Reg. No ..... Name **25P4036**

MSc DEGREE END SEMESTER EXAMINATION- MARCH 2025

SEMESTER 4 : AQUACULTURE AND FISH PROCESSING

COURSE : **21P4AQCT14 : FISH MICROBIOLOGY AND QUALITY ASSURANCE**

(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 melanosis.	(E, CO 5)
2.	Pink discolouration in cured fish.	(A, CO 3, CO 7)
3.	What is the difference between Kanagawa positive and Kanagawa negative strains of *V. parahaemolyticus?*	(A, CO 4)
4.	What is SOP?	(An, CO 7)
5.	What is Listeriosis	(A)
6.	Explain the major difference between quality control and quality assurance.	(An, CO 6, CO 7)
7.	Define critical limit.	(A, CO 4)
8.	What is meant by heterotrophic bacteria?	(R, CO 3)
9.	What is meant by quality?	(An, CO 6)
10.	What is bacterial smear?	(U, CO 5)

(1 x 8 = 8)

PART B

Answer any 6 questions **Weights: 2**

11.	Elaborate on seafood toxins	(E, CO 3, CO 5)
12.	Comment on fecal indicator organisms.	(U, CO 4)
13.	Describe the common disinfectants used in seafood industries.	(An, CO 4)
14.	What are Codex standards?	(U, CO 4)
15.	Explain differences between gram positive and gram negative bacteria.	(A)
16.	Classify hazards in seafoods. Give examples for each.	(A, CO 2)
17.	Explain the nucleotide degradation associated with fish spoilage	(An)
18.	Explain IS 4251.	(A, CO 2, CO 4, CO 6)

(2 x 6 = 12)

PART C

Answer any 2 questions **Weights: 5**

19.	Describe the classification of bacteria.	(R, CO 3)
20.	Explain SSOP and its advantages.	(U, CO 5, CO 7)
21.	Write an essay on cleaning agents used in seafood industry	(E)
22.	Give an account on "seafood pathogens".	(Cr)

(5 x 2 = 10)

OBE: Questions to Course Outcome Mapping

CO	Course Outcome Description	CL	Questions	Total Wt.
CO 2	Understand the general aspects of seafood quality and quality problems	An	16, 18	4
CO 3	Understand the biological hazards in seafoods	U	2, 8, 11, 19	9
CO 4	Analyse the fish spoilage and quality assessments	An	3, 7, 12, 13, 14, 18	10
CO 5	Understand the Good manufacturing practices in seafood processing	R	1, 10, 11, 20	9
CO 6	Understand the Hazard analysis and critical control points in seafood industry	A	6, 9, 18	4
CO 7	Understand the National and international standards for fish and fish products	R	2, 4, 6, 20	8

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