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**2803N1159**

Candidate's Seat No : \_\_\_\_\_

**B.Sc. Sem.-5 Examination**

**CC-303**

**Biotechnology**

**March-2025**

**Time : 2-30 Hours]**

**[Max. Marks : 70**

**Instructions:**

- (1) Draw figures where necessary.
- (2) Show question number against each answer.

Q1. Discuss the factors affecting the biological productivity in various geographical regions. 14

**OR**

- (A) Write a note on mangroves. 7
- (B) Discuss the physical properties of oceanic water. 7

Q2. Discuss mineral resources from marine water in detail. 14

**OR**

- (A) Write a note on sea weeds and its applications. 7
- (B) Discuss the importance of planktons to marine ecosystem. 7

Q3. Discuss in detail the commercial importance of marine polysaccharides. 14

**OR**

- (A) Discuss some commercial enzymes and lipids isolated from ocean. 7
- (B) Elaborate Green Fluorescent protein from ocean and give its applications. 7

Q4. Write a detailed note on Bio-sensors and give its applications. 14

**OR**

- (A) Discuss the applications of Marine algae as a source of Single cell protein. 7
- (B) Write a brief note on Pearl culture. 7

**P.T.O.**

Q5. Answer the following: (Any 7)

1. What is the importance of estuaries?
  2. Define: Bio-prospecting
  3. Enlist role of bioactive compounds of marine origin and how are they beneficial to humans?
  4. Give any two applications of Anti-freeze proteins.
  5. List the factors affecting oxygen levels in ocean water.
  6. What is brackish water?
  7. Give an example of crustacean and its importance for humans.
  8. Define: Eutrophication.
  9. Enlist the barriers in aquaculture.
  10. Name any two marine bacteria giving bioluminescence.
  11. How sea-grasses are different from sea-weds?
  12. Name the marine organism grown by aquaculture in Gujarat.
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