

Reg. No .....

Name .....

25P2025

**M.Sc DEGREE END SEMESTER EXAMINATION - APRIL 2025**

**SEMESTER 2 : AQUACULTURE AND FISH PROCESSING**

**COURSE : 24P2AQCT06 : BIOCHEMISTRY AND NUTRITION OF FIN FISH AND SHELL FISH**

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

Duration : Three Hours

Max. Weights: 30

**PART A**

**Answer any 8 questions**

**Weight: 1**

1. Define Deamination. (U, CO 3)
  2. Differentiate between oxidation and reduction reaction. (An, CO 1)
  3. What are binders ? Give examples . (E, CO 2)
  4. What are carbohydrates? How are they classified? (U, CO 1)
  5. What is an iso-enzyme? (U, CO 1)
  6. List out different types of RNA. (A, CO 1)
  7. Describe "Automatic feeder." (R, CO 7, CO 8)
  8. Explain the significance of trace elements in nutrition. (U, CO 2, CO 6)
  9. Explain the formula 18:2 n-3. (R, CO 1)
  10. Give two negative aspects of lipids. (An, CO 2, CO 6)
- (1 x 8 = 8)**

**PART B**

**Answer any 6 questions**

**Weights: 2**

11. Write notes on B- complex vitamins and its significance in aquaculture nutrition. (A, CO 2, CO 7)
  12. What is the importance of protein in fish nutrition ? (A, CO 3, CO 5)
  13. Explain the mechanism of enzyme action. (A, CO 1)
  14. What is fines ? How it is formed in aquaculture feeds? (A, CO 4, CO 7)
  15. Explain the feed distribution methods in shrimp pond. (A, CO 7)
  16. Explain the Carbohydrate metabolism . (A, CO 1)
  17. Explain Fattyacid oxidation. (R, CO 1, CO 3)
  18. Write notes on translation. (R, CO 1)
- (2 x 6 = 12)**

**PART C**

**Answer any 2 questions**

**Weights: 5**

19. What are the factors affecting feed formulation in aquaculture? (A, CO 7)
20. Explain the essentials of enzyme kinetics and types of enzyme inhibition. (An, CO 1)

21. Describe the steps and machineries used in feed manufacture. (U, CO 4)
22. Give an account on lipid metabolism . (A, CO 1, CO 3)
- (5 x 2 = 10)**

OBE: Questions to Course Outcome Mapping

CO	Course Outcome Description	CL	Questions	Total Wt.
CO 1	CO 1 Understand the basic principles of biochemistry as applied to aquaculture organisms in relation with environmental factors	U	2, 4, 5, 6, 9, 13, 16, 17, 18, 20, 22	23
CO 2	Understand the application of different additives in aquaculture feeds	U	3, 8, 10, 11	5
CO 3	Describe the nutritional bioenergetics in fin fish and shell fish	U	1, 12, 17, 22	10
CO 4	Understand the classification of feed stuff and anti-nutritional factors present in its	U	14, 21	7
CO 5	Evaluation of quality of feed ingredients and finished feed	E	12	2
CO 6	Analyse the feed formulation strategies and methods	An	8, 10	2
CO 7	Understand the management of feeding in aquaculture arms and hatcheries	U	7, 11, 14, 15, 19	12
CO 8	Understand the nutritional requirements of finfishes and shell fishes under culture condition	U	7	1

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