

Name of the Programme: M.Sc. Zoology

Course Code: ZOO-629

Title of the Course: Ornamental Fish Management (Theory)

Number of Credits: 01

Effective from AY: 2023-24

Pre-requisites for the Course:	Basic knowledge of fish biology and diversity. Parallel enrolment for ZOO-630 Ornamental Fish Management (Practical)	
Course Objectives:	<ol style="list-style-type: none">1. To explain the principles and importance of the ornamental fish industry in India.2. To introduce the nature, scope and basic concept of aquarium science.3. To build skills in understanding the biological features, feed and feeding habits, sexual dimorphism, diseases and transportation of ornamental fishes.4. To inculcate knowledge of self-employment opportunities in ornamental fish culture and aquarium management.	
Content:	<p>Module 1</p> <p>Diversity of ornamental fish. Major hotspots of ornamental fish- global and Indian perspective. Ornamental fish trade- global and Indian perspective. Preferred species in trade.</p> <p>Major ornamental fish species of India. Ornamental plants. Different varieties of exotic and indigenous ornamental fishes.</p> <p>Reproductive biology. Sexual dimorphism, mode of reproduction in ornamental fish. Commercial farming technologies Principles of a balanced aquarium.</p> <p>Indigenous ornamental fishes and their culture, propagation, and trade.</p> <p>Colouration and Pigmentation: category; types; formation; dietary, neuronal, hormonal control. Physiology of colour changes and their significance.</p> <p>Common aquarium diseases and their control.</p> <p>Feeding and nutrition of ornamental fishes: Nutritional requirements of aquarium fish. Live feed culture. Types of aquarium fish feed. Preparation of aquarium fish food.</p> <p>Packaging, transportation, and marketing of aquarium fishes.</p>	15 hours

	<p>Anaesthetics used in the trade. Problems in ornamental fish export.</p> <p>Applications of genetics and biotechnology for producing quality strains; Management practices of ornamental fish farms.</p>	
Pedagogy:	Lectures/Tutorials/Videos/Assignments/Group discussion/Self-study/ Group activities	
References/ Readings:	<ol style="list-style-type: none"> 1. S. Saha, Concept of Aquarium Fish Keeping (2nd Edition), Techno world Publisher, 2022. 2. A. David, Encyclopaedia of Aquarium and Pond Fish, DK Publishing, Inc., 2005. 3. Datta, and Subhendu, Aquarium Water Quality Management, 2014. 4. M. Dick, L. Derek, Aquarium Fish Handbook, Quatro In., 2005. 5. S. Glen, M. Brian, Scott, N. Pronek, Encyclopaedia of Exotic Tropical Fishes for Freshwater Aquariums, TFH Publications, 2005. 6. H. Hieronimus, Guppies, Mollies, Platies: A Complete Pet Owner's Manual, Barron's Educational Series, Inc., 2009. 7. S. Spotte, Marine aquarium keeping. John Wiley and Sons, U.S.A., 1993. 	
Course Outcomes:	<p>The learner will</p> <ol style="list-style-type: none"> 1. Acquire the knowledge of Identifying species and variety of ornamental fishes and know about their breeding biology. 2. Assess the fundamentals of the aquarium fish industry. 3. Apply the scope of the subject concerning entrepreneurship. 4. Develop comprehensive knowledge of fabrication and maintenance of both freshwater and marine water aquariums at home or outdoors. 5. Analyze common health problems with ornamental fishes and their treatment. 	