

R-4646

Sub. Code

547201

M.Sc. DEGREE EXAMINATION, APRIL 2021

Second Semester

Fisheries Science

AQUACULTURE AND WETLAND MANAGEMENT

(CBCS – 2019 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Nutrient dynamics
2. Soil texture
3. Aquatic humus
4. Micronutrients
5. Microbial loop
6. Azolla
7. Primary productivity
8. Eutrophication
9. Pistia
10. Actinomycetes

Part B**(5 × 5 = 25)**

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain the factors influencing nutrient management.

Or

- (b) Brief the types soil reaction.

12. (a) Explain the significance of humus in aquatic ecosystem.

Or

- (b) Describe the various major nutrients and their importance in aquaculture.

13. (a) What is bacteriophage? Explain its life cycle.

Or

- (b) Discuss the role of fungi in nutrients cycle.

14. (a) Brief the role of microbes in organic production.

Or

- (b) Explain the kinetics of bacterial populations in nutrient cycling.

15. (a) Describe the classification of microorganisms.

Or

- (b) Elucidate the trophic components of aquatic ecosystem.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe the physical properties of soil with neat diagram.
 17. Elaborate the various heavy metals and their impacts on fish production.
 18. Write an essay on carbon cycle with neat diagram.
 19. Explain the microbial interactions and their role in organic decomposition.
 20. Discuss the various biotic communities of aquatic ecosystem.
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Sub. Code

547202

M.Sc. DEGREE EXAMINATION, APRIL 2021

Second Semester

Fisheries Science

FISH GENETICS AND BREEDING TECHNOLOGY

(CBCS – 2019 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. Genetics
2. Genetic Correlation
3. Triploidy
4. Gynogenesis
5. Sex differentiation in fishes
6. Molecular markers
7. Breeding techniques
8. *Etroplus suratensis*
9. Brood stock management
10. *Penaeus indicus*

Part B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Write notes on recent advancement in genetics.

Or

- (b) Short notes on Domestication.

12. (a) State the advantages and disadvantages of Polyploid.

Or

- (b) Write notes on Ploidy induction method.

13. (a) Write notes on scope of selection.

Or

- (b) Brief notes on Molecular tools.

14. (a) Explain lobster culture technique.

Or

- (b) How to collect the Natural Seed?

15. (a) Explain inducing maturation.

Or

- (b) Write notes on open type hatchery.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Write an essay on Fish genetics.
17. Write an essay on Chromosome manipulation.

18. Application of Molecular tools in Sex determination of fish.
 19. Write an essay on fin fish culture in brackish water ponds.
 20. Explain the hatchery design and management.
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Sub. Code

547203

M.Sc. DEGREE EXAMINATION, APRIL 2021.

Second Semester

Fisheries Science

**ORNAMENTAL FISH FARMING AND AQUARIUM
MANAGEMENT**

(CBCS – 2019 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **All** Questions.

1. Mollies
2. Floating feed
3. Ich
4. Java Fern
5. Golden Mahseer
6. Garra
7. Live bearers
8. Trout
9. Panda cory
10. Cryopreservation

Part B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Give an account of feeds and feeding habits of Angelfish.

Or

- (b) Discuss the method of breeding of goldfish.

12. (a) Explain the steps involving in multiplication of any one aquarium plant.

Or

- (b) Describe the various types of aerators used in ornamental aquarium.

13. (a) Brief on important cold water fisheries of sports.

Or

- (b) Narrate the common commercial important cold water fishes.

14. (a) Elucidate the history of cold water fisheries in India.

Or

- (b) Discuss the method of breeding and larval production of trout fish.

15. (a) Elaborate the present status of conservation and marketing of ornamental fishes.

Or

- (b) Describe the demand and marketing strategies of ornamental fishes.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Write an essay on common ornamental freshwater fishes of India.
 17. Describe the common diseases of aquarium fishes and their control methods.
 18. Explain the steps involving in setting up aquarium.
 19. Discuss the method of breeding and larval production of mahseer fish.
 20. Elaborate the importance and conservation of coral species.
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R5608

Sub. Code

547204

M.Sc. DEGREE EXAMINATION, APRIL – 2021

Second Semester

Fisheries Science

FISH PROCESSING TECHNOLOGY

(CBCS – 2019 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Fish spoilage.
2. Explain tilt grader.
3. Chilling.
4. HAACP.
5. Botulism.
6. Brining.
7. Fish liver oil.
8. Chitosan.
9. MPEDA.
10. Frozen fish.

Part B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Write about the post harvest technology for fin fish aquaculture.

Or

- (b) Explain about the grading of fishes.

12. (a) How do you handle the fish for processing?

Or

- (b) Explain about the principles and methods for freezing.

13. (a) Write about the good management practices in fish canning.

Or

- (b) Briefly explain about HACCP.

14. (a) Write about the nutritive value of fish meal.

Or

- (b) Describe about various medicinal products from fish.

15. (a) Write about the economics of fish processing industry.

Or

- (b) Discuss the fish packing materials and its types.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Write an essay on fish packing, storage and transportation up to process plants.
 17. Describe about the quality control and quality assurance of fish during processing.
 18. Write about the types of canning and canned products.
 19. Write an essay on extraction and uses of fish liver oil.
 20. Explain about the marketing channels of fish products.
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R-4650

Sub. Code

547504

M.Sc. DEGREE EXAMINATION, APRIL 2021

Second Semester

Fisheries Science

AQUATIC ECOLOGY AND BIODIVERSITY

(CBCS – 2019 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is 10 % Law?
2. Primary productivity
3. Flood plains
4. Keystone species
5. Marine Protected Areas
6. Germplasm
7. Saltwater crocodile
8. Seagulls
9. Olive Ridley
10. CBD

Part B**(5 × 5 = 25)**

Answer **all** questions, choosing either (a) or (b).

11. (a) Describe the hydrological cycle.

Or

- (b) Explain the marine food chain and food web with neat diagram

12. (a) What is invasive species? Explain the various sources of species invasion.

Or

- (b) Discuss the ecological functions of aquatic system.

13. (a) Brief the various international conventions on biodiversity.

Or

- (b) Write note on sanctuaries.

14. (a) Describe the common identification characters of amphibians.

Or

- (b) Explain the role of birds in fish production.

15. (a) Brief the conservation and management of dugongs.

Or

- (b) Give an account on IUCN criteria Red list

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe the various types of aquatic animal associations.
 17. Explain the species diversity, genetic diversity, community diversity and diversity indices.
 18. Discuss the various in-situ and ex-situ conservation programmes of endangered species.
 19. Brief the distribution, abundance and threats of aquatic reptiles.
 20. Elucidate the strategies for conservation and management of marine carnivore mammals.
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