S–7051	Sub. Code 22BMB5C1

B.Sc. DEGREE EXAMINATION, APRIL 2025.

Fifth Semester

Marine Biology

IMMUNOLOGY AND GENETICS

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Innate immunity
2. Thymic cortex
3. IgE
4. Antigen
5. Factor
6. 3:1
7. XX
8. ABO
9. Pheylyketonuria
10. Medical Genetics specialist

Part B (5 × 5 = 25)

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

11. (a) Write the timeline of Immunology.

Or

(b) Give an account on the adaptive immunity.

12. (a) Explain the IgM.

Or

(b) Summarize the interaction of antigen and antibody.

13. (a) Give an account on the interactions of genes.

Or

(b) Write a note on simple mendelian train in man.

14. (a) Write a note on Linkage and Crossing over.

Or

(b) Write a brief note on Multiple alleles.

15. (a) Discuss the occurrence of inborn error of metabolism.

Or

(b) Compare the in and out breedings.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Give an account on the lymphoid organs.

17. Elaborate the autoimmune disease and its types.

18. Discuss the polygenic inheritance with example.

19. Elaborate the Colorblindness and Haemophilia.

20. Explain the process and different procedures of IVF.

S–7053

Sub. Code
22BMB5C3

B.Sc. DEGREE EXAMINATION, APRIL 2025.

Fifth Semester

Marine Biology

BIODIVERSITY AND CONSERVATION

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Simpson's Index
2. Species dominance
3. Conservation
4. National parks
5. Climate Change
6. Integrated Coastal Zone management
7. Ocean warming
8. Sea level rise
9. National Biodiversity Act
10. State Biodiversity Board

Part B $(5 \times 5 = 25)$

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

11. (a) Write a note on the causes for the marine bioresources extinction.

Or

(b) Explain the significance of marine biodiversity.

12. (a) Explain the Ex-situ conservation.

Or

(b) Discuss the establishment of new populations.

13. (a) Explain the marine protected areas in India.

Or

(b) Highlight the important parameters causing the need for Marine Protected Areas.

14. (a) Emphasize the importance of scientific data in biodiversity conservation.

Or

(b) Write a note the biological biodiversity.

15. (a) Highlight the important government action on the biodiversity.

Or

(b) Brief the local legislation concerned with biodiversity.

Part C $(3 \times 10 = 30)$

Answer any **three** questions.

16. Write an essay on the aquarium fish culture and trade in India.

17. Explain the established legal protection of species.

18. Emphasize the goals of marine protected areas in mitigating the climate change.

19. Discuss the use of marine environment.

20. Discuss the National Biodiversity Authority in conservation of biodiversity.

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S–7054

Sub. Code
22BMB5C4

B.Sc. DEGREE EXAMINATION, APRIL 2025.

Fifth Semester

Marine Biology

SEA FOOD PROCESSING TECHNOLOGY

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Fish Bobbing
2. Chilled seawater
3. Autolysis
4. Fermentation
5. Cryoprotectant
6. Cold chain
7. Seeming
8. Pressure canning
9. FPC
10. Align

Part B

$(5 \times 5 = 25)$

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

11. (a) Brief on the hygienic handing of fish onshore.

Or

(b) Discuss the method of quality ice manufacturing for seafood storage.

12. (a) Explain the method of sun drying of fish.

Or

(b) What is marinating? Explain the method of marinating of fish.

13. (a) Describe the various packaging materials and method of packaging of seafood.

Or

(b) Narrate the storage period and shelf life of seafood products.

14. (a) Discuss the preventive measures of spoilage of canned fish products.

Or

(b) Give an account on various raw materials used for the seafood canning.

15. (a) Write a note on various seaweed by-products.

Or

(b) Discuss the role of MPEDA in seafood trade.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Elaborate the various methods of transportation of live, fresh and frozen seafoods.

17. Describe in detail on various post mortem changes in fish.

18. Discuss the principles and applications guidelines of HACCP.

19. Elucidate the various steps involving in fish canning.

20. Discuss on various quality assessment protocols on fish and fishery byproducts.

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S–7055

Sub. Code
22BMB6E1

B.Sc. DEGREE EXAMINATION, APRIL 2025.

