

# CBCS SCHEME

BBT403

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**Fourth Semester B.E./B.Tech. Degree Supplementary Examination,  
June/July 2024**

## Immunotechnology

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.	Distinguish between the types of cells found in granulocytes.	10	L1	CO1
	b.	Define immunoglobulins and explain the structure and functions of immunoglobulin alpha.	10	L2	CO1
<b>OR</b>					
Q.2	a.	State the classification of lymphoid organs and draw the structure of spleen and bone marrow.	10	L1	CO1
	b.	List out the characteristics and types of acquired immunity.	10	L1	CO1
<b>Module – 2</b>					
Q.3	a.	What are polyclonal antibodies? Explain their production with a neat diagram.	10	L1	CO1
	b.	Enumerate the process of antigen processing and presentation of endogenous antigens.	10	L2	CO2
<b>OR</b>					
Q.4	a.	Explain the process of activation of T-cells in response to antigen.	10	L2	CO2
	b.	Mention the structural difference between MHC Class I and MHC Class II receptors.	10	L2	CO2
<b>Module – 3</b>					
Q.5	a.	Illustrate the immune deficiency disorder. Discuss in detail the immunological aspects of AIDS.	10	L2	CO3
	b.	Explain the steps involved in production of recombinant vaccines for hepatitis B surface antigen.	10	L2	CO3
<b>OR</b>					
Q.6	a.	Classify the complement activation pathway. Explain the classical pathway of complement activation.	10	L2	CO3
	b.	What is auto immune disorder? Explain the organ specific auto immune disorder with an example indicating their etiology, diagnosis and treatment.	10	L2	CO3
<b>Module – 4</b>					
Q.7	a.	Give an account on tumors of immune system and tumor antigens.	10	L2	CO3
	b.	Discuss in brief about (i) immunosuppressive drugs (ii) Tissue typing.	10	L2	CO3
<b>OR</b>					
Q.8	a.	Describe the process of graft rejection and mention about their stages in detail.	10	L2	CO4
	b.	Write short note on : (i) Immunogenic basis of graft rejection (ii) Allograft transplantation	10	L2	CO4
<b>Module – 5</b>					
Q.9	a.	Mention any agglutination reaction in detail with principle, procedure and application in immunodiagnosis.	10	L2	CO4
	b.	Write critical note on : (i) Western blot analysis (ii) Rocket electrophoresis	10	L2	CO4
<b>OR</b>					
Q.10	a.	State the principle involved in ELISA technique and mention its types and applications.	10	L2	CO4
	b.	Write an explanatory note on : (i) Immunofluorescence (ii) Radio immunodiffusion	10	L2	CO4