

## **OPEN ELECTIVE**

**Course Name – FRESHWATER AQUACULTURE**

**Course Code –**

**Course Objective:** To understand the culture of freshwater aquaculture and acquire knowledge on the aquaculture diversification.

**Learning Outcome:** The student will attain a knowledge on the culture of Indian Major Carps, cold water fisheries and sewage fisheries. The student will also learn about the Aquaponics system, Bio floc culture, IMTA and periphyton culture.

### **UNIT- I**

Scope and present status of aquaculture: Principles of site selection of various kinds of fish farms- quality and productivity of water, soil characteristics and other parameters.

### **Unit- II**

Carp Culture: Pre -stocking, Stocking and Post stocking management of Nursery, Rearing and Stocking Pond.

### **Unit - III**

Different systems of aquaculture: Monoculture, Polyculture, Integrated fish farming, cage culture, pen culture, raft culture, extensive, semi-intensive and intensive fish culture, raceway culture, culture in re-circulatory systems-Criteria for selection of species for culture. Aquaculture diversification- Aquaponics system, Bio floc culture, IMTA and periphyton culture.

### **Unit - IV**

Sewage fed fish culture: Selection of species, methods of culture, advantage and disadvantage.

### **Unit - V**

Cold water aquaculture: Culture of Trout, Mahseer and Salmon- Culture systems, Development of brood stock, Techniques of propagation, Grow out in tanks, raceways, cages and ponds. Culture of Catfishes and Murrels.

### **REFERENCES:**

1. Bandach JE 1997, Sustainable Aquaculture. John Wiley & Sons
2. Bardach JE. 1997.Sustainable Aquaculture. John Willey & Sons
3. Bardach J E. Rhyther J H & Mc Lamey W O. 1972. Aquaculture Farming and Husbandry of Freshwater and Marine Organisms, John Wiley & Sons
4. Adhikari S & Chatterjee DK 2008 Management of Tropical Freshwater Ponds Daya

Publ.

5. Boyd, C.E. and Tucker, C.S. 1992. Water Quality and Pond Soil Analyses for Aquaculture, Alabama Agricultural Experimental Station, Auburn University.
6. FAO 1992 Manual of Seed Production of Carps FAO Publ.
7. ICAR 2006. Hand Book of Fisheries and Aquaculture ICAR.