

**M. Sc. DEGREE END SEMESTER EXAMINATION - OCTOBER 2024****SEMESTER 3 : AQUACULTURE AND FISH PROCESSING****COURSE : 21P3AQCT11 : CULTURE OF CRUSTACEANS, SEA WEEDS AND FISHERIES TECHNOLOGY***(For Regular 2023 Admission and Supplementary 2022/2021 Admissions)*

Duration : Three Hours

Max. Weights: 30

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

1. Explain cannibalism with a suitable example? (U, CO 1)
2. Name any two agar yielding sea weeds and mention two uses of agar. (R, CO 2, CO 3)
3. Explain the influence of water content on fish spoilage. (U, CO 6, CO 7, CO 8)
4. List out the major autolytic enzymes. (R, CO 6, CO 7, CO 8)
5. Define the principle of icing? (R)
6. What is the causative agent of IMN ? (R, CO 1)
7. Explain the growth pattern in Sargassum species. (U)
8. Significance of sporulation in bacteria (U, CO 4, CO 5)
9. Demonstrate the migratory nature of wandering species of shrimp with a suitable diagram . (U, CO 1)
10. Explain the formation of TMA? (U, CO 6, CO 7, CO 8)  
**(1 x 8 = 8)**

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

11. Evaluate the prospects of seaweed culture in India. (E)
12. Discuss the larval rearing techniques of shrimps. (E, CO 1)
13. Discuss on the degrees of freshness and deterioration of fish. (Cr, CO 6)
14. Distinguish between sexual dimorphism in cultivated crustaceans. (An, CO 1)
15. Summarise on the water soluble vitamins in fish. (U, CO 6, CO 8)
16. Evaluate on the importance of decarboxylation and deamination reactions in fish spoilage. (E, CO 6, CO 7, CO 8)
17. Write a note on psychrophilic microbes in processed fish and fishery products. (U, CO 4)
18. Discuss the growth of seaweeds and factors affecting its growth. (E, CO 2, CO 3)  
**(2 x 6 = 12)**

**PART C****Answer any 2 questions****Weights: 5**

19. Examin the life history of Class Chlorophyceae with a suitable example. (An, CO 2, CO 3)
20. Highlight the practices of microbial safety in fish handling, transportation and processing. (E, CO 4, CO 5)
21. What are the site selection criteria for shrimp farming? (An)
22. Discuss on the post mortem changes in fish ? How these changes affect the quality of fish? (Cr, CO 6, CO 7, CO 8)  
**(5 x 2 = 10)**

OBE: Questions to Course Outcome Mapping

CO	Course Outcome Description	CL	Questions	Total Wt.
CO 1	Understand the culture of the economically important crustaceans and seaweeds	U	1, 6, 9, 12, 14	7
CO 2	CO 2 Identification of economically important sea weeds PO2, PSO2 E	E	2, 18, 19	8
CO 3	Describe the methods of processing and extraction of different seaweed products	U	2, 18, 19	8
CO 4	Understanding the fundamental principle of bacteriology	U	8, 17, 20	8
CO 5	Describe spoilage causing microorganisms of fish and fishery products	U	8, 20	6
CO 6	Sensory evaluation of fresh fish and fish products	E	3, 4, 10, 13, 15, 16, 22	14
CO 7	Analysing post mortem changes in fish PO2 ,PSO3 An	An	3, 4, 10, 16, 22	10
CO 8	Describing handling of fish onboard , landing centres ,retail outlets and pre-processing centres	U	3, 4, 10, 15, 16, 22	12

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