R–3081

Sub. Code
547201

M.Sc. DEGREE EXAMINATION, APRIL 2019

Second Semester

Fishery Biology

AQUACULTURE AND NUTRITION MANAGEMENT

(CBCS – 2018 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Turbidity.
2. Macronutrient.
3. Organic manure.
4. Substratum.
5. Nitrobacter.
6. Decomposer.
7. Secondary consumer.
8. Zooplankton.
9. Food chain.
10. Floating plants.

Part B (5 × 5 = 25)

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

11. (a) Give an account of nutrient dynamics in aquatic ecosystem.

Or

(b) Write a note on Sediment water nutrient interactions.

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

Or

(b) Specify the important role of micronutrient in aquaculture.

13. (a) Explain fresh water cyanobacteria with suitable examples.

Or

(b) What is Carbon cycle? Discuss the significance with suitable diagram.

14. (a) Explain how does pollution affects productivity.

Or

(b) How to improve the productivity of pond aquaculture?

15. (a) What are the biotic and abiotic components of an aquatic ecosystem?

Or

(b) Enumerate the tropic levels in an ecosystem.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Write an essay on the conditions hydro biological parameters for freshwater aquaculture.

17. Discuss types of fertilizers used in aquaculture with suitable examples.

18. How do microorganisms decompose organic matter? Explain with suitable flow chart.

19. Write an essay on microbial interaction and their role in organic production and decomposition in aquaculture.

20. Define macrophytes. Give a detail account on how to control the aquatic macrophytes.

———————

R–3082

Sub. Code
547202

M.Sc. DEGREE EXAMINATION, APRIL 2019

Second Semester

Fisheries Science

GENETICS AND FISH BREEDING TECHNOLOGY

(CBCS – 2018 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Genes
2. Genetic correlation
3. Chromosomes
4. Gynogenesis
5. Parthogenesis
6. Hybridization
7. Inbreeding depression
8. Social dimorphism in shrimp
9. Sea bass
10. Natural seed.

Part B (5 × 5 = 25)

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

11. (a) Write short notes on genetic correlation.

Or

(b) Explain briefly about domestication and local adaptation of aquatic animals for breeding.

12. (a) Explain in detail about androgenesis and gynogenesis.

Or

(b) Write about ploidy induction methods.

13. (a) Describe in detail about sex determination in fishes.

Or

(b) Explain about sex reversal and its benefits in aquaculture.

14. (a) Discuss about secondary sexual characters of shrimp.

Or

(b) Explain about induced maturation in crustaceans.

15. (a) Write short notes on artificial larval food preparation.

Or

(b) Discuss about breeding and culture of lobsters.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Describe in detail about the recent advancement in genetics.

17. Write an essay about structure and classification of chromosomes with suitable illustrations.

18. Give an account on molecular fools for stock differentiation.

19. Discuss in detail about larval stages in M. Rosenbergei.

20. Explain in detail about finfish culture in brackish water.

———————

R–3083

Sub. Code
547203

M.Sc. DEGREE EXAMINATION, APRIL 2019

Second Semester

Fisheries Science

ORNAMENTAL AQUACULTURE AND AQUARIUM FISH KEEPING

(CBCS – 2018 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Rosy barb.

2. Neon tetra.

3. *Hydrilla.*

4. Filter media.

5. Kissing gourami

6. *Lemna.*

7. Water hyacinth.

8. Infusoria.

9. Living jewel.

10. Conditioning of brooders.

Part B (5 × 5 = 25)

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

11. (a) Write about commercially important cichlid varieties.

Or

(b) Describe the breeding behavior of live bearers.

12. (a) Write about different types of filters.

Or

(b) Write about maintenance of aquarium.

13. (a) How will you set an aquarium in different sizes?

Or

(b) Write about the culture traits of mahseer.

14. (a) History of cold water fish culture in India.

Or

(b) Culture of mouth brooders.

15. (a) Corals and their importance in ornamental farming.

Or

(b) Write about aquascaping.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Give a layout about breeding and larval rearing of egglayers.

