Reg. No ..... Name **24P1025**

M. Sc. DEGREE END SEMESTER EXAMINATION - NOVEMBER 2024

SEMESTER 1 : AQUACULTURE AND FISH PROCESSING

COURSE : **24P1AQCT02 : BIOPHYSICS, INSTRUMENTATION, MICRO TECHNIQUES AND RESEARCH METHODOLOGY**

(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.	Applications of AAS.	(A, CO 1)
2.	Agarose Gel electrophoresis.	(An, CO 2)
3.	Cryostat.	(An, CO 3)
4.	What are the different types of literature review?	(An, CO 5)
5.	Comment two appropriate methods of data collection.	()
6.	Isoelectric point.	(R, CO 2)
7.	Functions of membrane receptor.	(E, CO 3)
8.	What is SEM?	(R, CO 1, CO 2, CO 3)
9.	Osmotic pressure.	(R, CO 1)
10.	What is citation?	(An, CO 5)

(1 x 8 = 8)

PART B

Answer any 6 questions **Weights: 2**

11.	What are the steps to be taken in writing a good report?	(R, CO 5)
12.	Describe the problems of paraffin waxing.	(E, CO 3)
13.	Give an account of gels used in electrophoresis.	(U, CO 2)
14.	In dark field microscopy, why must the N.A. of the objective be less than the N.A. of the condenser?	(A, CO 1, CO 3)
15.	What is meant by primary data collection in research?	(U, CO 5)
16.	Explain the importance of research.	(E, CO 5)
17.	Explain the principles and applications of ion exchange chromatography.	(R, CO 2)
18.	What is the difference between colorimetry and spectrophotometry?	(An, CO 1, CO 2)

(2 x 6 = 12)

PART C

Answer any 2 questions **Weights: 5**

19.	Explain the principle and operation and application of Gas Chromatography.	(An, CO 1, CO 2)
20.	Explain separation of proteins using a suitable electrophoretic technique in a biological sample.	(E, CO 1, CO 2)
21.	What is meant by collection of secondary data? Explain the factors to be considered in selection of appropriate method for data collection.	(A, CO 5)
22.	What is the basic principle of electron microscopy? Explain the functioning of electron microscope.	(R, CO 1, CO 3)

(5 x 2 = 10)

OBE: Questions to Course Outcome Mapping

CO	Course Outcome Description	CL	Questions	Total Wt.
CO 1	Understand the principles and operation of octoelectric equipment's in biological research	U	1, 8, 9, 14, 18, 19, 20, 22	22
CO 2	Create information on biophysics and instrumentation as applied to aquaculture	A	2, 6, 8, 13, 17, 18, 19, 20	19
CO 3	Evaluate detailed anatomic studies with the help of micro techniques	E	3, 7, 8, 12, 14, 22	12
CO 5	Understand introduction to research methods as a prelude to research work at higher level.	U	4, 5, 10, 11, 15, 16, 21	14

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