



K25P 0980

Reg. No. : .....

Name : .....

IV Semester M.Sc. Degree (C.B.C.S.S.-OBE – Regular)  
Examination, April 2025  
(2023 Admission)  
ZOOLOGY

MSZGY04C17 : Microbiology and Biotechnology

Time : 3 Hours

Max. Marks : 60

PART – A

Answer **any five** of the following. **Each** question carries **3** marks.

1. Outline the structural organization of bacteria and virus briefly.
2. Define virulence factors.
3. Briefly describe Gene Library.
4. Discuss the importance of artificial chromosomes.
5. Explain the types and applications of PCR.
6. Distinguish between Copy right and Trade mark.

(5×3=15)

PART – B

Answer **any three** of the following. **Each** question carries **6** marks.

7. Compare and contrast the structure and architecture of bacteriophages with that of bacteria.
8. Categorize the cloning vectors.
9. Outline the hazards of environmental engineering.
10. Explain the process of bacterial gene regulation through operons.
11. Compare exotoxins and endotoxins.

(3×6=18)

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PART – C

Answer **any three** of the following. **Each** question carries **9** marks.

12. Examine the morphological and nucleic acid characteristics used in the classification of viruses.
13. Examine the major viral diseases of the world briefly.
14. Explain the different methods used for gene sequencing, including the Maxam and Gilbert method and next-generation sequencing techniques.
15. Analyse genetic markers. Add a note on its application.
16. Examine various enzymes used in Recombinant DNA technology.

(3×9=27)