

**S-5078**

**Sub. Code**

**22BMB5C1**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2024**

**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. Adaptive Immunity.
2. Stromal cells.
3. IgM.
4. Antibody.
5. 9 : 3 : 3 : 1.
6. Dominance.
7. XY.
8. Hemophilia.
9. Alkaptonuria.
10. Pedigree.

**Part B**

(5 × 5 = 25)

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

11. (a) Emphasize the importance of nuclear pore complex.

Or

- (b) Explain the innate immunity.

12. (a) Explain the IgA.

Or

- (b) Explain the hypersensitivity.

13. (a) Give an account on law of segregation.

Or

- (b) Explain the Epistasis.

14. (a) Write a short note on Sex linked inheritance.

Or

- (b) Discuss the Chromosomal mapping.

15. (a) Explain the process of non-disjunction.

Or

- (b) Discuss the genetic counseling.

**Part C**

(3 × 10 = 30)

Answer any **three** questions.

16. Discuss the immunity.

17. Summarize the mechanism involved in tumor immunology.

18. Elaborate the dihybrid cross of the Mendel with example.
  19. Elaborate the sex determination.
  20. Elaborate the different types of syndromes.
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**S-5079**

**Sub. Code**

**22BMB5C2**

**B.Sc. DEGREE EXAMINATION, NOVEMBER 2024**

**Fifth Semester**

**Marine Biology**

**MARINE POLLUTION**

**(CBCS – 2022 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Bioaccumulation.
2. Biochemical Oxygen Demand.
3. Define Microplastics.
4. Eutrophication.
5. Oil spill.
6. Causes of thermal pollution.
7. DDT.
8. Endosulfan.
9. Minamata disease.
10. Define heavy metals with examples.

**Part B**

(5 × 5 = 25)

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

11. (a) Write a short note on biomagnifications with suitable examples.

Or

- (b) Explain about the transport of organic pollutants to the ocean.

12. (a) Describe about the major sources of sewage pollution.

Or

- (b) Write a short note on sources and effects of microplastic pollution.

13. (a) Describe about the fate of spilled oil on marine environment.

Or

- (b) What are the impacts of thermal pollution on marine resources?

14. (a) Briefly discuss about DDT and its effects on marine environment.

Or

- (b) Describe about the input of pesticide in the marine environment.

15. (a) Write an account on cadmium pollution and its impacts on human health.

Or

- (b) What are the roles and significance of GESAMP?

**Part C**

(3 × 10 = 30)

Answer any **three** questions.

16. Write an essay on the classification of major marine pollutants.
  17. Describe in detail — Sewage treatment methods.
  18. Write a detailed account on fate of oil pollution and its treatment methods.
  19. Write an essay on impacts of pesticides on marine resources.
  20. Explain about sources and impacts of heavy metal pollution.
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<b>Sub. Code</b>
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<b>22BMB5C3</b>
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**B.Sc. DEGREE EXAMINATION, NOVEMBER 2024**

**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. Biodiversity
2. Shannon index (H')
3. Biodiversity hotspots
4. Wildlife sanctuaries
5. Marine Protected Area
6. Anthropogenic impact
7. Marine pollution
8. Ocean acidification
9. Sustainable development
10. National Biodiversity Authority

**Part B**

(5 × 5 = 25)

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

11. (a) Explain the marine biodiversity.

Or

- (b) Discuss the importance of biodiversity indices.

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

Or

- (b) Summarize the problems of small population.

13. (a) Explain the Marine Protected Areas in the world.

Or

- (b) Highlight the importance of Marine Protected Areas

14. (a) Explain the jurisdictional gaps in marine biodiversity conservation.

Or

- (b) Write a note the cultural biodiversity.

15. (a) Write a note on the traditional societies.

Or

- (b) Explain the national laws of biodiversity.



**Part C**

(3 × 10 = 30)

Answer any **three** questions.

16. Explain the causes and rate of marine bioresources extinction.
  17. Elaborate the different conservation categories of species.
  18. How will you restore the environment under marine protected area concept?
  19. Discuss the challenges in marine biodiversity conservation.
  20. Discuss the National Biodiversity Act in conservation of biodiversity.
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**B.Sc. DEGREE EXAMINATION, NOVEMBER 2024**

**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 jaggings.
2. Styrofoam boxes.
3. Rigor mortis.
4. Rack Drying.
5. Blast Freezing.
6. Critical limits.
7. Retorting.
8. Irradiation.
9. Agar-agar.
10. MPEDA.

**Part B**

(5 × 5 = 25)

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

11. (a) Explain about hygienic fish handling onboard and onshore.

Or

- (b) Brief on various insulated containers used for the fresh fish transportation.

12. (a) Describe the factors affecting quality of fish.

Or

- (b) What is fish smoking? Explain the procedure involving in smoking of fish.

13. (a) Explain the hygienic practices followed in fish processing plants.

Or

- (b) Describe the methods of packing of fresh and frozen fish.

14. (a) Narrate the causes of spoilage of canned fish foods.

Or

- (b) Discuss the effect of irradiation on biochemical profile of fish food.

15. (a) How did assess the quality of fish and fishery products?

Or

- (b) Brief the USFDA and EU regulations for export trade.

**Part C**

(3 × 10 = 30)

Answer any **three** questions.

16. Discuss the method of manufacturing and quality of ice for fish storage.
  17. Elaborate the various methods of fish salting.
  18. Describe the steps involving in freezing of fish using various freezers.
  19. Elucidate the method of shrimp canning.
  20. Write an essay on various fish byproducts and value-added products.
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