

M. Sc. DEGREE EXAMINATION, APRIL 2023
BIOTECHNOLOGY
SECOND SEMESTER

COURSE : ELECTIVE
PAPER : MARINE BIOTECHNOLOGY
TIME : 3 HOURS

MAX. MARKS: 100

SECTION – A

ANSWER ALL THE QUESTIONS

(10 x 2 = 20)

1. What is the pelagic zone of the ocean?
2. What are the characteristics of brackish water?
3. Where are white smokers found?
4. Define Barotolerant with example.
5. Define Biomagnification.
6. List few marine boring organisms with examples.
7. Write a short note on Secchi disk and its importance.
8. What do you mean by dissolved oxygen and what causes it?
9. Name any four low-calorie sweeteners.
10. What are the uses of carrageenan in food industries?

SECTION – B

ANSWER ALL THE QUESTIONS

(5 x 8 = 40)

11. (a) Write a short notes on coral reefs and its types and factors affecting its growth.
(or)
(b) Write a short note on economic importance and classification of plankton based on size and habitat.
12. (a) What are hydrothermal vents and discuss its importance and characteristics.
(or)
(b) Give an account of extremozymes and their biotechnological applications.
13. (a) How do industrial and domestic wastes impact the marine ecosystem?
(or)
(b) Write short notes on marine fouling and the antifouling treatments.
14. (a) Briefly discuss the determination of salinity.
(or)
(b) Write in brief about estimation of heavy metals.
15. (a) Comment on various marine bioactive products/compounds in pharmaceutical industries.
(or)
(b) Discuss the use of the marine compound in nutraceutical industries as flavour modifiers and nutritional enrichment.

SECTION – C

ANSWER ANY TWO QUESTIONS IN ABOUT 1500 WORDS

(2 x 20 = 40)

16. Explain the classification, distribution, adaptation, and ecological significance of mangroves.
17. Discuss hyperthermophilic and barophilic microorganisms with their applications.
18. Elaborate on the impact of oil pollution, pesticide and radioactive pollution on the marine environment.
19. Describe the production and application of agarose, SCP, carrageenan, chitosan and chitin.
