomenclature.
- 1.2 Data requirement and methods of collection of data for classification of fish.
- 1.3 External morphology of a typical teleost (*Cyprinus carpio*).
- 1.4 Methods of fish identification (Morphometric and ueristic)

UNIT II: Morphology of Various Aquatic Organisms

- 2.1 Variation in form structure, skin colouration, scales, mouth, jaws, teeth, spines and other structure used in taxonomic studies.
- 2.2 External morphology of prawn, crab, lobster, bivalve, gastropod and cephalopod.
- 2.3 Commercially important orders, families, genera and species of elasmobranchs and teleosts of Indian region.
- 2.4 Identification of commercially important species of prawn, crab, lobster, bivalve, gastropod and cephalopod.

UNIT III: Organs systems I

- 3.1 Alimentary canal and its associated structures.
- 3.2 Gills, swim bladder and accessory respiratory organs.
- 3.3 Heart and circulatory system.
- 3.4 Reproductive system (Male and Female).

UNIT IV: Organs systems II

- 4.1 Nervous system, Brain, Spinal cord.
- 4.2 Sensory organs (Eye, lateral line and membranous labyrinth).
- 4.3 Skeletal system.
- 4.4 General organisation of internal organs of prawn, bivalve and cephalopod.

PRACTICAL

CREDITS 2

1. Methods for collection, handling, identification and preservation of fish for taxonomic purpose.
2. Study of external morphology of fish.
3. Specific identification of commercially important fresh water and marine fishes prawns crabs, bivalves and cephalopods of India.
4. Preparation of wet mounts, dry mounts, wax and plaster castings of fish, etc.
5. Anatomy of fish – Digestive, Nervous, Circulatory and Reproductive systems in specimens of Fish, Prawn and Crab.
6. Handling of live fish and laboratory acclimatization of fish.
7. Study of food and feeding habits of fishes, plankton feeders, herbivores, carnivores, omnivores, detritus feeder, etc.

SUGGESTED READINGS

1. Ichthyology by Langer
2. A history of fishes by Greenwood, P. II.
3. Fishes – An introduction to Ichthyology by P.S. Moyle.
4. The Biology of Fishes By Kyle H.
5. The life of fishes by Marshal. N.B.
6. The Marine and Fresh water fishes of Ceyon.
7. Inland fishes of India and adjacent countries, Vol. I and II By Talwar P.K. and Jhingran, V.G.
8. Commercial Sea Fishes of India By Talwar P. K. And R.K. Baker.
9. FAO species identification sheets for fishery purposes., western Indian Ocean fishing Area 51 Vol. I to V and eastern Indian Ocean fishing Area 57 and western central pacific Fishing Area 71 Vol. I to III.