17. Write about diseases in aquarium fish and their control.

18. Write about packaging and transportation of aquarium fishes.

19. Describe the hatchery operation and management of trout.

20. Present status and future prospects of ornamental fish culture.

———————

R–3084

Sub. Code
547502

M.Sc. DEGREE EXAMINATION, APRIL 2019

Second Semester

Fisheries Science

FISH PROCESSING TECHNOLOGY (E)

(CBCS – 2018 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Freezing curve
2. Chilled seawater (CSW) storage.
3. Fluidized Bed Freezer
4. Cold chain
5. Grading of fish
6. Fish marinates
7. 12-D-concept
8. Botulineem coore
9. Modified Atmospheric packaging
10. Retort Pouch

Part B (5 × 5 = 25)

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

11. (a) Write a short note on transportation and marketing of frozen products.

Or

(b) Differentiate: Cold smoking and hot smoking.

12. (a) How do you evaluate the fish quality?

Or

(b) Explain the principles of freezing and chilling.

13. (a) Write a short note on fish paste products.

Or

(b) Briefly explain about Fish protein concentrate and their importance in human health.

14. (a) Discuss about the fermented fish and fishery products.

Or

(b) What is the principle behind the thermal processing?

15. (a) Briefly explain the marketing and value chain of fish processing.

Or

(b) Write in detailed about quality problems associated with smoked fish and fishery products.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Discuss in detail about additives and preservatives used in fish and fishery products.

17. Write an essay on chitin and chitosan and their importance.

18. Give detailed note on different methods of freezing of fish.

19. Discuss the quality problems associated with canned fish and fishery products.

20. Write an essay on fish oil production.

———————

R–3548

Sub. Code
547501

M.Sc. DEGREE EXAMINATION, APRIL 2019

First Semester

Fisheries Science

AQUATIC POLLUTION AND FISHERIES MANAGEMENT

(CBCS – 2018 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Bio accumulation

2. Bio – magnification

3. Paper mill pollution

4. Agricultural pollution

5. Pesticides

6. Source of air pollution

7. Itai itai

8. Radio active waste

9. Red tide phenomena

10. NGO

Part B (5 × 5 = 25)

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

11. (a) Briefly explain about BOD and COD.

Or

(b) Discuss about effect of pollutant on marine organisms.

12. (a) Give an account on pollution in world ocean.

Or

(b) Explain about the treatment process for industrial pollution.

13. (a) Write short notes on treatment for oil spills on the sea.

Or

(b) Give an account on the factors affecting bioaccumulation of pesticides.

14. (a) Explain about the sources and classification of radio active pollution.

Or

(b) Discuss about the disposal of radioactive pollution.

15. (a) Explain about Global warming and climate change mitigation.

Or

(b) Discuss about the indicator organisms and their criteria for selection.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Write an account on pollution categories and pollutant classification.

17. Write an essay about industrial pollution.

18. Discuss about the pesticides pollution.

19. Explain in detail about metal pollution.

20. Give an account on Red tides phenomena, distribution, types of poisoning effect and methods to minimize red tides in sea.

———————

R–3549

Sub. Code
547701

M.Sc. DEGREE EXAMINATION, APRIL 2019

First Semester

Fisheries Science

ADVANCED FISHERY BIOLOGY

(CBCS – 2018 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Binomial nomenclature
2. *Mrigal*
3. *Penaeus monodon*
4. Fecundity
5. Anadromous
6. Linear growth
7. Craft
8. Poly culture
9. Spent
10. Pelvic fin

Part B (5 × 5 = 25)

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

11. (a) Explain the main species of carps used for culture practices.

Or

(b) What is brood stock? Write a short note on selection and segregation of brood stock.

12. (a) Explain about composition of feed for fingerlings based on vegetal and animal by products.

Or

(b) Give an account on developmental stages of fin fishes.

13. (a) What is post stocking management? Explain their important management practices.

Or

(b) Write a short note on concepts and economic principles of farm management.

14. (a) Define juvenile. Explain about controlled spawning and hatchery production of juveniles.

Or

(b) What is growth? Give an account on age determination of fishes.

15. (a) Explain about stocking density.

Or

(b) Give a short account on species suitable for cultivation.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Write an essay on exotic species with suitable examples.

17. Give a brief account on general feeding habits and food utilization.

18. Write an essay on design and construction of a paddy type pond farm.

19. Give a detail account on fry collection and artificial propagation in grey mullet.

20. Write an essay on methods of stock assessment.

———————