

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION MAY 2026
(Fourth Semester)

Branch: BIOTECHNOLOGY

IMMUNOLOGY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Using which process does a phagocyte reach to the site of inflammation? a) Diffusion b) Brownian motion c) Chemotaxis d) Vasotaxis	K1	CO1
	2	Which of the following antibodies shows opsonization? a) IgG b) IgE c) IgD d) IgA	K2	CO1
2	3	Which of the following Immunoglobulin can pass through mother's placenta? a) IgA b) IgG c) IgD d) IgM	K1	CO 2
	4	Which of the Immunoglobulin is present on the surface of naïve B cell? a) IgM b) IgE c) IgA d) IgG	K1	CO 2
3	5	Which of the following class of cytokine receptor activate G protein coupled receptor for its downstream function? a) Chemokines receptor b) Hemopoietin receptor c) Interferon receptor d) Both b and c	K1	CO3
	6	MHC gene are known for being_____. a) Monogenic b) polygenic c) only expressed in spleen ? d) Active in mitochondrial DNA	K2	CO3
4	7	An allergy to Penicillin is which type of Hypersensitivity ? a) Type I b) Type II c) Type III d) Type IV	K1	CO3
	8	_____ is not a clinical stage of rejection. a) Secondary rejection b) Acute rejection c) Hyper acute rejection d) Chronic rejection	K2	CO4
5	9	Where do B cells mature? a) Thymus b) Bone Marrow c) Lymph Node d) Spleen	K1	CO4
	10	One of the following is an example of an Monoclonal antibody drug used in medicine? a) Tamoxifen b) Infliximab c) Prostaglandin d) Interferon	K2	CO4

Cont...

SECTION - B (35 Marks)Answer **ALL** questions**ALL** questions carry **EQUAL** Marks

(5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	List the key components of the innate immune system.	K4	CO1
	(OR)			
	11.b.	Differentiate between humoral and cell mediated immunity including the respective cells and function.		
2	12.a.	What are the functions of T helper cell and cytotoxic T cells?	K3	CO2
	(OR)			
	12.b.	Construct the structure of an immunoglobulin and label its key points.		
3	13.a.	Analyse the major differences between MHC class I and MHC class II molecules and their functions.	K4	CO3
	(OR)			
	13.b.	What are cytokines and their important role in immune regulation?		
4	14.a.	Identify the different types of antibodies and their individual role in the immune response.	K4	CO4
	(OR)			
	14.b.	Interpret graft rejection and what are the mechanism and prevention .		
5	15.a.	Explain the principle of the ELSIA test for detection of HIV.	K4	CO5
	(OR)			
	15.b.	Antigen and Antibody concentration affect the formation of complex explain.		

SECTION -C (30 Marks)Answer **ANY THREE** questions**ALL** questions carry **EQUAL** Marks

(3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Evaluate how different subtypes of dendritic cells detect diverse pathogens and differentiate between them to trigger the immune response.	K4	CO1
2	17	Illustrate the differences in the signaling complexes associated with BCRs and TCR upon antigen binding.	K2	CO1
3	18	Elaborate how does the complement system a lead to pathogen elimination.	K4	CO2
4	19	Discuss how does the immune system destroy the niches for cancer initiation.	K4	CO3
5	20	Explain the principle and application of immunoelectrophoresis and how is it used.	K3	CO4

Z-Z-Z

END