

2019

B.Sc.

3rd Semester Examination

**AQUACULTURE MANAGEMENT
(Honours)**

Paper - C 7-T

**(Aquatic Microbiology, Fisheries Biotechnology
and Bioinformatics)**

Full Marks : 40

Time : 2 Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

1. Answer any *five* questions of the following :

5×2=10

- (a) Write short note on bioremediation. 2
- (b) What are biofilms and how they form? 2
- (c) Write significance of DNA fingerprinting. 2
- (d) What is open reading frame in a DNA sequence. 2

- (e) Write scientific names of two ecto-parasites of fresh water fish. 2
- (f) What is sequence retrieval system (SRS)? 2
- (g) Mention different tools used for molecular visualization. 2
- (h) What do you mean by activated sludge? 2

2. Answer any *four* questions : 5×4=20

- (a) Describe the process of aerobic and anaerobic digestion during sewage treatment. 5
- (b) Elaborate the functions of RNA in protein synthesis. 5
- (c) Give an overview of restriction endonucleases and their applications. 5
- (d) Briefly discuss the principle, types and application of ELISA technique. 5
- (e) What is a primer? State the criteria to design primer for PCR. 5
- (f) Briefly write the challenges and opportunities in fish vaccine development. 5

3. Answer any *one* question : 10×1=10

(a) (i) What do you mean by biogeochemical cycle?

(ii) Briefly discuss different steps of Phosphorus cycle.

(iii) Give an account of bacterial diseases transmitted through drinking water.

2+5+3

(b) (i) Describe different methods of production of transgenic fish.

(ii) State the importance of transgenic fish in aquaculture.

(iii) Write a note on frameshift mutation.

5+3+2