Sixth Semester

Marine Biology

Elective : MARINE RESOURCES

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Conservation
2. Petroleum reservoir
3. Geochemical explorations
4. Placer deposits
5. Mechanized trawlers
6. Microalgae
7. Phycobiliproteins
8. Sea whip
9. Tetrodotoxin
10. Conotoxins

Part B (5 × 5 = 25)

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

11. (a) Give an account on integrated resource management.

Or

(b) Describe about the nonrenewable resources of the Indian Ocean.

12. (a) Describe a modern method to identify mineral deposits in the seafloor.

Or

(b) Explain phosphorites and applications.

13. (a) Define and give an account on Exclusive economic zones.

Or

(b) What are Mollusca? Give examples of seafood Mollusca.

14. (a) Elaborate any three bioactive compounds isolated from tunicates.

Or

(b) Describe the classifications of marine drugs.

15. (a) What are biotoxins? As an example, elaborate toxins from lionfish.

Or

(b) Discuss classifications of biotoxins and chemical structure.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Write an essay on the significance of marine resource conservation.

17. Elaborate on different types of marine mineral deposits and exploration processes.

18. Write a detailed note on marine microalgae as a potent bioresource.

19. Describe the types and economically important compounds from seaweeds.

20. Write an essay on toxic algal blooms and economic liabilities.

S–7056

Sub. Code
22BMB6E2

B.Sc. DEGREE EXAMINATION, APRIL 2025.

Sixth Semester

Marine Biology

Elective : AQUARIUM FISH KEEPING

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Exotic fishes
2. Fanwort
3. Tempered glass
4. Aquarium filters
5. Magnetic cleaner
6. Probiotics
7. Fin rot
8. Chloramphenicol
9. Captive breeding
10. Transgenic fish

Part B (5 × 5 = 25)

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

11. (a) List the types of fish aquarium.

Or

(b) Explain the identification method of ornamental fishes.

12. (a) Discuss the fresh water aquarium fabrication.

Or

(b) List the aquarium construction materials.

13. (a) Explain the maintenance of essential water quality parameters in freshwater aquarium.

Or

(b) Summarize the role of probiotics in ornamental fish culture.

14. (a) Write shortly on fungal diseases in ornamental fishes.

Or

(b) Discuss the symptoms and control measure of lymphocystis.

15. (a) Give a note on brooder management in ornamental fish breeding.

Or

(b) Explain the packing and transport procedures of ornamental fishes.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Write an essay on the aquarium fish culture and trade in India.

17. Explain the essential equipment in the marine aquarium.

18. Discuss the criteria for selection of ornamental fishes.

19. Elucidate the bacterial diseases and their control measure in ornamental fishes.

20. Demonstrate the design and construction of an ornamental fish hatchery.

S–7057

Sub. Code
22BMB6E3

B.Sc. DEGREE EXAMINATION, APRIL 2025.

Sixth Semester

Marine Biology

Elective – COASTAL DISASTER MANAGEMENT

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Hurricane.

2. Hazards event.

3. Tsunami.

4. Coastal flooding.

5. Structural measures.

6. VEI index.

7. Infrastructures damage.

8. Livelihoods loss.

9. Disaster insurance.

10. CDRRP.

Part B (5 × 5 = 25)

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

11. (a) Justify hazards as a natural process.

Or

(b) Discuss the death and damage after hazards.

12. (a) Explain the marine resource depletion.

Or

(b) Give an account on the seawater intrusion.

13. (a) Explain the assessment of environmental hazards.

Or

(b) Write briefly on scales of disasters.

14. (a) Give an account on the loss of resources during a disaster.

Or

(b) Discuss the impact of disaster on climate.

15. (a) Explain the types of geohazards.

Or

(b) Write shortly on the training for disaster management.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Discuss the benefits and importance of natural disasters.

17. Explain any four coastal natural disasters.

18. Summarize the effects of various coastal disasters.

19. Write an essay on the interruption of development programs by disasters.

20. Evaluate the trends in climatology and meteorology for coastal disaster management.

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