Reg. No ..... Name **26P260**

M.Sc. DEGREE END SEMESTER EXAMINATION - APRIL 2026

SEMESTER 2 : AQUACULTURE AND FISH PROCESSING

COURSE : 24P2AQCT08/21P2AQCT08 : GENETICS AND BIOTECHNOLOGY OF FIN FISH AND SHELL FISH

(For Regular 2025 Admission and Improvement/Supplementary 2024/2023/2022/2021 Admissions)

Time : Three Hours Max. Weights: 30

PART A

Answer any 8 questions **Weight: 1**

1.	Lethal genes in fish.	(U)
2.	Structure of RNA.	(U, CO 6)
3.	Types of Hybrids.	(U, CO 4)
4.	Causes of mutation.	(An, CO 1)
5.	Law of segregation.	(An, CO 2)
6.	Selective breeding.	(An, CO 1)
7.	Gene transfer.	(U)
8.	Cell lines.	(U, CO 7)
9.	Structural aberrations of chromosome.	(An, CO 1)
10.	Jayanthi Rohu.	(U, CO 6)

(1 x 8 = 8)

PART B

Answer any 6 questions **Weights: 2**

11.	Gene expression and regulation.	(An, CO 1, CO 2, CO 3)
12.	Production of monoclonal antibodies.	(U, CO 8)
13.	DNA fingerprinting.	(U, CO 6)
14.	Chromosome Banding Techniques.	(An, CO 2, CO 3)
15.	Write a brief note on immunostimulants.	(An, CO 1)
16.	Sex determination systems in fish.	(U, CO 1, CO 4)
17.	Biotechnological approaches to improve fish feed quality.	(U, CO 6)
18.	Steroids and its application in aquaculture.	(U, CO 8)

(2 x 6 = 12)

PART C

Answer any 2 questions **Weights: 5**

19.	Explain various aspects of bioremediation and its application in aquaculture.	(U, CO 5, CO 6)
20.	Selection methods – with special reference to breeding programmes in Aquaculture.	(U, CO 1, CO 6)
21.	Sex reversal in fishes.	(U, CO 4, CO 5, CO 6)
22.	Describe the recent advances in probiotic usage in aquaculture.	(U, CO 5)

(5 x 2 = 10)

OBE: Questions to Course Outcome Mapping

CO	Course Outcome Description	CL	Questions	Total Wt.
CO 1	Understand Induced breeding ,genetic improvement of the stock for better strains of cultural organisms	An	4, 6, 9, 11, 15, 16, 20	14
CO 2	Genetic engineering and biotechnological principles for crop improvement	An	5, 11, 14	5
CO 3	Understand the principles of genetic technique in cytogenetics	U	11, 14	4
CO 4	Describing different hybridization techniques	U	3, 16, 21	8
CO 5	Describing different types of probiotics and its application in aquaculture	U	19, 21, 22	15
CO 6	Introduction to tools and techniques in modern biotechnology	U	2, 10, 13, 17, 19, 20, 21	21
CO 7	Analyze the developments of fish cell lines and their application in aquaculture	An	8	1
CO 8	Understanding the different types of vaccination in fish genetics	U	12, 18	4

Cognitive Level (CL): Cr - CREATE; E - EVALUATE; An - ANALYZE; A - APPLY; U - UNDERSTAND; R - REMEMBER;