Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET UNIVERSITY)

M.Sc. (Second Semester - Regular) Examinations, July – 2025

24MLSPC12002 – Immunology

(Life Science)

Time: 3 hrs Maximum: 60 Marks

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

PART – A **(2 x 5 = 10 Marks)**

Q.1. Answer ***ALL*** questions	CO #	Blooms Level
a. Name any two primary lymphoid organs and mention their main functions.	CO1	K2
b. What is the basis of self and non-self-discrimination in the immune system?	CO2	K3
c. What is the principle behind agglutination reaction in antigen–antibody interaction?	CO3	K3
d. Mention one key feature of primary immunodeficiency and one of acquired immunodeficiency.	CO4	K2
e. What are monoclonal antibodies and how are they generated?	CO5	K3

PART – B **(10 x 5 = 50 Marks)**

Answer ***ALL*** the questions	Marks	CO #	Blooms Level
2. a. Why lymphoid organs are essential? Explain the structure and function of secondary lymphoid organs.	2+8	CO1	K3
(OR)			
b. Explain the components of innate immunity in details.	5	CO1	K2
c. Give a note on haematopoiesis.	5	CO1	K2
3.a. Investigate the structure and functions of immunoglobulin. Discuss the various classes of antibodies.	10	CO2	K3
(OR)			
b. Explain the maturation and activation mechanism of T-cell.	5	CO2	K2
c. Discuss on the structure and function of MHC-I .	5	CO2	K2
4.a. How complement system aid in immune response? Describe the classical pathway of complement activation.	2+8	CO3	K3
(OR)			
b. What is ELISA? Explain the principle of Sandwich-ELISA.	5	CO3	K2
c. Give a note on antigen-antibody reaction.	5	CO3	K3
5.a. Define hypersensitivity reaction. Explain Gell and Coombs classification in detail.	2+8	CO4	K3
(OR)			
b. Discuss on transplantation immunology.	5	CO4	K3
c. Write a note on immunity to bacteria.	5	CO4	K2
6.a. What is immunization? Explain different forms of vaccine with example.	2+8	CO5	K3
(OR)			
b. What do you mean by monoclonal antibodies? Discuss on the principle and procedure of hybridoma technology.	2+8	CO5	K3

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