

19U517

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Name: .....

Reg.No: .....

**FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2021**

(CBCSS - UG)

**CC19U ZOL5 B07 - BIOTECHNOLOGY, MICROBIOLOGY AND IMMUNOLOGY**

(Zoology - Core Course)

(2019 Admission - Regular)

Time : 2.5 Hours

Maximum : 80 Marks

Credit : 4

**Part A** (Short answer questions)

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

1. Differentiate between environmental biotechnology and green biotechnology.
2. Differentiate between exonuclease and endonuclease.
3. What is calcium phosphate precipitation?
4. What is cystic fibrosis?
5. What is VNTR?
6. Comment on Eubacteria.
7. Comment on pour plate method.
8. Comment on protease production.
9. Comment on Gonorrhoea.
10. Comment on Dermatomycoses.
11. Mention the nobel winning contributions of the four scientists.  
(a) Karl Landsteiner      (b) Emil von Behring      (c) Charles Richet      (d) Jules Bardet
12. What is CD designation of a cell?
13. Give the details of genes and proteins of Human HLA complex in a tabular format.

14. Name four organ specific autoimmune diseases.
15. What is SCID? How is it different from AIDS?

**(Ceiling: 25 Marks)**

**Part B** (Paragraph questions)

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

16. Comment on exonuclease, endonuclease, and restriction endonuclease.
17. Write a short note on cell cultures.
18. What is DNA fingerprinting? Explain its applications.
19. Comment on heat sterilization and pasteurization techniques.
20. Differentiate between pili and fimbriae.
21. Describe the importance of microbial fermentation in industries.
22. Elaborate on the primary lymphoid organs.
23. Give a brief description of immunoglobulin classes.

**(Ceiling: 35 Marks)**

**Part C** (Essay questions)

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

24. Comment on (a) Transgenic mice (b) Transgenic sheep (c) Transgenic fish.
25. Write an essay on the structural organization of viruses.
26. Describe agglutination. Differentiate it from precipitation. What are their application?
27. Describe various immune responses against tumour cells. Add a note on tumour antigens.

**(2 × 10 = 20 Marks)**

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