

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 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)

Question No.	Question	K Level	CO
1.	Cell mediated immunity is carried out by _____ while humoral immunity is mainly carried out by _____ a) B cells/T cells b) Epitopes/Antigens c) T cells/B cells d) Antibodies/Antigens	K1	CO1
2.	Naturally acquired active immunity would be most likely acquired through which of the following processes? a) vaccination b) drinking colostrum c) natural birth d) Infection with disease causing organism followed by recovery.	K1	CO1
3.	Memory cells are formed from a) Erythropoietic stem cells b) Monocytes c) T-lymphocytes d) B-lymphocytes	K2	CO2
4.	Which of the following immunoglobulins makes the largest percentage in breast milk? a) IgM b) IgD c) IgG d) IgA	K2	CO2
5.	What determines a particular cell should be activated or not? a) Absence of cytokine receptor b) Presence if cytokine receptor c) Cytokine receptor differentiation d) Doesn't need a cytokine at all	K2	CO3
6.	Exogenous antigens are associated with which molecules in order to activate cells? a) Class II MHC b) Peptide molecules c) Class I MHC d) Antigen presenting cells	K2	CO3
7.	What is the name of MHC in humans? a) HLA b) H2 c) Adjuvants d) Haplotype	K3	CO4
8.	Which cells are transplanted to treat cancer like leukaemia? a) Haematopoietic stem cells b) Red blood cells c) White blood cells d) Epithelial cells	K3	CO4
9.	In 1959, radioimmunoassay was developed by; a) Solomon b) Benson c) Rosalyn d) All of above	K2	CO5
10.	commercially available ELISA kits are used for the detection of a) Rotavirus b).Hepatitis B Surface Antigen c) Anti-HIV antibodies d) All of these	K2	CO5

SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 × 7 = 35)

Question No.	Question	K Level	CO
11.a.	Explain Primary and secondary immune responses. (OR)	K2	CO1
11.b.	Explain role of dendritic cells in immune response.		Cont...

12.a.	What are the types of effector cells and their functions? (OR)	K2	CO2
12.b.	Give detail on T-cell receptor activation.		
13.a.	Explain antigen processing and presentation. (OR)	K3	CO3
13.b.	Give detail notes on MHC and genetic predisposition of disease.		
14.a.	Describe autoimmune disorder rheumatoid arthritis. (OR)	K2	CO4
14.b.	What is Transplantation? write its Types.		
15.a.	What is Immunoprecipitation? Write its Applications. (OR)	K3	CO5
15.b.	Describe antigen antibody reaction.		

SECTION -C (30 Marks)
Answer ANY THREE questions
ALL questions carry EQUAL Marks $(3 \times 10 = 30)$

Question No.	Question	K Level	CO
16	Describe Cells of the immune System.	K2	CO1
17	Explain structure of immunoglobulin.	K3	CO2
18	Explain the structure and functions of class I MHC molecules.	K2	CO3
19	Describe hypersensitivity reaction and its types.	K3	CO4
20	Describe ELISA and its types.	K3	CO5