



Reg. No. :

Name :

First Semester B.Sc. Degree Examination, March 2018
(Career Related First Degree Programme under CBCSS)
Group 2 (a) Botany and Biotechnology
BB 1171 – MICROBIOLOGY
(2015 Admission Onwards)

Time : 3 Hours

Max. Marks : 80

SECTION – A

Answer **all** the questions in a **word** or **one** or **two** sentences. Each question carries **one** mark. **(1×10=10 Marks)**

1. Who first reported the role of microorganisms in fermentation ?
2. Name a filtration technique used for sterilization.
3. What is a serovar ?
4. In turbidometric measurement, growth of bacteria is expressed in which unit ?
5. Name an anaerobic bacteria.
6. Name a wet heat method of sterilization.
7. Name the polysaccharide backbone present in the bacterial cell wall.
8. Which life cycle of the bacteriophage results in the destruction of the host cell ?
9. Name a microbe used as a biofertilizer.
10. Name a solidifying agent used in culture media.

SECTION – B

Answer **any 8** questions. Each question carries **2** marks. (Answer **not** to exceed **one** paragraph). **(2×8=16 Marks)**

11. Give two examples of chemicals used in sterilization.
12. What is meant by generation time ?
13. What is a selective media ?



14. What is rhizosphere ?
15. Give two examples of alkaliphilic bacteria.
16. Write any two factors that affect the growth of bacteria.
17. What are the basic structural units of a virus ?
18. What is a prophage ?
19. Name the two life cycles of a bacteriophage.
20. Define sterilization.
21. What are mesosomes ?
22. What is meant by pure culture ?

SECTION – C

Answer **any 6** questions. **Each** question carries **4** marks. (Answer **not** to exceed **120** words). **(4×6=24 Marks)**

23. What are the significance of Pasteur's experiments ?
24. Discuss the enriched culture media and its uses.
25. Describe the advantages and disadvantages of radiation method of sterilization.
26. Differentiate between gram positive and gram negative bacteria.
27. Differentiate between prokaryotes and eukaryotes.
28. Write a note on the mechanisms of nitrogen fixation.
29. Write briefly on the structure of a T4 bacteriophage.
30. Briefly explain the mutual benefits of mycorrhizal associations.
31. Briefly explain the phosphorous cycle.

SECTION – D

Answer **any 2** questions. **Each** question carries **15** marks. (Answer **not** to exceed **three** pages). **(2×15=30 Marks)**

32. Schematically elaborate the different stages of bacterial growth curve.
33. Describe the nitrogen cycle and its importance.
34. Explain the ultrastructure of a prokaryotic cell with suitable diagrams.
35. Write elaborately on the bacterial motility and structure and types of flagella.