

2/22

1308E241

Candidate's Seat No : _____

B.Sc. Sem-5 Examination

CC 303

Biotechnology

August 2021

Time : 2-00 Hours]

[Max. Marks : 50

Instructions:

- (1) All questions in **section I** carry equal marks.
- (2) Attempt any **THREE** questions in **section I**.
- (3) Question IX in **Section II** is **COMPULSORY**.
- (4) Draw figures where necessary. Show question number against each answer.
- (5) Figures in right are marks.

Section-I

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|------|---|---|
| Q.1 | (A) Describe the biological productivity of the ocean in detail. | 7 |
| | (B) Write chemical and physical properties of ocean water | 7 |
| Q. 2 | (A) Explain Structural features of seaweeds with suitable diagram. | 7 |
| | (B) Describe types of estuaries and their role in biotechnology. | 7 |
| Q.3 | (A) Write significance of ocean planktons stating suitable examples. | 7 |
| | (B) Discuss chemical resources from marine water. | 7 |
| Q.4 | (A) Write a note on assessment of live resources in marine habitat. | 7 |
| | (B) Give importance of crustaceans and Mollusc as marine resources. | 7 |
| Q.5 | (A) Write a detailed note of GFP and its applications. | 7 |
| | (B) Discuss some commercial carbohydrates isolated from marine sources. | 7 |
| Q.6 | (A) Discuss two commercial bioproducts from marine organisms in detail. | 7 |
| | (B) Explain anti-freeze protein and its applications. | 7 |
| Q.7 | (A) Write a short note on Fish farming. | 7 |
| | (B) Explain biofouling and bio corrosion with suitable examples. | 7 |
| Q.8 | (A) Write a brief note on Aquaculture. | 7 |
| | (B) Describe single cell protein production from marine algae. | 7 |

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Section-II

Q.9 Answer in short (any Eight) -

8

- (1) What is Environmental remediation?
- (2) Define osmotic conformers.
- (3) Give the importance of mangroves
- (4) Write two commercial applications of marine lipid.
- (5) What are brownfield sites?
- (6) What is Bioluminescence?
- (7) Define osmo-regulators with two examples.
- (8) Give biotechnological role to sea grasses.
- (9) Define thermal hysteresis.
- (10) Define bio corrosion.
- (11) Give a point difference between fresh, brackish and salt water.
- (12) Write criteria for divisions of oceanic zones.
- (13) Define estuary.
- (14) Name two commercially available lipids from marine resources.
- (15) Write two characteristics of class Gastropoda.
- (16) Define salinity of sea water
- (17) What are Benthic organisms?
- (18) Give two examples of marine enzymes.
- (19) How chitosan is produced from chitin at commercial scale?
- (20) Why antifreeze proteins are required?
- (21) Name two estuaries of India.
- (22) Write three major types of marine fishes.

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