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V Semester B.Sc. Degree Examination, April/May 2023  
(CBCS Scheme)  
BIOTECHNOLOGY (Paper VI)  
Immunology and Animal Biotechnology

Time : 3 Hours

Max. Marks : 70

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

SECTION – A

I. Write short notes on the following :

(5×2=10)

- 1) Immunogenecity.
- 2) B Lymphocytes.
- 3) Attenuated Vaccine.
- 4) Biological fluid.
- 5) Transfection.



SECTION – B

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

(4×5=20)

- 6) Describe the types of defense mechanism in innate immunity.
- 7) What are primary lymphoid organ ? Add a note on Thymus.
- 8) Explain the technique and application of Immunoelectrophoresis.
- 9) Define disaggregation. Explain the Mechanical method.
- 10) Give an account on primary cell culture and secondary cell culture.

SECTION – C

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

(3×10=30)

- 11) Define immunoglobulin. Explain the structure and function of Ig A and Ig M.
- 12) What are complement protein ? Explain Lectin pathway.
- 13) Describe Hypersensitivity type III and IV with suitable example.
- 14) Explain HAT selection method in screening of hybrid cell.

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61528



15) Give an account on :

- a) Transgenic sheep
- b) Application of Animal Biotechnology.

SECTION - D

IV. Answer the following in **one** sentence :

(10×1=10)

- 16) Neutrophils.
- 17) ABO Blood grouping.
- 18) Allergic reaction.
- 19) Megakaryocytes.
- 20) Opsonin.
- 21) Agranulocytes.
- 22) Electrofusion.
- 23) Expressed protein.
- 24) EGF.
- 25) Log phase.

