

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2022
(Regular/Improvement/Supplementary)

ZOOLOGY

GZOL5B07T: BIOTECHNOLOGY, MICROBIOLOGY AND IMMUNOLOGY

Time: 2 ½ Hours

Maximum Marks: 80

SECTION A: Answer the following questions. Each carries 2 marks.
(Ceiling 25 Marks)

1. What are the different types of suspension cultures?
2. Define transfection. What is the purpose of transfection?
3. What is RFLP technique?
4. Expand FISH and GISH.
5. Define molecular pharming.
6. What are slime moulds?
7. Comment on moist heat sterilization technique
8. Differentiate between natural media and artificial media.
9. What is synchronous growth in bacterium?
10. Write notes on nipah.
11. Distinguish between TH and TC cells.
12. What are dendritic cells? Mention their function.
13. Add notes on Graves' disease.
14. What is multiple sclerosis?
15. Distinguish between primary and secondary immunodeficiency syndromes.

SECTION B: Answer the following questions. Each carries 5 marks.
(Ceiling 35 Marks)

16. Explain various branches of biotechnology.
17. Explain briefly about the different transgenic organisms.
18. What is human gene therapy? Explain with suitable example.
19. Detail out bacteria and their significance to microbiology.
20. Discuss on different attributes of the adaptive immunity.
21. Explain the arrangement of MHC genes in human chromosome.
22. With the help of a diagram explain the structure of HIV.
23. Write notes on organ transplantation and problems associated with it.

SECTION C: Answer any 2 question. Each carries 10 marks.

24. Briefly explain the various enzymes used in gene cloning.
25. Describe the structure of bacterial cell wall. Differentiate gram positive and negative cell walls based on staining properties.
26. Write an essay on the major industrial products obtained from microorganisms.
27. Briefly explain the structure and functions of immunoglobulin. Add notes on various classes.

(2 x 10 = 20 Marks)