F–1194

Sub. Code
7BMB2C2

B.Sc. DEGREE EXAMINATION, APRIL 2024

Second Semester

Marine Biology

ANIMAL PHYSIOLOGY

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Peristalsis
2. Filter feeders
3. Acidosis
4. Diffusion
5. Moulting
6. Hormones
7. Bioluminescence
8. Chromatophores
9. Spawning
10. Green glands

Part B (5 × 5 = 25)

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

11. (a) Write a short note on Crustacean Feeding mechanism.

Or

(b) Briefly discuss about transport of food through gut.

12. (a) Write a short note on secondary respiratory organs.

Or

(b) Write a short note factors effecting gaseous exchange.

13. (a) Give an account on types of sense organs in marine organisms.

Or

(b) Explain about the endocrine system and their functions.

14. (a) Write a short note on pigments and colour in marine animals.

Or

(b) Write a short note on luminescent glands and organs.

15. (a) Give an account on various excretory products.

Or

(b) Write a short note on structure of Egg.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Write in detail about types of food and mechanism of digestion.

17. Explain in detail on aquatic respiratory organs and mechanism of gaseous exchange.

18. Write in detail about hormonal growth regulation.

19. Give a detailed account on Bioluminescence and its significance.

20. Explain in detail on external and internal fertilization.

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F–1195

Sub. Code
7BMB3C1

B.Sc. DEGREE EXAMINATION, APRIL 2024

Third Semester

Marine Biology

CELL BIOLOGY AND GENETICS

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Suicidal bags.
2. Prokaryotic cell.
3. Prophase.
4. Chromatid.
5. mRNA.
6. Genetic code.
7. Exon.
8. Transcription.
9. Nucleolus.
10. Nucleotides.

Part B (5 × 5 = 25)

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

11. (a) Write about the structure and functions of endoplasmic reticulum.

Or

(b) Explain about the transport of solutes in cell membrane.

12. (a) Describe about mitosis with illustration.

Or

(b) Write a brief account on cell apoptosis.

13. (a) What are the different forms of DNA?

Or

(b) Explain the semi conservation model of DNA replication.

14. (a) Write about the molecular structure of DNA.

Or

(b) What are the applications of genetic engineering?

15. (a) Explain the role of ribosome in protein synthesis.

Or

(b) Describe about tRNA and its functions.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Describe in detail – prokaryotic and eukaryotic cell structure.

17. Write a detailed account on cell cycle and control in eukaryotes.

18. Describe the different types of protein structure.

19. Write an essay on gene structure and functions.

20. Explain about genetic code and its properties.

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F–1196

Sub. Code
7BMB4C1

B.Sc. DEGREE EXAMINATION, APRIL 2024.

Fourth Semester

Marine Biology

ENVIRONMENTAL BIOLOGY

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Aquatic ecosystem.
2. Food-chain.
3. Anadromous migration.
4. Fish tagging.
5. Lentic ecosystem.
6. Great barrier reef.
7. Anoxic zone.
8. Decomposer.
9. Sea level rise.
10. Noise pollution

Part B (5 × 5 = 25)

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

11. (a) Explain the factors influence the ecosystem stability.

Or

(b) Write a brief note on food-chain and food-web with examples.

12. (a) Describe about fish recruitment and mortality.

Or

(b) Explain about the fish tagging and its uses.

13. (a) Write about mangrove ecosystem and its importance.

Or

(b) Explain about different types of marine habitat.

14. (a) Write a short notes on carbon cycle.

Or

(b) Describe about essential elements and its importance in ecosystem.

15. (a) Write a brief account on impact of thermal pollution on marine environment.

Or

(b) List out the laws related to environmental protection.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Write an essay on ecological pyramids.

17. Describe in detail — population ecology and community structure.

18. Write a detailed account on different types of habitats with examples.

19. Describe the detailed note on global warming and its impacts.

20. Write about the types of environmental pollution and its biological effects.

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F–1197

Sub. Code
7BMB5C1

B.Sc. DEGREE EXAMINATION, APRIL 2024

Fifth Semester

Marine Biology

DEVELOPMENTAL BIOLOGY AND EVOLUTION

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions

1. Oogenesis
2. Fertilization
3. Gastrulation
4. Clevage
5. Cell lineage
6. Induction
7. Mutation
8. Gene pool
9. Eukaryotic cell
10. Metabolism

Part B (5 × 5 = 25)

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

11. (a) Write a short note on Spermatogenesis.

Or

(b) Explain the process of molecular aspects fertilization.

12. (a) Give an account on types of egg.

Or

(b) Write a short note on types of placenta.

13. (a) Write a short note on autonomous specification.

Or

(b) Give an account on cytoplasmic determinants.

14. (a) Explain–Neo-Darwinism.

Or

(b) Write a short note on gene frequencies.

15. (a) Write a short note on abiotic synthesis of polymers.

Or

(b) Give an account on aerobic metabolism.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Write in detail about Gametogenesis and Oogenesis.

17. Explain–Blastulation and Gastrulation.

18. Write an essay on early development and axis specification in Drosophila.

19. Explain in detail about theory of natural selection.

20. Give a detailed account on origin of Eucaryotes.

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F–1199

Sub. Code
7BMB6C1

B.Sc. DEGREE EXAMINATION, APRIL 2024.

