VETERINARY TECHNOLOGY
(COMMERCIAL FISH FARMING/AQUACULTURE)
SKILL ENHANCEMENT COURSE (SEC)

CFF122S COMMERCIAL FISH FARMING/AQUACULTURE-I (INTRODUCTION TO AQUACULTURE)

CREDITS: THEORY: 2, PRACTICAL: 2

Learning Objectives: Basic knowledge about the aquaculture, construction of ponds and their management.

Learning outcome: This course will be helpful in generation of self-employment by rearing of fishes in backyard ponds on small as well as large scale.

THEORY (2 CREDITS)

UNIT 1: BASICS OF AQUACULTURE

History, scope, definition and objectives and present status of aquaculture. Systems of aquaculture-extensive, semi-intensive, intensive, organic aquaculture, integrated aquaculture systems (duck cum fish culture, paddy cum fish culture, poultry cum fish culture cattle cum fish culture, sheep/goat cum fish culture etc.). Different aquaculture systems- pond, raceway and cage culture, re-circulatory aquaculture systems (RAS), bio- floc technology, integrated multi-tropical aquaculture (IMTA).

UNIT 2: POND AND WATER MANAGEMENT

Nursery, rearing and grow-out ponds preparation and management-control of aquatic weeds and algal blooms, predatory and weed fishes. Water and soil quality in relation to fish production. Physical, chemical and biological factors affecting productivity of ponds. Management of Water quality parameters in aqua farming, manuring, fertilisation, liming etc. Design and construction of a fish Pond. Criteria for site selection & species selection for Aquafarming. Monoculture, polyculture, Composite fish culture and integrated culture systems.

PRACTICALS (2 CREDITS)

Aquaculture production statistics- world and India (Charts, Tables & diagrams). Aquaculture resources of world and India (Maps & Diagrams).Practices on pre-stocking and post stocking management (Liming, Manuring, deweeding, removal of weed fishes, insects & predator fishes).Visit to different private and public sector/Govt. owned fish farms.Designing of RAS & Biofloc systems. Water analysis: collection and preservation of water samples. Measurement of temperature, transparency, turbidity, determination of pH, electrical conductivity, salinity, chlorinity, total solids (TDS, TSS, TVS, TVDS), dissolved oxygen, free carbon dioxide, total alkalinity, total hardness, Calcium, Magnesium, Inorganic Nitrogen (Ammonium and Nitrate) and Phosphorus.

BOOKS RECOMMENDED
1.   Ayyappan, S., 2017, .Handbook of Fisheries and Aquaculture, ICAR Publications, New Delhi.
2.   Rath, R.K., 2011. Fresh water Aquaculture, Scientific publications.
3.   Huet Marcel. 1972. Text book of fish culture. Oxford Fishing news books.
4.   Santhanam, R., Sukumaran, N. and Natarajan, P. 1987. A manual of Aquaculture. Oxford- IBH, New Delhi.
5.   Sriyatsava. 1993. Freshwater Aquaculture in India, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.
6.   Bardach. 1972. Aquaculture, John Wiley and sons, New York.