

ST. JOSEPH'S COLLEGE FOR WOMEN (A), VISAKHAPATNAM

Four Year – B.Sc. (Hons), Semester – VII

Zoology

(Skill Enhancement Course – Aquaculture)

HATCHERY TECHNOLOGY IN AQUATIC ORGANISMS

Code: Z 7554(2)

Time:2hrs/week

Practical

Max. Marks- 50

LEARNING OBJECTIVES: Enable the students to

- To gain skill in larval rearing, including water quality management, feeding and nutrition, and disease prevention and management.
- To acquire knowledge in juvenile rearing, including nursery systems, feeding and nutrition, and disease prevention and management.
- Understand the importance of high-quality seed and methods of stocking.
- To learn about brood-stock management, including selection, breeding

LEARNING OUTCOMES

By the successful completion of the course the student shall be able to –

- To demonstrate knowledge different phases in larval rearing, feeding and nutrition, and disease management.
- Identify the larval stages of shrimp.
- To develop high-quality seed and stock them in aquatic environments.
- Gain knowledge on sustainable practices in hatchery management.

SYLLABUS

1. Culture of Rotifers
2. Culture of Artemia
3. Culture & Enumeration of Microalgae.
4. Estimation of ammonia levels, salinity, DO, PH, Total alkalinity using a water testing kit.
5. Study on different types of tanks used in fish/shrimp hatchery.
6. Study on types of pumps, filters and aeration systems used in fish/shrimp hatchery
7. Slides of larval stages- Stages of Nauplius, Zoea, Mysis, PL-13, Egg of shrimp and fish.
8. Study on biosecurity measures and waste management in the hatchery at your vicinity

REFERENCE BOOKS

- Aquaculture Principles and Practices: Fishing News Books Series by T. V. R. Pillay and M. N. Kutty
- Hatchery Culture of Marine Finfishes: A Practical Guide by K. Nagabhushanam
- Manual of Fish Culture: Hatchery Methods and Management by P. V. Dehadrai
- Aquaculture Engineering by Odd-Ivar Lekang
- Introduction to Aquaculture by J. R. Tomasso
- Hatchery Management Guide for Fish and Shellfish Producers by J. A. Hargreaves
- Aquaculture: Farming Aquatic Animals and Plants by John S. Lucas and Paul C. Southgate
- Fish Hatchery Management by Frank W. Wheaton and David L. Keller

CO-CURRICULAR ACTIVITIES

- Visit to local hatcheries to gain practical experience on different techniques and methods used in hatchery technology.
- Inviting guest speakers who are experts in the field of hatchery technology
- Workshops to teach students how to handle fish, water quality monitoring, feed preparation.
- Competitions related to hatchery technology, such as fish breeding competitions or aquaponics competitions.
- Internships in hatcheries can provide students with hands-on experience
