Reg. No ..... Name **18P123**

M.Sc DEGREE END SEMESTER EXAMINATION - NOVEMBER 2018

SEMESTER 1 : AQUACULTURE AND FISH PROCESSING

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

(For Regular - 2018 Admission & Supplementary - 2016 / 2017 Admissions)

Time : Three Hours Max. Marks: 75

Section A
Answer any 8 (2 marks each)

1. Pressure gradient
2. Kinetic theory of osmosis.
3. Define Gibbs – Donnan equilibrium.
4. Functions of membrane receptor
5. Intrinsic proteins
6. Two dimensional chromatography.
7. Embedding tissues for microscopy
8. Define Hypothesis?
9. What is pure research?
10. What is longitudinal research?
11. What is a technical report?
12. What are the characteristics of popular report?

(2 x 8 = 16)

Section B
Answer any 7 (5 marks each)

13. How do fish osmoregulate?
14. Draw the structure of plasma membrane and label
15. What are artificial membranes and explain their commercial uses?
16. Explain the process of phagocytosis.
17. What is an Echo sounder and how does it work?
18. Describe the uv-visible and visible spectrophotometers with emphsis on the parts of the instrument.
19. Explain the principles and applications of ion exchange chromatography.
20. Discuss the importance of research design?
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)

Section C

Answer any 2 (12 marks each)

23. Explain the Biological significance of diffusion and osmosis with emphasis to marine fishes.
24. Remote sensing and it application in fisheries.
25. Explain the principle and operation and application of Gas Chromatography.
26. Write an essay on different types of research.

(12 x 2 = 24)