

Course Code	Course Name	Credits
26ZY103	AQUACULTURE	04

Course Objectives

- To understand the principles and scope of aquaculture.
- To study freshwater, brackish water and marine aquaculture practices.
- To develop knowledge on fish breeding, nutrition and pond management.
- To understand fish health management and sustainable aquaculture.
- To enhance entrepreneurial skills in aquaculture practices.

Learning Outcomes

- Explain the importance and scope of aquaculture.
- Identify different aquaculture systems and cultured species.
- Demonstrate pond preparation and fish culture techniques.
- Analyze fish nutrition and disease management practices.
- Apply aquaculture technologies for sustainable fish production.

Unit 1 - Introduction to Aquaculture (12 Hrs.)

Definition, scope and importance of aquaculture; history and development of aquaculture; freshwater, brackish water and marine aquaculture; major cultivable fish species; present status of aquaculture in India.

Unit 2 - Aquaculture Systems and Pond Management (12 Hrs.)

Types of aquaculture systems; pond construction and preparation; water quality parameters; fertilization and liming; composite fish culture; integrated fish farming

Unit 3 - Fish Breeding and Nutrition (12 Hrs.)

Natural and induced breeding of fishes; hatchery management; fish feed formulation; nutritional requirements of fishes; live feed culture; feeding methods and feed management.

Unit 4 - Fish Health Management (12 Hrs.)

Common fish diseases caused by bacteria, fungi, parasites and viruses; disease diagnosis; preventive and control measures; probiotics in aquaculture; biosecurity measures.

Unit 5 - Sustainable Aquaculture and Entrepreneurship (12 Hrs.)

Sustainable aquaculture practices; environmental impacts of aquaculture; ornamental fish culture; shrimp culture; fish processing and marketing; entrepreneurship opportunities in aquaculture.

Reference Books:

1. Pillay, T.V.R. and Kutty, M.N. (2005). Aquaculture: Principles and Practices. Blackwell Publishing.
2. Rath, R.K. (2017). Freshwater Aquaculture. Scientific Publishers.
3. Jhingran, V.G. (2018). Fish and Fisheries of India. Hindustan Publishing.
4. Santhanam, R. (2019). Aquaculture Engineering. Daya Publishing House.
5. Bardach, J.M. et al. (2016). Aquaculture: The Farming and Husbandry of Freshwater and Marine Organisms. Wiley.

Websites and eLearning Sources:

1. <https://www.fao.org/fishery/>
2. <https://www.eifa.nrc.m/>
3. <https://www.mpeda.gov.in/>

