

M.Sc. DEGREE END SEMESTER EXAMINATION - MARCH 2024**SEMESTER 2 - AQUACULTURE AND FISH PROCESSING****COURSE : 21P2AQCT05 - ECOLOGY OF CULTURE SYSTEMS AND AQUATIC BIOLOGY***(For Regular 2023 Admission and Improvement/Supplementary 2022/2021 Admissions)*

Duration : Three Hours

Max. Weights: 30

PART A**Answer any 8 questions****Weight: 1**

- | | | |
|-----|---|------------------|
| 1. | What are the Stenohaline animals? Give example. | (U, CO 3, CO 4) |
| 2. | Write an account on the common microbes in culture systems. | (U, CO 7, CO 8) |
| 3. | Osmophilic mold. | (U, CO 7, CO 8) |
| 4. | Define primary productivity. | (U, CO 1, CO 2) |
| 5. | How turbidity of water affects farming in ponds? | (An, CO 1, CO 2) |
| 6. | Define Periphyton. | (U, CO 1) |
| 7. | What is Thermocline? | (U, CO 3, CO 4) |
| 8. | Describe the signs and effects and suboptimal pH in a culture system. | (An, CO 1, CO 2) |
| 9. | Define Monera kingdom. | (R, CO 7, CO 8) |
| 10. | Distinguish between carrying capacity and standing crop. | (E, CO 1, CO 2) |
- (1 x 8 = 8)**

PART B**Answer any 6 questions****Weights: 2**

- | | | |
|-----|---|------------------------------|
| 11. | What are BOD and COD? how does it affect aquatic environment? | (An, CO 1, CO 2, CO 3, CO 4) |
| 12. | Define Benthic productivity. What is its importance in the productivity of the ecosystem? | (U, CO 1, CO 2, CO 4, CO 5) |
| 13. | Classify bacteria based on their pathogenicity. | (An, CO 7, CO 8) |
| 14. | Describe the various groups of benthos found in a brackish water system. | (U, CO 1, CO 2) |
| 15. | Describe grazing food chain. | (U, CO 1) |
| 16. | What is the significance of liming in aquaculture? | (U, CO 1) |
| 17. | Classify bacteria based on shape and grams staining reaction. | (A, CO 7, CO 8) |
| 18. | What is Lentic ecosystem ? Briefly explain its characteristics. | (U, CO 1, CO 2) |
- (2 x 6 = 12)**

PART C
Answer any 2 questions

Weights: 5

- | | | |
|-----|---|------------------------|
| 19. | Describe the effects of pH in a culture system. Explain the signs, effects and causes of suboptimal pH in fishes. | (An, CO 1) |
| 20. | Explain the microorganisms seen in culture ponds. | (An, CO 7, CO 8) |
| 21. | Give a detailed account of the biogeochemistry of mud bank formation. | (An, CO 3, CO 4, CO 5) |
| 22. | Importance of organic farming. | (U, CO 1, CO 2) |
| | | (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	4, 5, 6, 8, 10, 11, 12, 14, 15, 16, 18, 19, 22	27
CO 2	Evaluate the ways and means of circumventing, ecological imbalances for production of better aquaculture yield	U	4, 5, 8, 10, 11, 12, 14, 18, 22	17
CO 3	Understanding the basic features of fisheries oceanography	U	1, 7, 11, 21	9
CO 4	Understanding the physico-chemical characteristics of marine environment	U	1, 7, 11, 12, 21	11
CO 5	Describing mud banks in capture fisheries	E	12, 21	7
CO 7	Enumeration different types of major groups of microbes from culture ecosystems	U	2, 3, 9, 13, 17, 20	12
CO 8	Understand the growth and reproduction of microbes in relation to different physico-chemical conditions in pond	U	2, 3, 9, 13, 17, 20	12

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