

B.Sc. Semester - 5 (CBCS) Examination
Oct/Nov - 2025 (NEW COURSE)
Immunology and Medical Microbiology(Core)

Time: 2:30 Hours**Marks: 70****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

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- Que. 1 (A) Objective type questions. (04)
- 1) _____ immunity is present at birth and provides the first line of defense.
 - 2) The central lymphoid organ responsible for T cell maturation is _____.
 - 3) _____ cells are responsible for producing antibodies.
 - 4) The peripheral lymphoid organ where immune responses are initiated is the _____.
- Que. 1 (B) Answer in brief. (Any 1 out of 2) (03)
- 1) Differentiate between innate immunity and acquired immunity.
 - 2) Write short notes on the role of macrophages in the immune system.
- Que. 1 (C) Write a note on. (Any 1 out of 2) (07)
- 1) Describe the structure and functions of B cells and T cells.
 - 2) Explain the differences between primary (central) lymphoid organs and secondary (peripheral) lymphoid organs with examples.
- Que. 2 (A) Objective type questions. (04)
- 1) The immune response that occurs upon first exposure to an antigen is called _____ immune response.
 - 2) The molecule that presents antigen to T cells is _____.
 - 3) _____ are signaling molecules of the immune system that regulate cell communication.
 - 4) The process of enhancing phagocytosis by coating pathogens with antibodies or complement proteins is called _____.
- Que. 2 (B) Answer in brief (Any 1 out of 2) (03)
- 1) Differentiate between Class I and Class II MHC molecules.
 - 2) Write a short note on the role of plasma cells and memory cells in humoral immune response.
- Que. 2 (C) Write a note on. (Any 1 out of 2) (07)
- 1) Explain the steps involved in the generation of cell-mediated immune response.
 - 2) Describe the role of cytokines in immune response with suitable examples.
- Que. 3 (A) Objective type questions. (04)
- 1) The small region of an antigen that is specifically recognized by an antibody is called a _____. (Epitope / Hapten)
 - 2) A substance that enhances the immune response when mixed with an antigen is called an _____. (Adjuvant / Allergen)
 - 3) The basic structural unit of an antibody consists of _____ light chains and _____ heavy chains. (2, 2 / 4, 4)
 - 4) The visible clumping reaction that occurs when antibodies bind to particulate antigens is known as _____. (Precipitation / Agglutination)
- Que. 3 (B) Answer in brief (Any 1 out of 2) (03)
- 1) Differentiate between monoclonal antibodies and polyclonal antibodies.
 - 2) Write a short note on hapten and its immunogenicity.

- Que. 3 (C) Write a note on. (Any 1 out of 2) (07)
- 1) Describe the structure and classes of immunoglobulins with their biological roles.
 - 2) Explain the process of antigen processing and presentation in brief.
- Que. 4 (A) Objective type questions. (04)
- 1) Severe Combined Immunodeficiency (SCID) is an example of _____ disease.
(A) Autoimmune (B) Immunodeficiency
 - 2) Type I Hypersensitivity reactions are mediated by _____ antibodies.
(A) IgE (B) IgG
 - 3) The immune response directed against self-antigens is termed _____.
(A) Autoimmunity (B) Hypersensitivity
 - 4) Graft rejection occurring due to immune response against donor tissue is related to _____ immunity.
(A) Transplantation (B) Tumor
- Que. 4 (B) Answer in brief (Any 1 out of 2) (03)
- 1) Differentiate between primary and secondary immunodeficiency with examples.
 - 2) Write a short note on immune complex mediated (Type III) hypersensitivity.
- Que. 4 (C) Write a note on (Any 1 out of 2) (07)
- 1) Explain the mechanisms of antibody-mediated cytotoxic (Type II) hypersensitivity with an example.
 - 2) Write a note on tumor immunity and the role of immune cells in tumor surveillance.
- Que. 5 (A) Objective type questions. (04)
- 1) The normal microflora of the _____ plays a crucial role in vitamin K synthesis.
(A) Skin (B) Intestine
 - 2) The ability of a pathogen to cause disease is termed.
(A) Pathogenicity (B) Virulence
 - 3) Hospital-acquired infections are known as _____ infections.
(A) Opportunistic (B) Nosocomial
 - 4) The molecular diagnostic technique _____ is widely used for amplification of specific DNA sequences.
(A) PCR (B) ELISA
- Que. 5 (B) Answer in brief (Any 1 out of 2) (03)
- 1) Define opportunistic infections with one example.
 - 2) Write the importance of normal microflora of the skin.
- Que. 5 (C) Write a note on. (Any 1 out of 2) (07)
- 1) Explain the different modes of transmission of infection with examples.
 - 2) Describe the principle and applications of ELISA as a diagnostic test.
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