Subject Code : RCCSAQ3

CORE COURSE IV – AN INTRODUCTION TO GENERAL BIOLOGY AND PHYSIOLOGY OF CULTIVABLE SPOECIES

Unit 1:

Plankton: Classification, methods of collection, preservation, analysis and biomass of phytoplankton and zooplankton, phytoplankton blooms, primary production.

Unit 2:

General introduction to seaweeds – criteria for selection of candidate species and candidate seaweed species in India: biology, life history, growth, reproduction of Ulva, Laminaria and Gracilaria.

Unit 3:

Biology of cultivable mollusks – life history, food and feeding, age and growth and reproduction. Biology of cultivable crustaceans – life history, food and feeding, respiratory structure and functions and blood pigments, age and growth reproduction.

Unit 4:

Biology of cultivable finfishes – life history, food and feeding, mechanisms, digestive enzyme and their role with food habits. Respiratory structure and functions, blood pigments, their role in transport of oxygen and carbon dioxide – age, growth and reproduction.

Unit 5:

Physiology of ionic and osmoregulations –ions in body fluids, mechanism of ionic regulation responses to osmotic conditions, types of osmoregulatory adaptations. Physiology of endocrine system – hormones, neurohormones, hormones of reproduction in finfishes and shell fishes.

Text books:

1. Prosser, C.L.,1973. Comparative Animal physiology. Saunder, Philadelphia.
2. Colin Nicol, J.A., 1961. The Biology of Marine Animals. Sir Issac Pitman & Sons Ltd.,
3. Milne, P.H.1972. Fish and shellfish Farming in the Coastal Waters. Fishing news (Books) London.
4. Champan, V.J.and D.J.Chapman, 1980-. Seaweed and their use. Chapman & Hall, Lodon.
5. S.K.Gupta and P.C.Gupta. General and Applied Ichthyology (Fishes and Fisheries). S.Chand &Co.New Delhi-55.

Suggested book for reading:

1. Shanmugam K., 1990. Fishery Biology and Aquaculture. Leo Pathippagam, Madras, India.
2. Arumugam.N. Aquaculture.saras Publications, Nagercoil.