23U519 (Pages: 2) Name: .....

Reg.No: .....

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2025

(CBCSS - UG)

(Regular/Supplementary/Improvement)

CC19UZOL5B07 - BIOTECHNOLOGY, MICROBIOLOGY AND IMMUNOLOGY

(Zoology - Core Course)

(2019 Admission onwards)

Time : 2.5 Hours Maximum : 80 Marks

Credit : 4

Part A (Short answer questions)

Answer ***all*** questions. Each question carries 2 marks.

1. What is the use of DNA ligase?
2. What are continuous cell lines?
3. Comment on transgenic mice.
4. What is Huntington's disease?
5. Define bioventing.
6. Comment on simple staining.
7. What is chemostat?
8. What is prophage?
9. What is meant by steroid biotransformation?
10. Comment on Herpes.
11. Mention the nobel winning contributions of the four scientists-
    (1) Karl Landsteiner (2) Neils Jerne (3) Rosalyn Yalow (4) Jules Bardet
12. Write a brief note on dendritic cells.
13. What is meant by opsonisation?
14. Give the details of genes and proteins of Human HLA complex in a tablular format.
15. Define Multiple sclerosis.

(Ceiling: 25 Marks)

Part B (Paragraph questions)

Answer ***all*** questions. Each question carries 5 marks.

16. Comment on the scope and importance of biotechnology.

17. Explain the steps in recombinant DNA technology.

18. Explain in detail the process of DNA microinjection.

19. Comment on the mode of living in protozoans.

20. Detail out the chemical methods used for control of microorganisms.

21. Briefly explain the industrial production of alcohol and its applications.

22. Explain agglutination inhibition reaction with two examples.

23. What are the hurdles in designing a vaccine for HIV?

(Ceiling: 35 Marks)

Part C (Essay questions)

Answer any ***two*** questions. Each question carries 10 marks.

24. Comment on various molecular markers.

25. Write an essay on the bacterial diseases in humans.

26. Write an essay on the organs of immune system. Give schematic digram of the organs.

27. Describe various immune responses against tumour cells. Add a note on tumour antigens.

(2 × 10 = 20 Marks)

****