

B. Sc. 2nd SEMESTER
DISCIPLINE SPECIFIC ELECTIVE (CORE – II)

IFF216C: INDUSTRIAL FISH AND FISHERIES - GENERAL BEHAVIOUR OF FISHES

CREDITS: THEORY: 4, PRACTICAL: 2

SYLLABUS THEORY

UNIT I:

- 1.1 Excretion, osmoregulation and ionic regulation in marine and freshwater fishes.
- 1.2 Swimming activity in fishes.
- 1.3 Visual reproduction, social behaviour, Aggregation and shoaling, Chemoreception fishes.
- 1.4 Parental care in fishes

UNIT II:

- 2.1 Natural food of fishes. Feeding habits in various groups of fresh water and marine fishes.
- 2.2 Migration in fishes.
- 2.3 Types of reproduction, sexual dimorphism and sexual maturity in fishes.
- 2.4 Classification of various maturity stages in fishes (male and female).

UNIT III:

- 3.1 Spawning habits. Factors effecting spawning, spawning season and frequency
- 3.2 Fecundity, estimation of fecundity and Ova diameter. Fecundity in relation to length, weight, age and food supply
- 3.3 Embryonic and early development – types of eggs and larvae.
- 3.4 Metamorphosis of larvae, larval life and feeding habits.

UNIT IV:

- 4.1 Growth of fish: Absolute and relative growth (isometric and growth). The cube law methods for determination of growth length frequency analysis of growth checks on hard parts like scales, Otoliths.
- 4.2 Estimation of growth by direct methods. Marking and tagging of fish for growth studies.
- 4.3 Aging of fish ad shell fish based on length data and growth checks.
- 4.4 Length- weight relationship. Ponderal index, relative condition factor and ganodosomatic index.

PRACTICAL

2 CREDITS

1. Study of structural adaptations for diet variability.
2. Qualitative and Quantative methods for stomach content analysis.
3. Study of food selectivity and ranking methods for food preferences.
4. Classification of maturity stages in male and female fish.
5. Estimation of relative condition factor, gonado – somatic index and fecundity.
6. Study of spawning habits based on ova diameter polygons. Identification of fish eggs and larvae. Study of larval stages of crustaceans and mollosoes.
7. Field visits to observe fishing and collect field data regarding Riverine, estuarine, reservoir and cold water fisheries. Analysis of data, drawing of graphs, charts, histograms and recording of salient features of all fisheries in the practical record book,.

SUGGESTED READINGS

1. Handbook of Museum techniques, By Aryapam, A. And S.T. Satyamurthy.
2. Fisheries Biology By Pitcher, T.J. and P.I.E. Hart.
3. Introduction to the practice of Fishery Science By Royce, K.F.
4. Fish stock Assessment, A manual of basic methods By Gullard, J.A. FAO. Rome.
5. Manual methods in Fisheries Biology By FAO. Rome.
6. Fishery Science, its methods and applications By Rounsgell, G.A. and W.H. Everhart.