



**GN-281**

100513

V Semester B.Sc. Examination, December - 2019  
(CBCS) (F+R)

**BIOTECHNOLOGY - VI**  
**Immunology and Animal Biotechnology**

Time : 3 Hours

Max. Marks : 70

**Instruction :** Draw neat labelled diagrams wherever necessary.

**SECTION - A**

I. Write short notes on the following :

**5x2=10**

1. Innate Immunity
2. Adjuvant
3. Toxoid
4. EGF
5. Plasma clot

**SECTION - B**

II. Answer **any four** of the following :

**4x5=20**

6. What is an antigen ? Explain the factors that influence antigenicity.
7. Give an account on chemically defined media.
8. What are vaccines ? Write a note on any two types of vaccines with a suitable example.
9. List out the differences between normal cell line and transformed cell line.
10. Write a note on monoclonal antibody production.

**SECTION - C**

III. Answer **any three** of the following :

**3x10=30**

11. Give an account on primary lymphoid organs of immune response.
12. Describe in detail, the expression vectors used in animal cell culture with a suitable example.
13. What is hypersensitivity ? Explain any three types of hypersensitivity in detail.
14. Define Antigen-Antibody reaction. Explain any four interactions in detail.
15. Give an account on :  
(a) HGPRT (b) Transgenic animal

**P.T.O.**

**SECTION - D****10x1=10****IV. Answer the following in a sentence or a word each :**

16. Liposome
17. Cell line
18. B-lymphocyte
19. Expand ELISA
20. Antiserum
21. Atopy
22. Tuberculin
23. Confluency
24. Aminopterin
25. Cell receptor

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