22BTU415N / 22BTU415

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2025
(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	The branch of biology, which involves the study of immune systems in all organisms is called_____. a) Zoology b) Microbiology c) Immunology d) Biotechnology	K1	CO1
	2	Which of the following immunity is obtained during a lifetime? a) Acquired immunity b) Active immunity c) Passive immunity d) None of the above	K1	
2	3	Synthesis of antibodies takes place by which of the following cells? a) Bone marrow cells b) T-cells c) B-cells d) Lymph	K2	CO2
	4	Name the heavy chain of immunoglobulin G. a) μ b) ε c) α d) γ	K2	
3	5	Which of the following is used for typing when a patient is being prepared for an organ transplant? a) MHC class I molecules b) MHC class II molecules c) MHC class III molecules d) All of the above	K2	CO3
	6	What is the name of MHC in humans? a) HLA b) H2 c) Adjuvants d) Haplotype	K2	
4	7	Antibody dependant cytotoxicity is associated with _____. a) Type I hypersensitivity b) Type II hypersensitivity c) Type III hypersensitivity d) Type IV hypersensitivity	K3	CO4
	8	Which among the following is not an autoimmune disease? a) Myasthenia gravis b) Systemic lupus erythematosus c) Grave's disease d) Sickle cell disease	K3	
5	9	In precipitation reactions, the antigen is a_____in agglutination reactions, the antigen is a_____ a) soluble molecule/whole cell b) whole-cell/Soluble molecule c) Protein/carbohydrates d) Bacterium/virus	K2	CO5
	10	ELISA is based on _____. a) Antigen-antibody interaction b) Antigen-protein interaction c) Lectin- antibody interaction d) All of these	K2	

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.	Describe about Lymphoid organ Thymus.	K2	CO1
		(OR)		
	11.b.	Explain cell mediated immune response.		
2	12.a.	Explain about Major Histocompatibility Complex.	K3	CO2
		(OR)		
	12.b.	Explain the structure and function of Ig G.	K2	
3	13.a.	Give detailed notes on cytokines.	K2	CO3
		(OR)		
	13.b.	Differentiate between MMC class I and II molecules.	K3	
4	14.a.	Explain type II Hypersensitivity.	K3	CO4
		(OR)		
	14.b.	Write short notes on HLA typing.		
5	15.a.	Differentiate between agglutination and precipitation reaction.	K3	CO5
		(OR)		
	15.b.	Write short note on Immunohistology.		

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	Explain in detail about Immunity and its types.	CO1	K2
2	17	Give detail account on activation of T and B cell.	CO2	K3
3	18	Describe the classical pathway of complement system.	CO3	K2
4	19	Briefly explain Monoclonal antibody production.	CO4	K3
5	20	Detailed explain Radioimmunoassay principle and its applications.	CO5	K3

Z-Z-Z END