

SEMESTER 1st
MINOR COURSE

IFF122N INDUSTRIAL FISH AND FISHERIES (INTRODUCTION TO FISH AND FISHERIES)

CREDITS: THEORY: 04; PRACTICALS: 02

Course Objectives: This course has been designed to understand identification and classification of commercially important fishes and other aquatic vertebrates

Learning Outcome: The students will be able to identify the fish and other aquatic fauna and their structure and functioning

THEORY (4 CREDITS)

UNIT I: FISH TAXONOMY

- 1.1 Fishes and their importance
- 1.2 Classification of fish upto order level.
- 1.3 Morphology of carp, schizothorax and trout fish
- 1.4 Methods of fish identification (morphometric and meristic)

UNIT II: MORPHOLOGY OF FISHES AND OTHER AQUATIC ORGANISMS

- 2.1 Variation in form structure, skin colouration, scales, mouth, jaws, teeth, spines and other structures used in taxonomic studies
- 2.2 Morphology of prawn, crab and cephalopod
- 2.3 Commercially important fish species of India (Labeo, Oil Sardine and Hilsa).
- 2.4 Identification of commercially important shell fish species of Indian origin (*Penaeus indicus*, *Marcrobrachium rosenbergii*, crab, gastropod and cephalopod).

UNIT III: ANATOMY AND PHYSIOLOGY I

- 3.1 Study of alimentary canal and its associated structures.
- 3.2 Gills, swim bladder and accessory respiratory organs.
- 3.3 Heart and circulatory system.
- 3.4 Excretion and osmoregulation

UNIT IV: ANATOMY AND PHYSIOLOGY II

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

PRACTICALS (2 CREDITS)

1. Methods for collection, handling, identification and preservation of fish for taxonomic purpose.
2. Study of external morphology of fishes-carp, schizothorax and trout
3. Anatomy of fish – Digestive, Circulatory and Reproductive systems in specimens of Fish.
4. Handling of live fish and laboratory acclimatization of fish.
5. Field visit to various fish farms and hatcheries
6. Field visit to various landing canter

SUGGESTED READINGS:

1. Ichthyology by Langer
2. Fish and Fish biology by HR Singh and S S Khanna
3. A history of fishes by Greenwood, P. II.
4. Fishes – An introduction to Ichthyology by P.S. Moyle.
5. The Biology of Fishes By Kyle H.
6. The life of fishes by Marshal. N.B.
7. The Marine and Fresh water fishes of Ceyon.
8. Inland fishes of India and adjacent countries, Vol. I and II By Talwar P.K. and Jhingran, V.G.
9. Commercial Sea Fishes of India By Talwar P. K. And R.K. Baker.