**647510** **BSc5MicC501x** **Seat No :_____**

# B.Sc. Semester - 5 (Remedial) (*CBCS*) Examination
## March/April-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) What is innate immunity?
2) Name one primary lymphoid organ.
3) Which immune cell is primarily responsible for producing antibodies?
4) What is the function of natural killer (NK) cells?

**Que.1(B) Answer in Brief (Any One out of Two)** **(03)**

1) Explain the difference between natural and acquired immunity.
2) Describe the role of the thymus in T cell maturation.

**Que.1(C) Write a Note on (Any One out of Two)** **(07)**

1) Discuss the structure, function, and properties of macrophages and neutrophils.
2) Write short note on the central (primary) and peripheral (secondary) lymphoid organs.

**Que.2(A) Objective type questions.** **(04)**

1) What is the primary immune response?
2) Name one key difference between class I and class II MHC molecules.
3) What is the role of plasma cells in the humoral immune response?
4) Define opsonization in the context of the immune system.

**Que.2(B) Answer in Brief (Any One out of Two)** **(03)**

1) Describe the role of memory cells in the secondary immune response.
2) Briefly explain the role of cytokines in the immune system, providing an example.

**Que.2(C) Write a Note on (Any One out of Two)** **(07)**

1) Discuss the process of cell-mediated immune response for T cell activation.
2) Explain the complement system, highlighting its role in phagocytosis and inflammation

**Que.3(A) Objective type questions.** **(04)**

1) What is an epitope?
2) Name one class of immunoglobulin.
3) What is the role of haptens in the immune response?
4) Define agglutination in the context of antigen-antibody interaction.

**Que.3(B) Answer in Brief (Any One out of Two)** **(03)**

1) Describe the basic structure of an antibody.
2) Explain the difference between monoclonal and polyclonal antibodies

**Que.3(C) Write a Note on (Any One out of Two)** **(07)**

1) Describe the Immunoglobulin classes.
2) Discuss the different types of antigens, including their properties and the role of adjuvants

**Que.4(A) Objective type questions.** **(04)**

1) What is an example of an immunodeficiency disease?
2) Define Type I hypersensitivity.
3) What is autoimmunity?
4) Name one factor involved in tumor immunity.

**Que.4(B) Answer in Brief (Any One out of Two)** **(03)**

1) Explain the difference between Type II and Type III hypersensitivity reactions.
2) Briefly describe the role of the immune system in organ transplantation.

**Que.4(C) Write a Note on (Any One out of Two)** **(07)**

1) Discuss the mechanisms and examples of autoimmune diseases.
2) Provide an overview of tumor immunity.

**Que.5(A) Objective type questions.** **(04)**

1) What is the normal microflora?
2) Define nosocomial infections.
3) What is the role of LPS (lipopolysaccharide) in bacterial infections?
4) Name one diagnostic test used for detecting infections.

**Que.5(B) Answer in Brief (Any One out of Two)** **(03)**

1) Explain the importance of normal microflora in the gastrointestinal tract.
2) Differentiate between pathogenicity and virulence in the situation of infections.

**Que.5(C) Write a Note on (Any One out of Two)** **(07)**

1) Describe the process of infection transmission.
2) Discuss the principles and applications of two diagnostic tests used in clinical microbiology: ELISA and PCR.

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