

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2023  
(Third Semester)

Branch - APPLIED MICROBIOLOGY

IMMUNOTECHNOLOGY

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

- 1 Who first gave the name antibodies?  
(i) Alee Jafrey (ii) E.V. Behring  
(iii) Jules Bordet (iv) Metschnikoff
- 2 RIA is used to quantify the following antibody  
(i) IgG (ii) IgM  
(iii) IgA (iv) IgE
- 3 Autoimmune disease occurs because of loss of  
(i) B cell (ii) T cell  
(iii) B cell self-tolerance (iv) T cell self-tolerance
- 4 Interleukin – II is synthesized by  
(i) B cells (ii)  $T_H^1$  cells  
(iii)  $T_H^2$  cells (iv) NK cells
- 5  $C_2$  and  $C_4$  proteins are expressed by  
(i) Class I MHC (ii) Class II MHC  
(iii) Class III MHC (iv) HLA I & II

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- 6 a) State about B-cell receptor and co-receptor.  
OR  
b) Describe the relationship of dendritic cells and T-cells.
- 7 a) Compare and contrast hapten and adjuvant.  
OR  
b) List out the application of monoclonal antibodies.
- 8 a) Define complement and explain in brief about alternative pathway.  
OR  
b) Name three mechanisms of auto immunity with suitable reasons.

Cont...

- 9 a) Give a brief account on immunity against viral diseases.  
OR  
b) Narrate the future prospects of vaccine.
- 10 a) Give an account of mechanism of graft rejection.  
OR  
b) Discuss cancer treatment with reference to immunotherapy.

**SECTION -C (30 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11 a) Enlist primary lymphoid organs. Explain its role in immune response.  
OR  
b) Explain the process of positive and negative selection of T cells.
- 12 a) Draw the basic structure of immunoglobulin with proper annotation.  
OR  
b) Explain principle and working of ELISA.
- 13 a) Give an account on components involved and mechanisms of classical complement pathways.  
OR  
b) Explain causes and remedies of type I hypersensitivity.
- 14 a) Elaborate recombinant vaccine. Add a note on its merits and demerits.  
OR  
b) Discuss the Innate and adaptive immunity to bacterial diseases.
- 15 a) Explain how antigen is processed and presented on the surface of MHC molecule.  
OR  
b) Write a detailed essay on tumor immunology.

Z-Z-Z

END