

TM211030TR

Reg. No :

Name :

M. Sc. DEGREE (C.S.S.) EXAMINATION, NOVEMBER 2021
[2021 Admissions Regular and 2020 Admissions Improvement & Supplementary]
SEMESTER I - CORE COURSE (BOTANY)
BO1C01TM20 - MICROBIOLOGY AND PHYCOLOGY

Time : 3 Hours

Maximum Weight : 30

Part A

I. Answer any Eight questions. Each question carries 1 weight **(8x1=8)**

1. Write a note on the major groups of microbes according to the five kingdom system of classification.
2. Distinguish between the structure and functions of fimbriae and pili.
3. Write a note on bacterial nutrition.
4. Give an account on the types of envelopes in viruses.
5. Give a brief account on the centres of algal research in India.
6. Write down the contributions of G S Venkataraman in the field of Phycology.
7. Write a brief account on *Rafatzamia chitrakootensis*.
8. Give a brief account of the photosynthetic products in the various groups of algae.
9. Write notes on algal productivity.
10. Analyse the role of algae as ecological indicators.

Part B

II. Answer any Six questions. Each question carries 2 weight **(6x2=12)**

11. How are pure cultures maintained and preserved for later studies?
12. Give the characteristic features of the following: (a) Spirochaetes (b) Rickettsia (c) Chlamydiae
13. F E Fritsch classified algae into 11 classes based on some features. Explain those features with examples.
14. Give the distinguishing features of Bacillariophyceae.
15. Explain post fertilisation development in Rhodophyceae.
16. Discuss the nature of thallus in Bacillariophyceae.
17. Comment on the role of algae in symbiotic association.
18. Discuss the methods and techniques of collection, preservation and culturing of macro algae.

Part C

III. Answer any Two questions. Each question carries 5 weight **(2x5=10)**

19. Describe with illustrations, the various procedures done to isolate a pure culture of microbes.
20. What are Archaeobacteria? Categorize the extremophiles and give their salient features. Add a note on their significance in industrial applications.
21. Give a general account on the characteristic features of viruses. Add a note on its life cycle.
22. Discuss reproductive methods in algae.