



(Pages : 2)

D – 5135

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
(2013 and 2014 Admissions)**

Time : 3 Hours

Maximum Marks : 80

SECTION – A

Answer **all** questions in **a** word or **one** or **two** sentences. **Each** question carries **1** mark. Draw diagrams **only** if specified in the questions.

1. Name the radiation which is commonly used in sterilization.
 2. Name a fungal disease.
 3. What are pill ?
 4. Define chemosynthesis.
 5. What is stab culture ?
 6. What are prototrophs ?
 7. What is a capsid ?
 8. Define fermentation.
 9. Name the organism from which penicillin is obtained.
 10. What is a plaque ?
- (1×10=10 Marks)**

SECTION – B

Answer **any 8** questions. **Each** question carries **2** marks. Answer **not** to exceed **one** paragraph.

11. Explain the procedure of Pasteurization.
12. Write a short note on filter sterilization and its application.
13. Differentiate between autotrophic and heterotrophic nutrition.
14. Give an outline of heterologous protein production in microbes.
15. Explain slant culture and mention its application.
16. Mention the unique features of Mycoplasma.



17. What is flagellum ? What are the different parts of a bacterial flagellum ?
18. Explain how Pasteur disproved the theory of spontaneous generation.
19. Give the Koch's postulates.
20. Briefly explain the process of lysogeny.
21. Write a note on retroviruses.
22. Comment on the role of mutations in strain improvement. (2×8=16 Marks)

SECTION - C

Answer **any 6** questions. **Each** question carries **4** marks. Answer **not** to exceed **120** words.

23. Elaborate the different heat sterilization techniques.
24. What are anaerobes ? Explain the method of culturing them.
25. Give a comparative description of Gram positive and Gram negative bacterial cell structure.
26. With the help of a diagram explain the growth curve of bacteria.
27. Explain symbiosis and antibiosis among microbes citing appropriate examples.
28. Discuss the role of microbes in dairy industry.
29. Write a note on the different categories of microbial culture media.
30. How bacteria are grouped according to the number and position of flagella ?
31. Write a note on extremophiles. (4×6=24 Marks)

SECTION - D

Answer **any 2** questions. **Each** question carries **15** marks. Answer **not** to exceed **three** pages.

32. Write an essay on the various methods of controlling microbes.
33. Draw the diagram of a T4 phage and explain its structure. Give a description of the events taking place in its lytic life cycle.
34. Explain the role of bacteria in various biogeochemical cycles.
35. Explain the following :
 - a) Isolation of auxotrophs
 - b) Disc diffusion method
 - c) Pour plating.(15×2=30 Marks)