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# FIFTH SEMESTER B.A./B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

(CUCBCSS-UG)

# Biotechnology

## BTY 5B 08-IMMUNOLOGY AND IMMUNOTECHNOLOGY

Time: Three Hours Maximum: 80 Marks

#### Section A

Answer any **two** out of four questions in about 1500 words. Each question carries 10 marks.

- 1. What is innate immunity? Explain the types of innate immune system.
- 2. Describe the structure and function of primary lymphoid organs.
- 3. Briefly explain the type I hypersensitivity reaction.
- 4. What is autoimmune disease? Explain the different types of autoimmune diseases.

 $(2 \times 10 = 20 \text{ marks})$ 

#### Section B

Answer any seven out of fourteen questions in about 750 words.

Each question carries 5 marks.

- 5. Write about the historical milestones of immunology.
- Briefly describe the cell mediated immunity.
- 7. What is phagocytosis? Explain it.
- 8. Describe the structure and functions of spleen.
- 9. Differentiate the primary and secondary immune response.
- Describe the route of administration of super antigen.
- 11. Briefly explain the structure and function of IgA.
- 12. Explain the principle and applications of western blotting.
- Discuss about the immunoglobulin superfamily.
- 14. Explain the principle and applications of blood grouping.
- Discuss about the erythroblastosis fetalis.
- 16. How to measure the Ag-Ab binding?
- 17. Discuss about the cancer immunotherapy.
- 18. Describe the active immunization.

 $(7 \times 5 = 35 \text{ marks})$ 

Turn over

## Section C

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

- 19. Write about the humoral immunity.
- 20. Describe the functions of dendritic cells.
- 21. What is adjuvant? Explain its function.
- 22. Describe the principle and applications of mantoux test.
- 23. What is monoclonal antibody? Explain its application.

 $(5 \times 3 = 15 \text{ marks})$ 

## Section D

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

- 24. What is cell mediated immunity?
- 25. What is antibody?
- 26. What is arthus reaction?
- 27. Define tumor antigen.
- 28. What is vaccine?

 $(5 \times 2 = 10 \text{ marks})$ 

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