QP Code: PV25DRSI005

Reg. No : .....
Name : .....

ST MARY'S COLLEGE (AUTONOMOUS), THRISSUR-20

I SEMESTER (CBCSS - VPG) DEGREE EXAMINATIONS, NOVEMBER 2025
(Regular/Improvement/Supplementary)
M. Voc. Applied Biotechnology
SDC1AB02 : Immunology and Immunotechnology
2024 Admission Onwards

Time:3 Hours **Maximum Weightage:30**

Part A

*Short answer type questions. Answer **any four**. Weightage **2** for each.*
(4x2 = 8 Weightage)

1. What is the primary immune response and when does it occur?
2. A new born in a rural area missed BCG vaccination. Suggest an immediate action plan.
3. Apply the concept of immune memory to show how immunotherapy can give long-term protection.
4. Compare and contrast the structure of IgM and IgG.
5. Apply the principle of RID to determine the antibody concentration in a given serum sample.
6. Given a patient with symptoms of anaphylaxis, how would you apply your knowledge of Type I hypersensitivity to suggest immediate treatment options?
7. How would you set up an agglutination test to identify a bacterial infection?

Part B

*Short essay-type questions. Answer **any four**. Weightage **3** for each.*
(4x3 = 12 Weightage)

8. Describe the types of autoimmune diseases with suitable examples.
9. Analyze the role of NK cells in the immune system. How do NK cells recognize and eliminate infected or tumor cells without prior sensitization?
10. Investigate how complement action contributes to inflammation.
11. Analyze the advantages and limitations of monoclonal antibodies as therapeutic agents compared to traditional drugs.
12. Examine how would you use HLA typing to reduce the risk of organ rejection in a transplant patient.

Turn Over

13. Explain the similarities and differences between agglutination and precipitation reactions with suitable examples.
14. Comment on lymphokines and their role in immune defence.

Part C

*Essay-type questions. Answer **any two**. Weightage **5** for each.*
(2x5 = 10 Weightage)

15. Analyze how vaccine platforms differ in immune response, safety, and production.
16. Describe the basic steps of an ELISA and explain how the enzyme- linked detection system works to quantify the presence of an antigen or antibody in a sample.
17. The cooperation between APCs and Lymphocytes is required for adaptive immune response. Justify it.
18. Assess how removal of the spleen could affect overall immune function in an individual.

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