

THIRD SEMESTER M.Sc. DEGREE EXAMINATION, NOVEMBER 2023
(Regular/Improvement/Supplementary)

ZOOLOGY
FZOL3C09 - MICROBIOLOGY & BIOTECHNOLOGY

Time: 3 Hours

Maximum Weightage: 30

Part A: Answer any *four* questions. Each carries *two* weightage.

1. Comment on bacterial motility.
2. Explain numerical taxonomy.
3. Write notes on candidiasis.
4. Describe gram staining.
5. Explain the principle of Sanger's DNA sequencing.
6. Briefly explain any two molecular markers.
7. Enumerate the properties of a good cloning vector.

(4 × 2= 8 weightage)

Part B: Answer any *four* questions. Each carries *three* weightage.

8. Describe the different types of microbial culture media.
9. Comment on utilization of energy in the transport of nutrients in bacteria.
10. What are transgenic animals? Explain their role in human welfare.
11. Give an account on the influence of environmental factors on microbial growth.
12. Briefly explain the steps involved in basic PCR.
13. Explain the techniques involved in *invitro* fertilization.
14. Briefly discuss RNAi.

(4 × 3= 12 weightage)

Part C: Answer any *two* questions. Each carries *five* weightage.

15. Describe the different physical and chemical methods for control of microorganisms.
16. Write an essay on microbial characteristics and treatment of waste water.
17. Explain different steps involved in *invivo* cloning.
18. Write an essay on DNA sequencing.

(2 × 5= 10 weightage)