CBCS SCHEME

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BBT403

Fourth Semester B.E./B.Tech. Degree Examination, June/July 2025
Immunotechnology + Lab

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Define immunity. Write note on different barriers involved in the innate immunity.	10	L1	CO1
	b.	Describe the immunoglobulins. State the different functions and types of Immunoglobulins.	10	L2	CO1
		OR			
Q.2	a.	Define Haematopoiesis. Write different T-lymphocytes involved in the cell mediated immunity.	10	L1	CO1
	b.	Describe lymphoid organs. Explain in detail primary lymphoid organ with neat labelled diagram.	10	L2	CO1
		Module – 2			
Q.3	a.	Distinguish Antigen processing and Antigen presentation. Explain the mechanism of antigen presenting cell.	10	L1	CO2
	b.	Describe the humeral and cell mediated immunity. Write note on B-lymphocytes development and its applications.	10	L2	CO2
		OR			
Q.4	a.	Define monoclonal antibodies. Explain the production of monoclonal antibodies.	10	L1	CO2
	b.	Describe structure and classification of Major Histocompatibility Complex (MHC).	10	L2	CO2
		Module – 3			
Q.5	a.	What is the complement system? Explain the classical path way of complement system and its biological functions.	10	L2	CO3
	b.	Define Autoimmune disorders. Explain in detail Rheumatoid arthritis.	10	L3	CO3
		OR			
Q.6	a.	What is anaphylaxis? Write note on type-2 anaphylactic mechanism with examples.	10	L2	CO3
	b.	Define vaccine. Construct steps involved in the preparation of recombinant Hepatitis-B vaccine.	10	L4	CO3

		Module – 4			
Q.7	**a.**	What is tumour? Explain the properties and types of tumour antigens.	**10**	**L3**	**CO4**
	b.	Describe Immune suppression? Write a note on tumour immunotherapy.	**10**	**L4**	**CO4**
		OR			
Q.8	**a.**	Write note on tissue typing and write rate of MHC molecules in allograft rejection.	**10**	**L3**	**CO4**
	b.	What is transplantation? Explain clinical stages of transplant rejection.	**10**	**L4**	**CO4**
		Module – 5			
Q.9	**a.**	Describe Antigen-Antibody interaction. Write note on : (i) Precipitation reaction (ii) Agglutination reaction	**10**	**L4**	**CO5**
	b.	Demonstrate a principle, methodology involved in the Fluorescence Activated Cell Sorting (FACS) and its applications.	**10**	**L3**	**CO5**
		OR			
Q.10	**a.**	Explain different types of ELISA and applications of ELISA.	**10**	**L4**	**CO5**
	b.	Define stem cells and explain the role of stem cells technology in immunology.	**10**	**L3**	**CO5**

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