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Question Paper Code: 99D09

B.E./B.Tech. DEGREE EXAMINATION, NOV 2022

Elective

Biotechnology

19UBT909- MARINE BIOTECHNOLOGY

(Regulations 2019)

Duration: Three hours

Maximum: 100 Marks

Answer All Questions

PART A - (10x 2 = 20 Marks)

1. Write a note on ocean acidification. CO1- U
2. What do you mean by nectons? Specify the niches. CO1- U
3. List out the methods of ploidy manipulation CO1- U
4. What do you mean by triploids? How it is useful in fish genetics? CO1- U
5. Differentiate prebiotics and probiotics with some examples. CO2- App
6. What type of prebiotics are used to improve the aquaculture production? CO2- App
7. Write a note on carrageenan. CO1- U
8. List the common plankters that are used as live feed. CO1- U
9. Outline the effects of a variety of different aquatic pollutants. CO1- U
10. Give some examples of Biological indicator species. CO1- U

PART – B (5 x 16= 80Marks)

11. (a) What are Coral reefs? Explain its significance with respect to marine ecology. CO2- App (16)
Or
(b) Write in detail about the interactions between marine microbes and other organisms and briefly explain about marine food web. CO2- App (16)
12. (a) Explain in detail about the types and techniques involved in polyploidy manipulation. Give its advantages and disadvantages. CO2- App (16)
Or
(b) Explain the strategies for the breeding of shrimp. What conditions would you maintain to improve its quality and quantity? CO2- App (16)

13. (a) How antibiotics are produced from marine resources? Discuss briefly the commercial importance of those products and their pharmaceutical applications. CO3- Ana (16)
- Or
- (b) What approach would you apply for the production of Omega-3-fatty acid from marine organisms? What specific source would you prefer to get more production? CO3- Ana (16)
14. (a) Compare and contrast the live feed production of Microalgae and Rotifers. Schematically outline the production system unit. CO3- Ana (16)
- Or
- (b) Describe in detail the bioethanol production from marine sources and Analyze and explain why it is called as the third generation bioethanol? Justify CO3- Ana (16)
15. (a) Write a note on bioremoval of heavy metals. What are the causative factors and effects on the organisms of marine environment? CO2- App (16)
- Or
- (b) Explain the role of marine microbes in pollution abatement. Include the list of microbes in controlling the toxic waste. CO2- App (16)

