

--	--	--	--	--	--	--	--	--	--



GIET UNIVERSITY, GUNUPUR – 765022
M. Sc.(Second Semester) Examinations, July – 2023
22BTPC202 - Immunology
(Biotechnology)

Time: 3 hrs

Maximum: 70 Marks

(The figures in the right hand margin indicate marks.)

PART – A

Q.1. Answer ALL Questions

(2 x 10 =20 Marks)

- | | | |
|--|---|----|
| a. Why immunity is important for higher animals? | 1 | K2 |
| b. What is role of PRR and PAMP in immune response? | 1 | K3 |
| c. What do you mean by positive and negative selection of T cells? | 2 | K2 |
| d. What is the difference between primary and secondary immune response? | 2 | K3 |
| e. What are the applications of CMI technique? | 3 | K2 |
| f. What are the clinical applications of ELISPOT assay? | 3 | K3 |
| g. What is the difference between active and passive immunization? | 4 | K4 |
| h. Why immunosuppressive therapy is required during transplantation? | 5 | K5 |
| i. Justify that autoimmunity leads to self-damage? | 5 | K4 |
| j. What are the principle causes of rheumatoid arthritis? | 6 | K2 |

PART – B (10 x 5=50 Marks)Answer ANY FIVE the questions

- | | Marks | CO # | Blooms Level |
|---|-------|------|--------------|
| 2. Define lymphoid organs. Explain the structure and functions of secondary lymphoid organs. | 2+8 | 1 | K3 |
| 3.a. Discuss the mechanism of cell mediated immunity. | 5 | 1 | K2 |
| b. Give a note on B cell activation and response. | 5 | 2 | K2 |
| 4. Why antigen presentation is essential? Explain the cytosolic pathway of antigen presentation. | 2+8 | 2 | K4 |
| 5.a. Explain the effector role of classical pathway of complement activation. | 5 | 3 | K4 |
| b. Give a note on Western blotting. | 5 | 3 | K3 |
| 6. What is ELISA? Explain the principle and applications of indirect ELISA. | 5 | 3 | K4 |
| 7. What is vaccination? Explain various types of vaccines with suitable examples. | 2+8 | 4 | K4 |
| 8. a. Describe the principle that effect T delayed hypersensitivity reaction. | 5 | 5 | K2 |
| b. What are the causes of autoimmunity? Explain types of autoimmune diseases with one example each. | 5 | 6 | K2 |

--- End of Paper ---