

2021

INDUSTRIAL FISH AND FISHERIES — MAJOR

Fifth Paper

Full Marks : 100

The figures in the margin indicate full marks.

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

Unit - I

Answer **question no. 1** and **any two** from the rest.

1. Answer **any ten** questions : 2×10
- (a) Write two symptoms of dropsy.
 - (b) Why viruses are called in between living and non-living?
 - (c) What is CCVD?
 - (d) What do you mean by biological nitrogen fixation?
 - (e) What is the significance of IgE?
 - (f) Name two symptoms of brown spot disease.
 - (g) Differentiate between *Dactylogyrus* and *Gyrodactylus*.
 - (h) Give example of two pathogenic gram negative bacteria.
 - (i) Write two identifying features of fungi.
 - (j) Write two symptoms of IPN.
 - (k) Write the name of one protozoan parasite of fish and name the disease it causes.
 - (l) What is vaccination? How it is applied in aquaculture?
 - (m) Differentiate between gram +ve and gram -ve bacteria.
 - (n) Name the causative agents of black gill disease in prawn.
 - (o) State two symptoms of Argulosis in fish.
2. Write the causative agent, symptoms and control measures of gill rot, fin and tail rot and whirling disease in fishes. (1+2+2)×3

Please Turn Over

3. Write the causative agent, symptoms, and control of following fish disease (**any three**): (1+2+2)×3
- (a) Saprolegniasis
 - (b) Hirudinosis
 - (c) Trichodiniasis
 - (d) Gyrodactylosis.
4. Comment on role of probiotic and antibiotic in ornamental fish culture. Give an account of general characteristics of microbes. Add a note on beneficial microbes in fishery. 8+4+3
5. Write short notes on **any three** : 5×3
- (a) EUS
 - (b) Structure of bacterial cell wall
 - (c) Mesosome
 - (d) Innate immunity in fish.

Unit-II

Answer **question no. 6** and **any two** from the rest.

6. Answer **any ten** questions : 2×10
- (a) What are fouling organisms?
 - (b) Name four boat building materials.
 - (c) What is central tendency?
 - (d) What do you mean by FRP?
 - (e) Define MS Word.
 - (f) Name two traditional fishing gears of West Bengal.
 - (g) What is tackle?
 - (h) Mention two disadvantages of electrofishing.
 - (i) What is isinglass?
 - (j) Mention significance of salt curing.
 - (k) Mention any four causes of fish spoilage.
 - (l) What is TED?
 - (m) What is rigor mortis?
 - (n) State application of SONAR in fisheries.
 - (o) Write full form of RAM and ROM.

(3)

Maj(III)-Ind. Fish and Fisheries-M-5

7. What do you mean by extension education in fishery? Write its importance in the field of fisheries. 8+7
 8. Briefly describe the importance of aquaculture for the upliftment of Socio-economic status of weaker section of Society. 15
 9. Briefly discuss the quality control measures in fishery products. Write a note on waste management in fish processing plant. 7½+7½
 10. What is Remote Sensing and GIS? How do they help in capture fisheries? 4+4+7
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