Sixth Semester

Marine Biology

FISHERY BIOLOGY AND BIOSTATISTICS

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Teleostei
2. Agnatha.
3. Lates calcarifer
4. Potential fishing zone.
5. Fin lets.
6. Lateral line.
7. Fusiform body.
8. Harvest Control Rule.
9. ANOVA.
10. Standard deviation.

Part B (5 × 5 = 25)

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

11. (a) Write about the general characteristic features of class placodermi

Or

(b) Describe about the morphological features of order tetraodontiformes.

12. (a) Explain about the elasmobranch fisheries resources in India.

Or

(b) Explain about the oil sardine fisheries resources in India.

13. (a) What are the different types of scales in fishes.

Or

(b) Write about the various fish body shape with suitable diagrams.

14. (a) Explain about the acoustic fish survey.

Or

(b) How do you assess the fisheries stock and recruitment?

15. (a) Explain about multi-variate analyses.

Or

(b) Write about the test of significance.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Describe about the Nelson's (1994) classification of fishes.

17. Write about the present status of prawn fisheries in India.

18. Write an essay on anatomy of fish with neat illustrations.

19. Describe the fishing theory and principle of fishing.

20. Write about the application of statistics in marine biology and fisheries.

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F–1200

Sub. Code
7BMB6C2

B.Sc. DEGREE EXAMINATION, APRIL 2024

Sixth Semester

Marine Biology

BIODIVERSITY AND CONSERVATION

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define biodiversity
2. ZSI
3. Littoral zone
4. Coastal vulnerability
5. Invasive species
6. Sea level rise
7. Marine natural products
8. Antimicrobial compounds
9. Ciguatera toxin
10. Marine steroids

Part B (5 × 5 = 25)

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

11. (a) What are the needs for conservation of biodiversity?

Or

(b) Write about the types of biodiversity.

12. (a) Explain about coastal biodiversity.

Or

(b) What are the uses and values of biodiversity?

13. (a) Explain the threats of biodiversity.

Or

(b) Brief note on over exploitation.

14. (a) Write a short note on sources of marine drugs.

Or

(b) Explain about nitrogenous compounds.

15. (a) What are the functional properties of toxins?

Or

(b) Write a short note on venoms marine animals.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Write an essay on biodiversity in regional and global level

17. Describe about ecological interaction of species diversity.

18. Explain about the uses and values of biodiversity and its significance.

19. Describe the sources and importance of marine drugs.

20. Write a details account on toxin from marine animals.

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F–1202

Sub. Code
7BMBE3B

B.Sc. DEGREE EXAMINATION, APRIL 2024

Sixth Semester

Marine Biology

Elective – AQUARIUM KEEPING

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Cold water aquarium.
2. Clown fish.
3. Aquarium pumps.
4. Filter media.
5. Aquarium pH.
6. Probiotics.
7. Dropsy.
8. Saprolegnia.
9. Broodstock.
10. Fish packing density.

Part B (5 × 5 = 25)

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

11. (a) Write shortly on marine aquarium.

Or

(b) Write a brief account on ornamental aquatic plants.

12. (a) Give an account of materials used in the freshwater aquarium.

Or

(b) List out the equipment used in the aquarium.

13. (a) Discuss ornamental fish foods.

Or

(b) Explain the significance of live feeds in the aquarium.

14. (a) Write short notes on Tail Rot diseases in fishes.

Or

(b) Discuss the vibriosis infection and its control measure in the aquarium.

15. (a) Explain the broodstock selection in ornamental fish hatcheries.

Or

(b) Write short notes on the economics of aquarium.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Write an essay on the status of ornamental fish culture and trade in India.

17. Explain the marine aquarium construction using essential tools.

18. Describe the management of water quality in marine and freshwater aquariums.

19. Give a detailed account on fungal diseases and control measures in marine aquariums.

20. Explain the process of packing and transporting of ornamental fishes.

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F–1203

Sub. Code
7BMBE3C

B.Sc. DEGREE EXAMINATION, APRIL 2024

Sixth Semester

Marine Biology

Elective – SEA FOOD PROCESSING

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Fish spoilage.
2. Preservatives
3. Gutting.
4. Deveining.
5. Curing.
6. Freezing.
7. Byproducts
8. Products Labelling
9. Food quality control.
10. Food quality standard.

Part B (5 × 5 = 25)

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

11. (a) Give a short note on sea foods.

Or

(b) Explain chemical spoilage sea foods.

12. (a) Describe the filleting process of fish.

Or

(b) Give an account on the peeling and deveining process.

13. (a) Explain the freezing process of sea foods.

Or

(b) Write a brief account of the sea foods canning process.

14. (a) Give a short note on the packing process of sea foods.

Or

(b) Discuss the material required for designing the sea food processing plant.

15. (a) How you assess the fish quality? Explain.

Or

(b) Describe organoleptic quality standards.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain the factors involving in the fish spoilage.

17. Disucss the different strategies for sea food preservation.

18. Elucidate drying process of sea food.

19. Explain the fishery by products from the sea food industries.

20. Give detailed guidelines of hazard analysis critical control points in sea food industries.

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