

2017

M.Sc.

3rd Semester Examination

FISHERIES SCIENCE

PAPER—FSC-301

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

(Fish Pathology and Disease Management)

1. Write briefly on any two of the following questions :

2×2

- (a) Mention the symptoms of MBV and WSSB on tiger shrimp.
- (b) What do you mean by probiotics ? Give two names of commonly available such products in West Bengal.

(Turn Over)

- (c) Name two protozoan and two bacterial diseases of ornamental fishes with their causative agents.
- (d) What do you mean by non-infectious diseases in fish? Give example of two such diseases in IMC with causes.

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

- (a) Discuss different diagnostic approaches of fish disease management.
- (b) Give an idea about some common diseases of *Litopenaeus vannamei*.
- (c) Enlist the common fungal diseases of IMC with their causative agent.
- (d) Discuss different prophylactic measures in shrimp farming.

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

- (a) (i) Enlist different bacterial diseases of Indian major carp (IMC).
- (ii) State in detail two bacterial diseases of IMC.
- (iii) Add a note on Spring Viremia of Carp.

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

- (b) (i) What do you mean by traditional and modern aquaculture medicine ?
- (ii) Discuss in detail the rules and regulation for use of aqua medicines in India.
- (iii) Add a note on banned antibiotics in aquaculture.
- 2+4+2

Unit-II

(Fish Parasitology and Immunology)

4. Answer any *two* of the following questions : 2×2
- (a) State the characteristics of Parasite.
- (b) Schematically classify the fish immune system.
- (c) Name four ciliate parasites of fish.
- (d) What is antigen presenting cell? Give example.
5. Answer any *two* of the following questions : 2×4
- (a) Give an account of lymphoid organs and their function in teleost fish. 2+2
- (b) What is antibody? State its types and function. 1+2+1
- (c) What is parasitism? Add a note on the kind of parasites. 2+2

(d) Discuss inflammatory response with suitable diagram.

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

(a) (i) What do you mean by Epitope ?

(ii) Give a brief account of Humoral Immunity with diagram. 2+6

(b) (i) Write short note on parasitic crustacea in cultured Fish. 4

(ii) Briefly discuss Digenian trematode infection in fish and their control. 2+2
