Reg. No ..... Name **23P2009**

M. Sc. DEGREE END SEMESTER EXAMINATION : MARCH 2023

SEMESTER 2 : AQUACULTURE AND FISH PROCESSING

COURSE : **21P2AQCT05: ECOLOGY OF CULTURE SYSTEMS AND AQUATIC BIOLOGY**

(For Regular - 2022 Admission and Supplementary - 2021 Admission)

Duration : Three Hours Max. Weights: 30

PART A

Answer any 8 questions **Weight: 1**

1.	What are the effects of monsoon on physical condition of culture ponds?	(U, CO 1, CO 2)
2.	What is the optimum level of oxygen in a culture system? How does oxygen enter the system?	(E, CO 1, CO 2)
3.	Define biofilm.	(U, CO 7, CO 8)
4.	Explain the morphology of bacteria.	(U, CO 7, CO 8)
5.	What is meant by facultative anaerobic bacteria?	(U, CO 7, CO 8)
6.	Define Eutrophication	(U, CO 1, CO 2)
7.	Define Periphyton	(U, CO 1)
8.	Describe Food web in an aquatic ecosystem	(An, CO 1, CO 2, CO 3, CO 4, CO 5)
9.	What is Thermocline ?	(U, CO 3, CO 4)
10.	What are xenobiotics and their examples?	(U, CO 7, CO 8)

(1 x 8 = 8)

PART B

Answer any 6 questions **Weights: 2**

11.	Write a note on the seven colour patterns of a culture pond.	(U, CO 1)
12.	Classify bacteria based on shape and grams staining reaction.	(A, CO 7, CO 8)
13.	Estimation of sediment bacterial count	(U, CO 7, CO 8)
14.	What is carrying capacity of a Pond ecosystem?	(U, CO 1, CO 2)
15.	What is Lentic ecosystem ? Briefly explain its characteristics	(U, CO 1, CO 2)
16.	Sludge accumulation and its control	(U, CO 2, CO 8)

17.	Define Benthic productivity. What is its importance in the productivity of the ecosystem?	(U, CO 1, CO 2, CO 4, CO 5)
18.	Write a note on the major constituents of sea water.	(U, CO 4)
		(2 x 6 = 12)

PART C

Answer any 2 questions **Weights: 5**

19.	What is turbidity? Classify turbidity. How can you measure and control turbidity in a pond? Explain the chemistry of colloid clay suspension.	(U, CO 1)
20.	Explain the methods used for the Identification of bacteria	(An, CO 7, CO 8)
21.	Illustrate the ecological energetic of pond with reference to productivity	(E, CO 1, CO 2)
22.	Describe the physico- chemical characteristics of Marine environment.	(E, CO 4)
		(5 x 2 = 10)

OBE: Questions to Course Outcome Mapping

CO	Course Outcome Description	CL	Questions	Total Wt.
CO 1	Understand the basic ecology and aquatic biology as applicable to aquaculture organisms in captivity and controlled conditions	U	1, 2, 6, 7, 8, 11, 14, 15, 17, 19, 21	23
CO 2	Evaluate the ways and means of circumventing, ecological imbalances for production of better aquaculture yield	U	1, 2, 6, 8, 14, 15, 16, 17, 21	17
CO 3	Understanding the basic features of fisheries oceanography	U	8, 9	2
CO 4	Understanding the physico-chemical characteristics of marine environment	U	8, 9, 17, 18, 22	11
CO 5	Describing mud banks in capture fisheries	E	8, 17	3
CO 7	Enumeration different types of major groups of microbes from culture ecosystems	U	3, 4, 5, 10, 12, 13, 20	13
CO 8	Understand the growth and reproduction of microbes in relation to different physico-chemcal conditions in pond	U	3, 4, 5, 10, 12, 13, 16, 20	15

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