

D 50672

(Pages : 2)

Name.....

Reg. No.....

**FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2018**

(CUCBCSS—UG)

Biotechnology

BTY 5B 08—IMMUNOLOGY AND IMMUNOTECHNOLOGY

Maximum : 80 Marks

Time : Three Hours

**Section A**

*Answer any two out of four questions in about 1,500 words.  
Each question carries 10 marks.*

1. With examples describe the principle and uses of Antigen- antibody interactions in vitro.
2. Describe the structure of an Antibody ? What are the different classes ? What are their functions ?
3. Differentiate between primary and secondary lymphoid organs.
4. What are the different types of hypersensitivity reactions ?

(2 × 10 = 20 marks)

**Section B**

*Answer any seven out of fourteen questions in about 750 words.  
Each question carries 5 marks.*

5. What is a humoral response ?
6. Describe the process of hematopoiesis.
7. Write a note on the immune response against cancer.
8. Differentiate between the structure of a B and T cell.
9. What is phagocytosis ?
10. Define organ specific autoimmunity.
11. Describe the inflammatory response.
12. What are the differences between an antigen and immunogen ? What are the features of an immunogen ?
13. What are the forces of interaction between an antigen and antibody ?

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14. Describe how monoclonal antibodies are made.
15. What is Rheumatoid arthritis ?
16. What are innate immune responses ? What are the features ?
17. What is cell mediated cytotoxicity ?
18. What is the lymphatic system ?

(7 × 5 = 35 marks)

### Section C

*Answer all questions in about 300 words.  
Each question carries 3 marks.*

19. What are NK cells ?
20. What are antigen presentation cells ?
21. What is a chimeric antibody ?
22. Functions of tonsils.
23. What are adjuvants ?

(5 × 3 = 15 marks)

### Section D

*Answer all questions in about 200 words.  
Each question carries 2 marks.*

24. Define hapten ?
25. What is a secretory antibody ?
26. Memory cells.
27. Immune tolerance.
28. Contributions of Edward Jenner.

(5 × 2 = 10 marks)