

Reg. No .....

Name .....

23P2024

**M. Sc. DEGREE END SEMESTER EXAMINATION : MARCH 2023**

**SEMESTER 2 : AQUACULTURE AND FISH PROCESSING**

**COURSE : 21P2AQCT06: BIOCHEMISTRY AND NUTRITION OF FIN FISH AND SHELL FISH**

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

Duration : Three Hours

Max. Weights: 30

**PART A**

**Answer any 8 questions**

**Weight: 1**

1. What is meant by Osazone reaction? (A, CO 1)
2. What is Carboxymethyl cellulose? Explain. (A, CO 5)
3. What are Glycolipids? (R, CO 1, CO 3)
4. What is allosteric inhibition? (U, CO 1)
5. Explain Semi-conservative method of DNA replication. (A, CO 1)
6. What is Sekoke disease? (R, CO 8)
7. Explain scoliosis in fishes. (A, CO 8)
8. Differentiate Moina and Daphnia. (An, CO 2, CO 8)
9. What is mash? (A, CO 6)
10. What is PER ? (U, CO 6)  
**(1 x 8 = 8)**

**PART B**

**Answer any 6 questions**

**Weights: 2**

11. Explain the reaction of monosaccharides with acid and alkali. (A, CO 1)
12. Describe Phospholipids and its functions . (U, CO 1, CO 3)
13. Briefly explain serine and glycine metabolism in fishes. (An, CO 1, CO 5)
14. Give an account on the metabolism of phenylalanine in fish nutrition? (An, CO 1, CO 5)
15. Explain the mechanism of enzyme action. (A, CO 1)
16. Explain different factors influencing nutritive requirements of fishes. (An, CO 3, CO 4)
17. Which are the factors affecting the quality of feed during storage? (A, CO 6, CO 7)
18. Explain non demand feeders . (R, CO 7)  
**(2 x 6 = 12)**

**PART C**

**Answer any 2 questions**

**Weights: 5**

19. Describe the sources , significance and negative aspects of lipids in finfish nutrition. (E, CO 2, CO 8)
20. Give an account of different feed additives used in aquaculture. (An, CO 5)

21. Give an account of conventional and non conventional source of feed ingredients. (A, CO 4, CO 8)
22. Describe feed dispensing methods and feeding protocols in a semi-intensive shrimp farm (A, CO 7)
- (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	1, 3, 4, 5, 11, 12, 13, 14, 15	14
CO 2	Understand the application of different additives in aquaculture feeds	U	8, 19	6
CO 3	Describe the nutritional bioenergetics in fin fish and shell fish	U	3, 12, 16	5
CO 4	Understand the classification of feed stuff and anti-nutritional factors present in its	U	16, 21	7
CO 5	Evaluation of quality of feed ingredients and finished feed	E	2, 13, 14, 20	10
CO 6	Analyse the feed formulation strategies and methods	An	9, 10, 17	4
CO 7	Understand the management of feeding in aquaculture arms and hatcheries	U	17, 18, 22	9
CO 8	Understand the nutritional requirements of finfishes and shell fishes under culture condition	U	6, 7, 8, 19, 21	13

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