D 93379 **(Pages : 2)** **Name**.....

Reg. No.....

FIRST SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY) EXAMINATION, NOVEMBER 2020

(CBCSS)

Aquaculture and Fishery Microbiology

AFM 1C 04—INTRODUCTION TO SUSTAINABLE AQUACULTURE

(2019 Admissions)

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. *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 answer to the following. Answer any *four* questions. Each question carries 2 weightage :

1 Cryopreservation.

2 Polyploidy.

3 Value addition.

4 Overexploitation.

5 Rotational aquaculture.

6 Intensive farming.

7 Bioremediation.

(4 × 2 = 8 weightage)

Section B

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

8 Ecological problems due to intensive aquaculture.

9 Major route for disease transmission in aquaculture farm.

Turn over

10 Application of wind and tidal energy in aquaculture.

11 Comment on the trade and export of fishery products.

12 Impact of climate change in aqua farming.

13 Integrated farming.

14 Importance of mangroves in fisheries.

(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 biological constraints in aquaculture.

16 Briefly describe the principles of water design systems in open and closed aquaculture systems.

17 Give a detailed account of socioeconomic issues in aquaculture field.

18 Give an account of microbial diseases in shrimp farming.

(2 × 5 = 10 weightage)

D 93378 **(Pages : 2)** **Name.....**

Reg. No.....

FIRST SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY) EXAMINATION, NOVEMBER 2020

(CBCSS)

Aquaculture and Fishery Microbiology

AFM 1C 03—GENERAL MICROBIOLOGY

(2019 Admissions)

Time : Three Hours Maximum : 30 Weightage

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

1 What is meant by Axenic culture ?

2 Explain the principle of serial dilution technique.

3 What are chemoautotrophs ?

4 State the function of Capsule.

5 Define mycotoxins with examples.

6 Define capsomeres.

7 Name two contributions of Antony van Leeuwenhoek.

(4 × 2 = 8 weightage)

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

8 How did the term protist arise ? What organisms do we refer to by the use of this term ?

9 What are cultural methods used for the identification of microorganisms ?

10 How the bacterial growth can be regulated ?

11 Serological tests used for the identification of microorganisms.

12 Write a brief note on bacterial enzymes.

Turn over

13 Write a note on antiviral agents.

14 Different methods used for the maintenance of bacterial cultures.

(4 × 3 = 12 weightage)

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

15 Name several applied area of microbiology. Describe the importance of microorganism in each fields ?

16 Write a note on fungal classification and its morphology.

17 What are the different methods used for the enumeration of bacteria ?

18 Comment on the morphology- of virus and its mode of entry.

(2 × 5 = 10 weightage)

D 93377 **(Pages : 2)** **Name**.....

Reg. No.....

FIRST SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY) EXAMINATION, NOVEMBER 2020

(CBCSS)

Aquaculture and Fishery Microbiology

AFM 1C 02—AQUATIC ECOLOGY AND FISHERIES MANAGEMENT

(2019 Admissions)

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. *There will be an overall ceiling for each Section / Part that is equivalent to the maximum weightage of the Section / Part.*

Section A

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

1 Biodiversity.

2 Abiotic environment.

3 Pelagic ecosystem.

4 Passive fishing gears.

5 Bio magnification.

6 Mesh size in fishing gears.

7 HABs.

(4 × 2 = 8 weightage)

Section B

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

8 Marine Stewardship Council.

9 Ecological indicators.

10 Marine sanctuaries.

11 Global warming in marine capture fishery.

Turn over

12 Total allowable catch.

13 Principles of Ecosystem maturity.

14 Selective fishing gears.

(4 × 3 = 12 weightage)

Section C

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

15 Write an essay on the management of riverine reservoir.

16 Explain ecological classification of marine and freshwater ecosystem.

17 Give an account on Aquatic ecological concepts.

18 Explain the use of technology in fisheries conservation.

(2 × 5 = 10 weightage)

D 93376 **(Pages : 2)** **Name**.....

Reg. No.....

FIRST SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY) EXAMINATION, NOVEMBER 2020

(CBCSS)

Aquaculture and Fishery Microbiology

AFM 1C 01—FISH BIOLOGY AND FISHERIES

(2019 Admissions)

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. *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 answer to the following. Answer any *four* questions. Each question carries 2 weightage :

1 Sexual dimrophism in prawns and crabs.

2 By catch reduction devices.

3 Diadromous and Potamodromous migration in fishes ?

4 Fishery of oil sardine and Mackerel.

5 Endocrine control of reproduction in Crustacea.

6 Structural differences in digestive system according to feeding habits of fishes.

7 Explain Von Bertallanfy growth equation.

(4 × 2 = 8 weightage)

Section B

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

8 Elaborate on different methods for the assessment of reproductive maturity in fishes.

9 What are the different types of fecundity ? Explain the methods for the estimation of fecundity.

Turn over

10 Explain the structure and arrangement of gills in teleosts. Add a note on the mechanism of respiration.

11 Explain FAO's code of conduct for responsible fisheries.

12 Elaborate on Gear selectivity and by catch reduction devices.

13 Explain Maximum Sustainable Yield, Overfishing and Recruitment.

14 Seaweed resources of India and their exploitation.

(4 × 3 = 12 weightage)

Section C

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

15 Elaborate on the different methods of age and growth determination in fishes.

16 Briefly describe the digestive system in fishes. Add a note on the structural differences in the digestive tract of carnivorous and herbivorous fishes.

17 Give a brief account on the pelagic fisheries of India.

18 Give an elaborate account on the crafts and gears used in Indian Fisheries.

(2 × 5 = 10 weightage)

D 72736 (Pages : 2) Name.....

Reg. No.....

FIRST SEMESTER M.Sc. DEGREE EXAMINATION, DECEMBER 2019

(CUCSS)

Aquaculture and Fishery Microbiology

AFM 1C 01—FISH BIOLOGY AND FISHERIES

(2013 Admissions)

Time : Three Hours Maximum : 36 Weightage

I. Write short answers. Answer *all* questions. 1 weightage each :

1 SONAR.

2 Ring seines.

3 Turtle Excluder Devices.

4 Allometric Growth.

5 Anulli.

6 Arborescent Organ.

7 Euryhaline Fishes.

8 GSI.

9 Gonadotropins.

10 Catadromus Fishes.

11 Name the scientific names of two seaweeds.

12 Dugout cannons.

13 Multiday fishing.

14 Milt.

(14 × 1 = 14 weightage)

II. Write short paragraph answers. Answer any *seven* questions. 2 weightage each :

15 Write notes on various types of tags used in fish population studies.

16 Briefly describe the adaptations of deep sea fishes.

17 Write short notes on any two types of accessory respiratory organs with suitable examples.

Turn over

18 Describe the inland fishery resources of Kerala.

19 Comment on the crustacean endocrine systems in fishes.

20 Briefly describe various maturity stages in fishes.

21 Comment on the function of important digestive gland and enzymes they produce.

22 Briefly describe about pelagic fish resources of India.

23 Discuss about the importance of Reservoir fisheries in Indian fishery sector.

24 Comment of the major respiratory pigments present in fishes and crustaceans.

(7 × 2 = 14 weightage)

III. Answer any *two* questions. 4 weightage each :

25 Discuss about the various fish stock assessment modes and the principles underlying.

26 Describe various types of crafts and gears used in present day fishing.

27 Write an essay on the structure of gills, branchial glands and mechanism of gaseous exchange in fishes.

28 Write an essay on the life history of one economically important fish and crustacean species.

(2 × 4 = 8 weightage)