

**THIRD SEMESTER M.A./M.Sc./M.Com. DEGREE (REGULAR)
EXAMINATION, NOVEMBER 2020**

(CBCSS)

Aquaculture and Fishery Microbiology

AFM 3E 06—FISHERY BY-PRODUCTS AND VALUE ADDITION

(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 / Part.*
2. *The minimum number of questions to be attended from the Section / Part shall remain same.*
3. *There will be an overall ceiling for each Section / Part that is equivalent to 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 Composition of surimi.
- 2 Name the acid used for the preparation of fish silage.
- 3 Fish maws and Isinglass.
- 4 Fish meal.
- 5 Breaded and battered products.
- 6 Glucosamine hydrochloride.
- 7 Fish silage.

(4 × 2 = 8 weightage)

Section B

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

- 8 Write a short note on nutritional value and advantages of fish silage.
- 9 Briefly explain hydrolysates enriched food beverages.
- 10 Comment on package and storage of fish meal
- 11 Write notes on nutritional importance of fish oil.

Turn over

- 12 Explain the principles and types of coating.
- 13 Explain important value-added products.
- 14 Comment on different types of fish protein concentrate.

(4 × 3 = 12 weightage)

Section C

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

- 15 Briefly explain fish mince and mince-based products.
- 16 Give a detailed account on current market trends of value-added products.
- 17 What are the byproducts of shrimp shell and explain the production process ?
- 18 Explain breaded and battered products.

(2 × 5 = 10 weightage)

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Aquaculture and Fishery Microbiology

AFM 3E 04—QUALITY CONTROL, INSPECTION AND CERTIFICATION IN SEAFOOD

(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 / Part.*
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Part A

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

- 1 TVB-N.
- 2 Rigor mortis.
- 3 Natural toxic substances in seafood.
- 4 Microbial evaluation of fish quality.
- 5 IQPC.
- 6 Chilling and freezing.
- 7 SSOP.

(4 × 2 = 8 weightage)

Part B

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

- 8 EU requirements for safety of fish and fishery products.
- 9 Food grade Packaging materials.

Turn over

- 10 Methods to evaluate freshness and quality of fish.
- 11 Good Manufacturing Practices.
- 12 HACCP based quality control systems in India.
- 13 Mechanism of export marketing of fish and fishery products.
- 14 Write a note on water treatment methods.

(4 × 3 = 12 weightage)

Part C

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

- 15 Discuss about the sanitary requirements for maintenance of quality.
- 16 Discuss about the post-mortem biochemical changes in fish and their significance.
- 17 Explain the international standards in food safety and quality assurance.
- 18 Write a detailed account on fishery by products.

(2 × 5 = 10 weightage)

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Aquaculture and Fishery Microbiology

AFM 3E 02—AQUACULTURE ENGINEERING

(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 / Part.*
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3. *There will be an overall ceiling for each Section / Part that is equivalent to 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 Hatcheries
- 2 Ion exchange.
- 3 Raceway
- 4 Biofiltration.
- 5 Tank farms.
- 6 Demand Feeder.
- 7 Fish screen.

(4 × 2 = 8 weightage)

Section B

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

- 8 Comment on Oxygen injection system.
- 9 Briefly explain the types of cages.

Turn over

- 10 Explain different types of feeding equipment's.
- 11 Explain the instruments for measuring water quality.
- 12 Give an account on water supply and drainage system.
- 13 Write notes on acid sulphate soil.
- 14 Comment on the recent development in aquaculture engineering.

(4 × 3 = 12 weightage)

Section C

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

- 15 Give account on designing and fabrication of different types of aerators in commercial aquaculture.
- 16 Briefly explain dike design and construction in a pond.
- 17 Write a note on hatchery equipment.
- 18 Give detailed account on construction of hatcheries.

(2 × 5 = 10 weightage)

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Aquaculture and Fishery Microbiology

AFM 3E 01—AQUACULTURE PRODUCTION SYSTEM

(2019 Admissions)

Time : Three Hours

Maximum : 30 Weightage

General Instructions

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Part A

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

- 1 Pen culture.
- 2 Seaweeds.
- 3 Pokkali culture.
- 4 Aquaranching.
- 5 GIFT.
- 6 Taxonomy of mahseer.
- 7 Responsible aquaculture.

(4 × 2 = 8 weightage)

Part B

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

- 8 Characteristics of cultivable species.
- 9 Brackish water aquaculture.
- 10 Common diseases in aquaculture systems.

Turn over

- 11 Live feed culture.
- 12 What are the various steps in pond preparation ?
- 13 Integrated fish farming.
- 14 Cold water fish culture in India.

(4 × 3 = 12 weightage)

Part C

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

- 15 Describe the various physico-chemical parameters influencing the aquaculture systems.
- 16 Explain the prospects of mariculture in India with special reference to grouper and lobster.
- 17 Write an essay on harvest and post-harvest technologies in aquaculture.
- 18 Describe the aquaculture practices for freshwater fish with reference to carps, snakeheads and catfish.

(2 × 5 = 10 weightage)

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Aquaculture and Fishery Microbiology

AFM 3C 10—SEA FOOD PROCESSING TECHNOLOGY

(2019 Admissions)

Time : Three Hours

Maximum : 30 Weightage

General Instructions

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Section A

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

- 1 Blanching.
- 2 Rigor mortis.
- 3 Depuration.
- 4 Chitosan.
- 5 Horizontal plate freezer.
- 6 Freeze denaturation.
- 7 Lipid peroxidation.

(4 × 2 = 8 weightage)

Section B

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

- 8 Write down the advantages of super chilling.
- 9 What are the principles of thermal processing.
- 10 Write notes on enzymatic spoilage.

Turn over

- 11 Comment on dry and wet salting.
- 12 Explain the factors influencing shelf life of fresh fish.
- 13 Describe the process of smoking.
- 14 Comment on the measures to reduce microbial spoilage in fishes.

(4 × 3 = 12 weightage)

Section C

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

- 15 Write an essay on different types of freezers.
- 16 Describe the method of handling of wet fish on board.
- 17 Explain the structural and chemical changes associated with post mortem.
- 18 Write an account on factors which influence quality of frozen fish.

(2 × 5 = 10 weightage)

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Aquaculture and Fishery Microbiology

AFM 3C 09—FISH PHYSIOLOGY

(2019 Admissions)

Time : Three Hours

Maximum : 30 Weightage

General Instructions

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Section A

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

- | | |
|-----------------------|-------------------------|
| 1 Labyrinthine organ. | 2 Aglomerular kidney. |
| 3 Ammonotelic. | 4 Ovoviviparous. |
| 5 Fecundity. | 6 Bubble nest builders. |
| 7 Chloride cells. | |

(4 × 2 = 8 weightage)

Section B

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

- 8 Comment on the osmoregulation in marine fishes.
- 9 Explain briefly on the structure of gills.
- 10 Write notes on rectal glands.
- 11 Comment on spermatogenesis in fishes.
- 12 Explain the functions of swim bladder.
- 13 Describe accessory respiratory organs and its significance.
- 14 Comment on the hormonal control of excretion.

(4 × 3 = 12 weightage)

Turn over

Section C

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

- 15 Write an essay on the feeding adaptations of carnivorous and phytophagous fishes.
- 16 Describe the structure and functions of gonad.
- 17 Explain the courtship and mating behavior in fishes.
- 18 Elaborate the basic anatomy of digestive system of bony fishes.

(2 × 5 = 10 weightage)