

**B.Sc. MICROBIOLOGY**  
**MB1CRT01 FUNDAMENTALS OF MICROBIOLOGY**  
**First Semester CBCS Examination**

Time: 3 Hours

Maximum marks : 80

**PART A**

Answer any TEN questions (2 marks each)

1. Agar
2. Selective media
3. Iodophores
4. Tyndallization
5. Koch postulates
6. Peptidoglycan
7. Archaeobacteria
8. Capsule
9. Spheroplast
10. Penicillin
11. Chemostat
12. Leeuwenhoek

(10x2=20)

**PART B**

Answer any SIX questions (5 marks each)

13. Explain the structure and functions of flagella. Mention different types of flagellar arrangement.
14. Methods for enumeration and quantification of microorganisms
15. Bacterial sporulation
16. Structural differences between gram positive and gram negative bacterial cellwall
17. Differential media
18. Pure culture techniques
19. Testing of disinfectants
20. Write modes of action of any three antibiotics
21. Beneficial microbes

(6x5=30)

**PART C**

Answer any TWO questions (15 marks each)

22. Explain the ultrastructure of bacterial cell.
23. Define sterilization. Explain various sterilization methods
24. What is staining? Explain the principle procedure and applications of any two differential staining methods.
25. Explain various aerobic and anaerobic culture methods

(2x15=30)

**B.Sc. MICROBIOLOGY PROGRAMME**  
**MB1CRT02 - MICROBIAL PHYSIOLOGY & METABOLISM**  
**First Semester CBCS Examination**

Time: Three Hours

Maximum: 80 Marks

**PART A**

Answer any TEN questions (2 marks each)

1. Binary Fission
2. Bacteriochlorophyll
3. Prosthetic Group
4. Lithotrophs
5. Name two N<sub>2</sub> fixing Bacteria
6. Transamination
7. Psychrophiles
8. Transport Media
9. Denitrification
10. Tricarboxylic Acid
11. Fermentation
12. CFU

(10 x 2=20)

**PART B**

Answer any SIX questions (5 marks each)

13. Describe a) Thermophiles b) Methanogens.
14. Bacterial sporulation.
15. Explain ATP and GTP.
16. Nitrogen Fixation.
17. Pentose phosphate Pathway.
18. ETC.
19. Bacterial Growth Curve.
20. Factors Affecting enzyme activity.
21. Preservation of bacteria

(6 x 5=30)

**PART C**

Answer any TWO questions (15 marks each)

22. Explain a) Glycolysis b) Glyoxalate Cycle.
23. Describe various methods forenumeration and quantification of bacteria.
24. Explain microbial photosynthesis
25. Explain the different nutritional types of bacteria

(2x15=30)