UNIVERSITY OF MADRAS

M.Sc. DEGREE PROGRAMME IN ZOOLOGY

SYLLABUS WITH EFFECT FROM 2023-2024

931DCE6

DISCIPLINE CENTRIC ELECTIVE – 6

Course Objectives:		
The main objectives of this course is		
1.	Students should know basic concepts in Fishery Biology	
Course	:	**Discipline Centric Elective – 6**
Course title	**:**	**Fishery Biology**
Credits	**:**	3
Pre-requisite:		
Students should be aware of importance of Fishery Biology		

Expected Course Outcome:		
Upon completion of this course, Students would		
I	Interpret the bionomics of economically important fishes and attempt to classify fishes based on identification characters	**K2 & K3**
II	Be able to compare the different phases of maturity in fishes and recognize the stages of growth in fishes and Fisheries Management	**K3 & K4**
III	Analyze the importance of fish in public health K1,K2, K3.K4 5. Finds out the Capture Fishery and Inland fishery of India	**K5 & K6**

K1- Remember; **K2**- Understand; **K3**- Apply; **K4**-Analyze; **K5**-Evaluate; **K6**- Create

Units	
I	BIONOMICS AND CLASSIFICATION Study of habit, food, feeding adaptations, growth, reproduction behaviour, fecundity and spawning of Indian major carps, three live fishes, three exotic fishes. Classification of the above fishes as in Day's volumes, or in Munro's volume or in FAO Publications.
II	REPRODUCTION BIOLOGY Role of hormones in reproduction - maturity stages - morphological and histological observation of gonads – Cryopreservation.

III	GROWTH STUDY AND FISHERIES MANAGEMENT Age determination - length-weight relationship - factors influencing growth -condition factor - tagging methods. Fecundity estimation, Fish Catching methods: Gears and Crafts, Fish conservation and Fishing Laws, Fishing ban and its significance, Post harvesting technology: Fish spoilage, rigor mortis, rancidity, enzymatic spoilage, microbial spoilage, Principles and methods of fish preservation, Problems associated with fish preservations Processing and marketing of fish by-products.
IV	FISH AND PUBLIC HEALTH Diseases caused by fishes in man - prevention. Uses of fishes as biological control of diseases in man. Fish as food for human health.
V	CAPTURE FISHERY OF INDIA Marine fishery resources of India: Fisheries of the East Coast and West coast. Fishery resources of Tamil Nadu - Major Pelagic fish resources: Sardines, Mackeral, Anchovies, Ribbon fishes, Tuna, Seer fish. Major Demersal resources: both fin fishes and shell fishes. Inland fisheries: Reservoir fishery ,Estuarine fisheries and Coldwater fisheries.

Recommended texts

1. Jhingran, V. G. 1997. 3rd Edition. Fish and Fisheries of India. Hindustan Publishing Co., India.
2. Maheswari. K. (1983) Common fish disease and their control. Institute of Fisheries Education, Powarkads (M.P)
3. Handbook of Fisheries and Aquaculture, 2006. Indian Council of Agricultural Research, New Delhi
4. S.S.Khanna and H.R. Singh.,2014.Text Book of Fish Biology and Fisheries, 3rd Edition, Narendra Publishing House
5. B.N.Yadav.2020. Fish and Fisheries, 2nd Edition, Daya Publishing House.

Mapping with Programme Outcomes*

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	M	L	M	S	S	M	S	M	M
CO2	S	S	S	S	S	S	S	S	S	S
CO3	M	S	S	S	S	S	S	S	S	L
CO4	M	M	S	L	M	M	M	S	L	M
CO5	M	M	S	L	M	S	M	L	S	M

*S-Strong; M-Medium; L-Low