Reg. No ..... Name **20P1023**

M. Sc DEGREE END SEMESTER EXAMINATION - OCT 2020 : FEBRUARY 2021

SEMESTER 1 : AQUACULTURE AND FISH PROCESSING

COURSE : **16P1AQCT02 : BIOPHYSICS, INSTRUMENTATION, MICRO TECHNIQUES AND RESEARCH METHODOLOGY**

(For Regular - 2020 Admission and Supplementary - 2016/2017/2018/2019 Admissions)

Time : Three Hours Max. Marks: 75

PART A

Answer any 8 (2 marks each)

1. Define Graham's Law.
2. Define Stocks-Einstein equation.
3. Define Gibbs – Donnan equilibrium.
4. Artificial membrane
5. Membrane receptors
6. Types of Affinity chromatography.
7. Embedding tissues for microscopy
8. What is structured approach in research?
9. What is Continuous variable
10. What is meant by one time research?
11. Which should be the main emphasis in technical report?
12. What is the meaning of interpretation in research?

(2 x 8 = 16)

PART B

Answer any 7 (5 marks each)

13. Explain Vant Hoff's law.
14. Outline the physical properties of cell membrane.
15. What are artificial membranes and explain their commercial uses?
16. Distinguish between passive transport and active transport.
17. Applications of UV absorption spectroscopy
18. Discuss the principle of Atomic absorption spectrophotometer.
19. How will you desalt a protein solution? Explain.
20. What are the criteria of good research?
21. How does the case study method differs from the survey method?
22. What is case study method? Explain the characteristics of case study method.

(5 x 7 = 35)

PART C

Answer any 2 (12 marks each)

23. Explain the Biological significance of diffusion and osmosis with emphasis to marine fishes.
24. Outline an instrumental method for quantifying amino acids in a protein hydrolysate.
25. Histochemical methods for locating lipids.
26. What is research design? Describe the features of good design.

(12 x 2 = 24)