# 2022/TDC (CBCS)/EVEN/SEM/ BTCHCC-402T/314

# TDC (CBCS) Even Semester Exam., 2022

### BIOTECHNOLOGY

( Honours )

(4th Semester)

Course No.: BTCHCC-402T

(Immunology)

Full Marks: 50
Pass Marks: 20

Time: 3 hours

The figures in the margin indicate full marks for the questions

#### SECTION-A

Answer any ten of the following questions: 2×10=20

- Differentiate between acquired and innate immunity.
- 2. Define antibodies.
- 3. Give the functions of cytotoxic T-cells.

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- 4. What are idiotypes?
- Define allelic exclusion.
- 6. What is clonal selection theory?
- 7. Define major histocompatibility complex.
- 8. Differentiate between class I and class II MHC molecules.
- 9. What are the salient features of acquired immunity?
- 10. State a pathogen defense strategy.
- 11. What is the full form of AIDS?
- Give two examples each of systemic and organ-specific autoimmune diseases.
- 13. What is an adjuvant? Give an example.
- 14. Give two properties of cytokines.
- 15. Differentiate between active and passive immunizations.

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## SECTION-B

mswer any five of the following questions: 6×5=30

- What are the different isotypes of antibodies? Give the structure and functions of IgG.
- Differentiate between humoral and cellmediated immune response.
- 18. Give a brief account of immunoglobulin gene expression and rearrangement of heavy chain.
- 19. What are the different mechanisms that account for the genetic basis of antibody diversity?
- 20. Differentiate between antigen processing of exogenous and endogenous antigens.
- 21. Give the molecular structure of MHC class I and class II molecules.
- 22. Write short notes on the following:
  - (a) Graves' disease
  - Myasthenia gravis
  - Systemic lupus erythematosus

(Turn Over)

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- 23. Write a brief account on HIV infection and AIDS.
- 24. Write short notes on the following
  - Functions of cytokines
  - DNA vaccines
- 25. Write a brief account on different types of ELISA.

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