

Ornamental Fish Culture: Opportunity and Scope

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Ornamental Fish Culture: Opportunity and Scope	2	0	0	2	Class XII	NIL

Learning Objectives

The Learning Objectives of this course are as follows:

- To give first-hand training on Aquarium preparation and decoration.
- To gain hands-on training on breeding and culture of various Ornamental fishes.
- To gain experience in the management of optimum water quality in the fish aquarium.
- To gather knowledge on the nutritional requirements of the cultivable species.

Learning Outcomes

By the end of the course, the students will be able to:

- Prepare and decorate ornamental fish aquarium.
- Identify the suitable and economically important Ornamental fish species.
- Initiate entrepreneurship on Aquarium making and Ornamental fish production.

Skill development and job opportunities

After completion of this course students will be

- Fully equipped to start own entrepreneurship in **aquarium making and its decoration.**
- Aware about the requirements to start their own **Ornamental fish industry.**

SYLLABUS:

Practical

Unit I: Preparation of Aquarium and Its Decoration

20 Hours

Preparation of glass aquaria of various shapes and their decoration using locally available materials. The impact of aquatic plants in the maintenance of healthy environment in the aquarium.

Exercises:

1. Construction of glass aquaria of various shapes (rectangular, square, round etc.).
2. Identification and culture of useful aquatic plants for the decoration of fish aquarium.
3. Decoration of aquarium with plants and locally available materials.

Unit II: Breeding of Ornamental Fishes and Culture of Plants

20 Hours

Identification of economically important cultivable Ornamental plants and fishes for culture.

Exercises:

1. Identification of economically important Ornamental fishes and their breeding.
2. Culture of young larvae and feeding them live food.
3. Regular monitoring of water quality parameters viz. temperature, pH, conductivity, dissolved oxygen, ammonia etc. in the fish aquarium.
4. Culture of zooplankton (rotifers, cladocerans, copepods etc.) using organic manures for the feeding of fish larvae.
5. Production of plants for the decoration of aquarium.

Unit III: Production of Marketable Ornamental Fishes

20 Hours

Culture of compatible fishes together and feeding them with live food and prepared diets. Keep them ready for local market.

Exercises:

1. Maintenance of aquarium.
2. Feeding of ornamental fishes with various natural foods and prepared diets.
3. Evaluation of their growth rate and colour development.
4. Development of marketing strategy for the produced ornamental fishes in well decorated aquaria.
5. Visit to any Aquarium Facility.

Recommended Readings:

- AOAC, Association of Official Analytical Chemists. 2019. Official Methods of Analysis. Washington, DC: Association of Official Analytical Chemists Inc.

- APHA, American Public Health Association. 2017. Standard Methods for the Examination of Water and Wastewater. 23rd ed. Washington DC, USA: American Public Health Association, American Water Works Association, Water Environment Federation.
- Chakrabarti, R. and Sharma, J. G. 2008. Aquahouse. New Dimension of Sustainable Aquaculture. DIPAS, Indian Council of Agricultural Research, New Delhi, India.
- Holt, G. J. 2021. Larval Fish Nutrition. Willey-Blackwell, UK.
- ICAR, Indian Council of Agricultural Research. 2013. Handbook of Fisheries and Aquaculture. Directorate of Knowledge Management in Agriculture, Indian Council of Agricultural Research, New Delhi, India.
- Pillay, T. V. R. 2005. Aquaculture. Principles and Practices. Blackwell Publishing, New Delhi, India.
- Swain, S. K., Sarangi, N. and Ayyapan, S. 2010. Ornamental Fish Farming. DIPAS, Indian Council of Agricultural Research, New Delhi, India.

Examination scheme and mode:

Evaluation scheme and mode will be as per the guidelines notified by the University of Delhi