

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

(Regular/Improvement/Supplementary)

ZOOLOGY

GZOL5B07T: BIOTECHNOLOGY, MICROBIOLOGY AND IMMUNOLOGY

Time: 2 ½ Hours

Maximum Marks: 80

SECTION A: Answer the following questions. Each carries *two* marks.

(Ceiling 25 marks)

1. What is lyophilisation?
2. Why riboflavin is considered as an important microbial product?
3. Define opsonization.
4. What is bioremediation?
5. Comment on terminal transferase.
6. What is ADCC?
7. Define YAC vector.
8. Comment on HLA.
9. What are haptens?
10. Give an account on knock out mice.
11. What are molecular markers? Give examples.
12. What is cross reactivity?
13. Write a short note on synchronous growth in bacteria.
14. Comment on pathogenicity of Rickettsia.
15. What are secondary lymphoid organs? Give examples.

SECTION B: Answer the following questions. Each carries *five* marks.

(Ceiling 35 marks)

16. Explain the production of monoclonal antibodies.
17. Discuss various sterilization methods.
18. What is gene therapy? Explain with example.
19. Briefly explain immunization and vaccines.
20. Describe the precautions and problems of liver transplantation.
21. Enumerate bacterial staining.
22. Elaborate on immunoglobulin gene families.
23. Explain transfection.

SECTION C: Answer any *two* questions. Each question carries *ten* marks.

24. Describe the major human diseases caused by bacteria.
25. Enlist the steps involved in construction of recombinant DNA.
26. Write an essay on AIDS commenting on the clinical course of HIV and anti-retroviral therapy.
27. Describe the diversity and applications of bacteriophages.

(2 × 10 = 20 Marks)