AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF NURSING & MIDWIFERY SCIENCES
END OF SEMESTER MAY-AUG 2025 EXAMINATIONS

COURSE CODE AND TITLE: BSN 223/BSM 223: Immunology (Main Examination)

PRESERVICE

DATE: Friday 8th August 2025

Duration: 2 HOURS Start: 900AM Finish: 1100AM

INSTRUCTIONS

1. This exam is out of 70 marks
2. This Examination comprises THREE Sections. Section I: Multiple Choice Questions (20 marks) Section II: Short Answer Questions (30 marks) and Section III: Long Answer Questions (20 marks)
3. Answer ALL Questions.
4. Do Not write anything on the question paper -use the back of your booklet for rough work if need be.

SECTION I: MULTIPLE CHOICE QUESTIONS (20 MARKS)

1. _____ involves the production of antibodies by B cells.
   A. Cell-mediated immunity
   B. Humoral immunity
   C. Passive immunity
   D. Innate immunity
2. Which of the following cells are primarily involved in the cell-mediated immune response?
   A. B cells
   B. T cells
   C. Macrophages
   D. Neutrophils
3. The complement system enhances which aspects of the immune response?
   A. Inflammation and phagocytosis
   B. Antibody production
   C. Clonal selection
   D. T cell activation
4. Major histocompatibility complex (MHC) molecules are crucial for:
   A. Antibody production
   B. Antigen presentation
   C. Immune deficiency
   D. Phagocytosis
5. _____allows pathogens to avoid immune detection.
   A. Immunization
   B. Immune evasion
   C. Antibody-antigen interaction
   D. Complement activation
6. Autoimmunity is characterized by:
   A. The body attacking its own cells
   B. Enhanced immune response to pathogens
   C. Complete absence of immune response
   D. Immune response to vaccines
7. Which type of hypersensitivity reaction is mediated by IgE antibodies?
   A. Type I
   B. Type II
   C. Type III
   D. Type IV
8. The primary function of cytokines in the immune response is to:
   A. Generate antibodies
   B. Facilitate cell communication
   C. Present antigens
   D. Activate the complement system
9. Vaccines are designed to:
   A. Cure diseases
   B. Prevent infections
   C. Replace immune cells

D. Enhance surface antigens

10. Primary immune deficiencies are characterized by:
    A. Acquired immune weaknesses
    B. Genetic defects affecting immunity
    C. Normal immune function
    D. Autoimmune diseases
11. The role of antigen-antibody interactions is primarily to:
    A. Activate T cells
    B. Neutralize pathogens
    C. Produce cytokines
    D. Activate B cells
12. Monoprophylaxis refers to:
    A. Treatment of existing infections
    B. Prevention of diseases through vaccines
    C. Diagnosis of immune disorders
    D. Suppression of immune responses
13. Which statement is true about secondary immune deficiency?
    A. It's always inherited.
    B. It's often caused by environmental factors.
    C. It cannot be treated.
    D. It leads to overactive immunity.
14. _____ is observed during the second exposure to an antigen.
    A. Primary response
    B. Secondary response
    C. Tertiary response
    D. Quaternary response
15. What is the main purpose of the lymphatic system?
    A. Transport oxygen
    B. Produce hormones
    C. Return interstitial fluid to the bloodstream and aid in immune function
    D. Facilitate digestion
16. Which vaccine type uses an inactivated form of a virus?
    A. Live attenuated vaccines
    B. Inactivated vaccines
    C. Subunit vaccines
    D. mRNA vaccines
17. The process of antigen processing occurs in which cell type?
    A. Red blood cells
    B. Antigen-presenting cells (APCs)
    C. Neutrophils
    D. Plasma cells
18. _____ is transferred from mother to child, either through the placenta or breast milk.
    A. Natural active immunity
    B. Natural passive immunity
    C. Artificial active immunity
    D. Artificial passive immunity
19. Immunological memory is primarily associated with which type of cells?
    A. B and T memory cells
    B. Natural killer cells
    C. Macrophages
    D. Dendritic cells
20. Autoimmune diseases can be a result of:

A. Viral infections
B. Genetic predisposition
C. Environmental triggers
D. All of the above

SECTION B: SHORT ANSWER QUESTIONS (30 MARKS)

1. Explain any three (3) differences between humoral immunity and cell-mediated immunity (6 marks).
2. Illustrate immune response in human after exposure to an antigen (6 marks).
3. Write short notes on the biological role of the Major Histocompatibility Complex (MHC) (6 marks).
4. Explain the role of the complement system in immune response (6 marks).
5. Describe the basic principles of immunization (6 marks).

SECTION C: LONG ANSWER QUESTION (20 MARKS)

1. Discuss the implications of HIV/Aids on the immune system and outline the nursing considerations for managing opportunistic infections in this condition (10 marks)
2. Discuss immunosurveillance and immunity against tumour (10 marks)