D 13092 (Pages : 2) Name.....

Reg. No.....

FIRST SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY) EXAMINATION, NOVEMBER 2021

(CBCSS)

Aquaculture and Fishery Microbiology

AFM 1C 04—INTRODUCTION TO SUSTAINABLE AQUACULTURE

(2019 Admission onwards)

Time : Three Hours Maximum : 30 Weightage

General Instructions

1. *In cases where choices are provided, students can attend* **all** *questions in each section.*
2. *The minimum number of questions to be attended from the Section / Part shall remain the same.*
3. *The instruction if any, to attend a minimum number of questions from each sub section / sub part / sub division may be ignored.*
4. *There will be an overall ceiling for each Section / Part that is equivalent to the maximum weightage of the Section / Part.*

Part A

I. Write short answers to the following. Answer any *four* questions. Each question carries 2 weightage :

1 Raceways.

2 Biosecurity.

3 Responsible fisheries.

4 Bioremediation.

5 White Tail Disease.

6 Define sustainability in aquaculture.

7 Transgenic fish.

(4 × 2 = 8 weightage)

Turn over

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II. Write short essay to the following. Answer any *four* questions. Each question carries 3 weightage :

8 Potential adverse effects of coastal aquaculture

9 Value addition in fisheries

10 Role of exotic fishes in aquaculture.

11 Integrated farming.

12 Impact of overexploitation of wild stock in fishes.

13 Comment on the role of aquatic resources in food and nutrition.

14 Responsible aquaculture.

(4 × 3 = 12 weightage)

III. Write essay to the following. Answer any *two* questions. Each question carries 5 weightage :

15 Write an essay on the application of renewable energy in aquaculture.

16 Explain bacterial and viral diseases in aquaculture and its control measures.

17 Briefly explain different shrimp farming systems.

18 Explain the role of Biotechnology in aquaculture.

(2 × 5 = 10 weightage)

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D 13091 (Pages : 2) Name.....

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FIRST SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY) EXAMINATION, NOVEMBER 2021

(CBCSS)

Aquaculture and Fishery Microbiology

AFM 1C 03—GENERAL MICROBIOLOGY

(2019 Admission onwards)

Time : Three Hours Maximum : 30 Weightage

General Instructions

1. *In cases where choices are provided, students can attend* **all** *questions in each section.*
2. *The minimum number of questions to be attended from the Section / Part shall remain the same.*
3. *The instruction if any, to attend a minimum number of questions from each sub section / sub part / sub division may be ignored.*
4. *There will be an overall ceiling for each Section / Part that is equivalent to the maximum weightage of the Section / Part.*

I. Write short answers to the following. Answer any *four* questions. Each question carries 2 weightage :

1 Comment on cytopathic effect.

2 What is meant by Generation time ?

3 Specify *three* contribution of Louis Pasteur.

4 Give an example of commensalism and antagonism.

5 Define Viral capsid.

6 Difference between bacterial and fungal cell wall.

7 Lyophilization.

(4 × 2 = 8 weightage)

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II. Write short essay to the following. Answer any *four* questions. Each question carries 3 weightage :

8 What are the nutritional types of bacteria ?

9 Describe the scope and importance of marine microbiology.

10 What are the characteristic of fungi ? What features makes it differ from yeast ?

11 Cultivation of virus using cell lines.

12 Difference between symbiosis and antagonism with examples.

13 Explain five kingdom classification of micro-organisms.

14 What are modes of viral entry ?

(4 × 3 = 12 weightage)

III. Write short essay to the following. Answer any *two* questions. Each question carries 5 weightage :

15 Detailed description of different media used for bacterial growth.

16 Techniques used for isolation and identification of yeast.

17 Methods used for virus purification and characterization.

18 Mode of action of any five antibacterial agents.

(2 × 5 =10 weightage)

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FIRST SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY) EXAMINATION, NOVEMBER 2021

(CBCSS)

