

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2025
(Fifth Semester)

Branch – MICROBIOLOGY

IMMUNOLOGY AND IMMUNOTECHNOLOGY

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (5 x 1 = 5)

- 1 A secondary immune response also referred as ----- response
(i) primary (ii) antigen
(iii) booster (iv) antibody
- 2 A molecule inducts antibody production but without independent antigenicity is ---
(i) allergen (ii) hapten (iii) antigen (iv) adjuvant
- 3 In India, BCG, Hep B1, OPV vaccines are given to children -----
(i) at birth (ii) after 1 year
(iii) after 2 years (iv) after 5 years
- 4 ----- is commonly used in ELISA.
(i) Peptidase (ii) Lipase
(iii) Protease (iv) Horseradish peroxidase
- 5 A tissue transplanted from one person to another is a / an -----
(i) graft (ii) draft (iii) explants (iv) organ

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 3 = 15)

- 6 a. 'Contributions of Robert Koch to the field of immunology are immense' - Justify
OR
b. 'T lymphocytes play an essential role in human immune system' – How?
- 7 a. Briefly explain the types of antigen.
OR
b. Give the structural and biological properties of IgE antibodies.
- 8 a. How unique are monoclonal antibodies? Point out.
OR
b. Can a whole microbe be used as a vaccine? Explain.
- 9 a. Distinguish between precipitation and agglutination reactions.
OR
b. Explain an assay method used to estimate the concentration of an antigen in a sample.
- 10 a. Write briefly delayed- type of hypersensitivity reaction.
OR
b. Describe in brief tissue typing.

Cont...

SECTION -C (30 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks

(5 x 6 = 30)

- 11 a. Elaborate secondary lymphoid organs.
OR
b. Define and explain APCs and MHCs.
- 12 a Bring out the structure, function and biological properties of IgM and IgD antibodies.
OR
b Explain complement system.
- 13 a How is hybridoma technology used to produce monoclonal antibodies? Explain.
OR
b State the differences between active and passive immunizations.
- 14 a Describe rocket and two- dimensional immuno electrophoresis.
OR
b With suitable diagrams, describe western blotting.
- 15 a Write and explain the types of hypersensitivity reactions.
OR
b Define transplantation. Point out the immunological basis of a graft rejection.

Z-Z-Z

END