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Name.....

Reg. No.....

**FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021**

(CBCSS—UG)

Zoology

ZOL 5B 07T—BIOTECHNOLOGY, MICROBIOLOGY AND IMMUNOLOGY

(2019 Admissions)

Time : Two Hours and a Half

Maximum : 80 Marks

**Section A (Short Answer Questions)***Answer at least ten questions.**Each question carries 3 marks.**All questions can be attended.**Overall Ceiling 30.*

1. What is agglutination inhibition reaction ?
2. What are T- cells and NK- cells ?
3. What is negative staining ?
4. What are ADCC ?
5. Comment on knockout mice.
6. What are viral vaccines ?
7. Differentiate between primary and secondary immunodeficiency diseases.
8. What is somatic cell fusion ?
9. What are tumor antigens ?
10. Give an account of Bioinsecticides.
11. What is Syphilis ? What is the causative organism?
12. What is Electroporation ?
13. Distinguish between archaebacteria and eubacteria.
14. What is anti-retroviral therapy ?
15. What is Lyophilisation ?

(10 × 3 = 30 marks)

**Turn over**

13884

**Section B (Paragraph Questions)**

*Answer at least five questions.*

*Each question carries 6 marks.*

*All questions can be attended.*

*Overall Ceiling 30.*

16. Explain the molecular diagnostic technique of Sickle cell anemia ?
17. Give a brief account of any *two* bacterial diseases in human being.
18. What is Hashimoto's thyroiditis ?
19. Distinguish between dengue and chikungunya.
20. How VNTR's and SNPs are useful in contemporary world ?
21. What is Bruton's disease ?
22. Give an account of culture preservation techniques.
23. What are transplantation antigens ?

(5 × 6)

**Section C (Essay Questions)**

*Answer any two questions.*

*Each question carries 10 marks.*

24. Briefly explain the transfection methods involved in the production of Transgenic animals.
25. Give an account of Vectors involved in rDNA technology.
26. Briefly explain the types of Immunity.
27. Give an account of normal microflora of human body.

(2 × 10)