K25P 3525

Reg. No. : .....

Name : .....

I Semester M.Sc. Degree (C.B.C.S.S. – OBE – Reg./Supple./Imp.) Examination, October 2025
(2023 Admission Onwards)
BOTANY
MSBOT01C01 : General and Applied Microbiology

Time : 3 Hours Max. Marks : 60

PART – A

Answer **any five** questions. **(5×3=15)**

1. Describe the features of Spirochetes and Mycoplasma.
2. What is rRNA sequencing and why is it used in microbial taxonomy ?
3. Define generation time and draw a labelled growth curve of microbes.
4. Write a brief note on extremophiles.
5. What are bacteriophages ? Mention two applications.
6. Define sterilization and name any three sterilization methods.

PART – B

Answer **any three** questions. **(3×6=18)**

7. Differentiate viroids, prions and viruses with respect to structure and nucleic acid.
8. Discuss continuous culture, its principles and applications.
9. Explain microbial adaptation in marine and freshwater environments.
10. Describe methods for isolation of pure cultures of microbes.
11. Explain the industrial microbiology of alcohol and vinegar production.

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PART – C

Answer **any three** questions. **(3×9=27)**

12. Write an essay on molecular methods in microbial systematics and discuss their advantages and limitations.

13. Describe in detail, the various virus cultivation in cell lines.

14. Critically discuss sterilization and disinfection in microbiology laboratories with validation parameters.

15. Explain in detail the role of microbes in agriculture with suitable examples.

16. Discuss bacterial genetics with emphasis on plasmids and transposons in antibiotic resistance including containment and biosafety considerations.

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