Aquaculture and Fishery Microbiology

AFM 1C 02—AQUATIC ECOLOGY AND FISHERIES MANAGEMENT

(2019 Admission onwards)

Time : Three Hours Maximum : 30 Weightage

General Instructions

1. *In cases where choices are provided, students can attend* **all** *questions in each section.*
2. *The minimum number of questions to be attended from the Section / Part shall remain the same.*
3. *The instruction if any, to attend a minimum number of questions from each sub section / sub part / sub division may be ignored.*
4. *There will be an overall ceiling for each Section / Part that is equivalent to the maximum weightage of the Section / Part.*

Section A

I. Write short answers to the following. Answer any *four* questions. Each question carries 2 weightage :

1 Bioluminescence.

2 Mangroves and ecosystem balance.

3 Littoral zone.

4 Ghost fishing.

5 BRD.

6 Trawl ban.

7 IUCN.

(4 × 2 = 8 weightage)

Section B

II. Write short essay to the following. Answer any *four* questions. Each question carries 3 weightage :

8 Aquatic protected areas.

9 Jelly fish blooms in Kerala coastal waters.

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10 Importance of mesh size regulation.

11 Climate change effect in coastal capture fishery with an example.

12 Any two aquatic health indicators.

13 MPEDA.

14 Carrying capacity.

(4 × 3 = 12 weightage)

Section C

III. Write short essay to the following. Answer any *two* questions. Each question carries 5 weightage :

15 Write an essay on the modern computer tools in ecosystem modeling.

16 Explain intertidal fauna and its adaptations.

17 Explain the conservation methods of freshwater fishery resources.

18 Explain the effects of pollution in marine life.

(2 × 5 = 10 weightage)

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FIRST SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY) EXAMINATION, NOVEMBER 2021

(CBCSS)

Aquaculture and Fishery Microbiology

AFM 1C 01—FISH BIOLOGY AND FISHERIES

(2019 Admission onwards)

Time : Three Hours Maximum : 30 Weightage

General Instructions

1. *In cases where choices are provided, students can attend* **all** *questions in each section.*
2. *The minimum number of questions to be attended from the Section / Part shall remain the same.*
3. *The instruction if any, to attend a minimum number of questions from each sub section / sub part / sub division may be ignored.*
4. *There will be an overall ceiling for each Section / Part that is equivalent to the maximum weightage of the Section / Part.*

Part A

I. Write short answers to the following. Answer any *four* questions. Each question carries 2 weightage :

1 Ova diameter frequency polygon and purpose of ova-diameter studies

2 Length Weight relationship in fishes.

3 Digestive glands and digestive enzymes in fishes.

4 Shore seines and ring seines.

5 Labyrinthine and Dendriform organs in fishes.

6 Explain the terms ; Catch per unit effort and Recruitment.

7 Seine nets.

(4 × 2 = 8 weightage)

Turn over

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Part B

II. Write short essay to the following. Answer any *four* questions. Each question carries 3 weightage :

8 Explain the estimation of age in fishes from hard parts ?

9 Briefly describe the structure of respiratory organs and mechanism of respiration in fishes ?

10 Give a brief account of the structure, hormones produced and functions of the pituitary gland in fishes ?

11 Explain the seaweed resources and seaweed fishery in India ?

12 Explain the major Crustacean and Molluscan Fisheries of India ?

13 Give an account of Marine ornamental fish resources of India and their exploitation.

14 Explain selectivity of gears and bycatch reduction devices ?

(4 × 3 = 12 weightage)

Part C

III. Write short essay to the following. Answer any *two* questions. Each question carries 5 weightage :

15 Give a short account on migration in Fishes ?

16 Elaborate on the different indices of food analysis in fishes.

17 Give a short account on the Crustacean and Molluscan fisheries of India.

18 Briefly explain the Riverine, Estuarine and Reservoir resources of India and their fisheries ?

(2 × 5= 10 weightage)

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