



GIET UNIVERSITY, GUNUPUR – 765022
B. Tech (Fifth Semester Regular) Examinations, December – 2023
21BBTPC35002 – Immunology and Immunotechnology
 (Biotechnology)

Time: 3 hrs

Maximum: 70 Marks

Answer all questions
(The figures in the right hand margin indicate marks)

PART – A**(2 x 5 = 10 Marks)**

Q.1. Answer <i>ALL</i> questions	CO #	Blooms Level
a. What are the key components of the immune system and how do they work together to defend the body?	CO1	K3
b. Give a short note on classification of immunoglobulins?	CO1	K2
c. What is Hybridoma Technology? Which culture media is used?	CO2	K4
d. What is transplantation immunology? Mention the types of transplantation .	CO3	K4
e. What does ELISA stand for? and how is it used for the detection of specific antigens or antibodies?	CO4	K2

PART – B**(15 x 4 = 60 Marks)**

<u>Answer <i>ALL</i> questions</u>	Marks	CO #	Blooms Level
2. a. Explain the concepts of antigenicity and immunogenicity. How do these factors influence the immune response to antigens? What characteristics of antigens determine their ability to induce an immune reaction?	15	CO1	K3
(OR)			
b. Describe the structure and functions of primary lymphoid organs in the context of the immune system. How do these organs facilitate immune responses? What is their role in both innate and acquired immunity?	15	CO1	K4
3.a. Describe the interactions between antigens and antibodies. Mention the factors influence the interaction.	7	CO2	K2
b. Give a note on MBL pathway.	8	CO2	K2
(OR)			
c. Discuss the structure and function of MHC-II.	7	CO2	K2
d. Write down the applications of antigen- antibody reaction.	8	CO2	K2
4.a. Explore immuno-proliferative disease. Discuss the uncontrolled proliferation of immune cells, their classification, and the challenges in treating these conditions.	15	CO4	K3

(OR)

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| b. | Elaborate on the complexities of autoimmunity, highlight both localized and systemic autoimmune diseases. | 15 | CO4 | K3 |
| 5.a. | Explore the concept of second-generation antibodies in immune biotechnology. Provide examples of innovative antibody technologies and their advantages over traditional antibodies. | 15 | CO4 | K4 |

(OR)

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| c. | Write down the procedure of Sandwich ELISA | 7 | CO4 | K3 |
| d. | Give a note on second generation antibodies. | 8 | CO4 | K3 |

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