

D 50555

(Pages : 2)

Name.....

Reg. No.....

**FIFTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION  
NOVEMBER 2023**

Biotechnology

BTY 5B 08—IMMUNOLOGY AND IMMUNOTECHNOLOGY

(2019 Admission onwards)

Time : Two Hours

Maximum : 60 Marks

**Section A (Short Answer Type Questions)***Answer any **ten** questions.**Each question carries 2 marks.*

1. Tumor suppressor genes.
2. Immunotherapy.
3. C-reactive proteins.
4. CD markers.
5. HAT medium.
6. Erythroblastocisfoetalis.
7. Thymus.
8. Mitogen.
9. Delayed hypersensitivity.
10. Complement.
11. ELISPOT assay.
12. Reverse vaccinology.

(10 × 2 = 20 marks)

**Section B (Paragraph Type Questions)***Answer any **six** out of seven questions.**Each question carries 5 marks.*

13. Discuss the important properties of cytokines.
14. Explain the structure and functions of Spleen.

**Turn over**

416834

15. Describe different types of ELISA.
16. Describe the principle, procedure and applications of western blotting.
17. What is Hypersensitivity ? Explain type 1 hypersensitivity reaction with example.
18. What is innate immunity ? Explain the mechanism of innate immunity.
19. Explain the production of monoclonal antibody and discuss its merits and demerits.

(6 × 5 = 30 marks)

### Section C (Essay Type Questions)

*Answer any one, which carries 10 marks.*

20. What are Complements ? Explain three complement activation pathways.
21. Write an essay on organs of immune system.

(1 × 10 = 10 marks)