

2015

M.Sc.

3rd Semester Examination

FISHERIES SCIENCE

PAPER—FSC-302

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

(Fin Fish and Shell Fish Pathology & Management)

1. Answer in brief any two of the following : 2×2

(a) Define Infectious and Non-infectious diseases with examples.

(b) Mention two gram +ve and two gram -ve bacteria causing fish diseases.

(Turn Over)

- (c) State the disease triangle concept in fishculture.
- (d) Define probiotics with examples from aquaculture.

2. Answer any *two* of the following : 2×4

- (a) Discuss White Spot disease of *Penaeus monodon*.
- (b) Enumerate the diagnostic approach to fish disease control.
- (c) Discuss different Sanitizers used in Aquaculture pond.
- (d) Define immuno-stimulant. Discuss different immunostimulant medicines used in aquafarming.

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

- (a) (i) Mention the causative agent, symptoms, and treatment of Saprolegniasis.
- (ii) Discuss different treatment methods of fish disease.
- (iii) Add a note on the fate of aquaculture chemicals.

$$4\frac{1}{2} + 1\frac{1}{2} + 2$$

- (b) (i) Discuss Epizootic Ulcerative Syndrome of fish mentioning causative agent, clinical sign and treatment.

- (ii) Define Oxygenerator Components with examples.
- (iii) Add a note on 'Ich' disease. $4\frac{1}{2}+1\frac{1}{2}+2$

Unit-II

(Fish Parasitology and Immunology)

4. Answer any *two* of the following questions : 2×2
- (a) What is innate and acquired immunity ?
 - (b) Differentiate between ectoparasite and endoparasite.
 - (c) Define antibody and give examples of its types.
 - (d) Write the functions of Macrophage.
5. Answer any *two* of the following questions : 2×4
- (a) What is required to develop a vaccine for a specific disease ?
 - (b) Briefly narrate the characteristics of adoptive immune system.
 - (c) Elucidate the response of fishes following an encounter with a pathogen.
 - (d) Briefly describe the structure of antibody with diagram.

6. Answer any *one* questions of the following questions :

1×8

- (a) Illustrate the symptoms and treatment measures of Lernaeosis. Write a note on the immune system of teleost fishes.
- (b) What is Trichodiniasis and Argulosis ? Briefly narrate the symptoms and treatment measures of two diseases. 2+3+3

[Internal Assessment : 10 Marks]
