M. Sc DEGREE END SEMESTER EXAMINATION - OCTOBER 2019

SEMESTER 1 : AQUACULTURE AND FISH PROCESSING

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

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

Time : Three Hours   Max. Marks: 75

Section A
Answer any 8 (2 marks each)

1. Concentration gradient.
2. Kinetic theory of osmosis.
3. Osmoregulation in marine fishes.
4. Structure of cell membrane
5. Functions of membrane receptor
6. Two dimensional chromatography.
7. Stains used for proteins.
8. What is conceptual research?
9. What is unstructured approach in research?
10. What is Discrete variable?
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. Differentiate between Osmotic pressure and Osmotic concentration.
14. What are the factors effecting the passage of materials across cell membrane?
15. Explain the process of phagocytosis.
16. Outline pinocytosis
17. What is an Echo sounder and how does it work?
18. How is mercury detected in a fish / water sample?
19. Discuss the principle and applications of TLC.
20. What are the needs for research design?
21. Explain collection of data through questionnaires in data collection.
22. Explain observation method in data collection.

(5 x 7 = 35)

Section C
Answer any 2 (12 marks each)

23. Explain the Biological significance of osmosis in fishes.

24. Remote sensing and it application in fisheries.

25. Explain the basic methods involved in protein purification. How will you check the criteria of protein purity.

26. Enumerate the different methods of primary data collection after a research problem has been defined.

(12 x 2 = 24)