

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



B. Tech (Fifth Semester - Regular) Examinations, November – 2024

22BBTPC35002 - 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 **ALL** questions

	CO #	Blooms Level
a. What are the key components of the immune system?	CO1	K2
b. What is ADCC? Describe the process.	CO1	K3
c. What are the significances of molecular diversity of antibodies?	CO2	K3
d. What is immune tolerance? How does the immune system distinguish between self and non-self-antigens?	CO3	K4
e. Define the concept of second-generation antibodies in immunobiotechnology.	CO4	K4

PART – B

(15 x 4 = 60 Marks)

Answer **ALL** the questions

	Marks	CO #	Blooms Level
2. a. What are the primary differences between innate immunity and adaptive immunity in terms of memory formation? Explain the role of acquired immunity to safeguard human body from infection.	5+10	CO1	K3
(OR)			
b. Discuss on structure of immunoglobulin and add note on its classification.	8	CO1	K2
c. What is the role of secondary lymphoid organs? Give a note on lymph node.	7	CO1	K2
3.a. Discuss on the structure and function of MHC-I	7	CO2	K2
b. Justify the role of complement system in antigen neutralization by classical pathway.	8	CO2	K3
(OR)			
c. What do you mean by Monoclonal antibodies? Describe the principle and process of Hybridoma technology.	2+13	CO2	K4
4.a. Why does hypersensitivity reaction develop? Explain Gell and Coombs classification of hypersensitivity reaction.	3+12	CO3	K3
(OR)			
b. Discuss on transplantation Immunology.	8	CO3	K3
c. Give a note on primary immunodeficiency diseases	7	CO3	K2
5.a. Why do we go for vaccination? How vaccine works and give a note on different types of vaccines with suitable example.	3+12	CO4	K4
(OR)			
b. Write down the process of genetically engineered production of lymphokines	8	CO4	K4
c. Discuss on the principle of Sandwich-ELISA	7	CO4	K3

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