

M.Sc.

2015

2nd Semester Examination

FISHERIES SCIENCE

PAPER—FSC-204

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Unit—I

(Aquatic Microbiology)

1. Write in brief any *two* of the following : 2×2
- (a) Write down the structure and function of Pilli.
 - (b) State the characteristics and example of Ascomycota and Basidiomycota.

(Turn Over)

(c) Mention the difference between virus from bacteria from the point of cell wall and genetic materials.

(d) What is Koch's postulate ?

2. Answer any *two* questions from the following : 2×4

(a) Write a notes on chemotaxis.

(b) Narrate different techniques of sterilization.

(c) State the effect of Red algae and blue green algae in fish pond.

(d) Discuss about the role of microbes to enhance aquaculture productivity.

3. Answer any *one* question of the following : 1×8

(a) (i) What do you mean by granules and Magnetosomes ? State their functions.

(ii) Write the difference between ultra structure of gram -ve and gram +ve bacterial cell wall.

(iii) Add a note on gram staining method. 4+2+2

(b) (i) What do you mean by nitrifying and denitrifying bacteria ?

(ii) Discuss the bacterial movement mechanism.

(iii) Add a note on gut microflora of fish. 3+3+2

Unit—II**(Public Health Fishery)**

4. Write short notes on any *two* of the following : 2×2
- (a) Nutrient pollution.
 - (b) Chemical Oxygen Demand (COD).
 - (c) Biomagnification.
 - (d) Oxidation pond.
5. Answer any *two* questions from the following : 2×4
- (a) What is eutrophication? Discuss its impact on aquatic biota. 1+3
 - (b) Give a brief account on the impact of pollution on aquatic biota with emphasis on public health microbes.
 - (c) Write a note on impact of aquatic pollution on fish health and fisheries.
 - (d) Write a note on trickling filter and activated sludge. 2+2

6. Answer any *one* questions of the following : 1×8

(a) (i) Write a note on sewage fed fisheries in India.

(ii) Describe different sources of aquatic pollution.

4+4

(b) Give an account of different models of aquaculture based on sewage treatment plants in India. 8
