AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF NURSING & MIDWIFERY SCIENCES
BACHELOR OF SCIENCE IN NURSING/BACHELOR OF SCIENCE IN MIDWIFERY
END OF SEMESTER DECEMBER 2022 EXAMINATIONS

BSN223/BSM223: IMMUNOLOGY

Date: 2ND DECEMBER 2022

Time: 2 hours **Start: 9:00AM** **Stop: 11:00AM**

INSTRUCTIONS

1. This exam is out of **70 Marks**
2. This Examination comprises THREE Sections. Section I: Multiple Choice Questions Section II: Short Answer Questions and Section III: Long Answer Questions
3. Answer ALL Questions

SECTION A: MULTIPLE CHOICE QUESTIONS (MCQS) (20 MARKS)

1 The most abundant immunoglobulin in newborns is:
a. IgA
b. IgM
c. IgG
d. IgD

2 The immunoglobulin produced early in the primary response to infection is:
a. IgE
b. IgA
c. IgG
d. IgM

3 The immunoglobulin that is the primary host defense against parasitic infections is:
a. IgA
b. IgG
c. IgM
d. IgE

4 The antibody which is found in secretions is:
a. IgD
b. IgE
c. IgG
d. IgA

5 The following antibodies directly participate in the opsonization process:
a. IgM
b. IgG
c. IgA
d. IgE

6 Naturally acquired active immunity would be most likely acquired through:
a. Vaccination
b. Drinking colostrum
c. Natural birth
d. Infection with disease-causing organism followed by recovery

7 Which of the following conveys the longest-lasting immunity to an infectious agent?
a. Naturally acquired passive immunity
b. Artificially acquired passive immunity
c. Naturally acquired active immunity
d. Artificially acquired active immunity

8 Which substances will not stimulate an immune response unless they are bound to a larger molecule?
a. Antigen
b. Virus
c. Hapten

d. Miligen

9 B and T cells are produced by stem cells that are formed in:
a. Bone marrow
b. The liver
c. The circulatory system
d. The spleen

10 B cells mature in the…….. while T cells mature in the
a. Thymus/bone marrow and gut-associated lymphoid tissue (GALT)
b. Spleen/bone marrow and GALT
c. Bone marrow and GALT/thymus
d. Liver/kidneys

11 Which of the following immune cells/molecules are most effective at destroying intracellular pathogens?
a. T helper cells
b. B cells
c. Complement
d. T cytolytic cells

12 A living microbe with reduced virulence that is used for vaccination is considered:
a. A toxoid
b. Dormant
c. Virulent
d. Attenuated

13 B cells that produce and release large amounts of antibodies are called:
a. Memory cells
b. Basophils
c. Plasma cells
d. Killer cells

14 The specificity of an antibody is due to
a. Its valence
b. The heavy chains
c. The Fc portion of the molecule
d. The variable portion of the heavy and light chain

15 In agglutination reactions, the antigen is a…… and in precipitation reactions, the antigen is a……...
a. whole-cell/soluble molecule
b. Soluble molecule/whole-cell
c. Bacterium/virus
d. Protein/carbohydrates

16 Cell-mediated immunity is carried out by…….. while humoral immunity is mainly carried out by……..
a. B cells/T cells
b. Epitopes/antigens
c. T cells/B cells

d. Antibodies/antigens

17 The ability of the immune system to recognize self-antigens versus non-self-antigen is an example of:
a. Specific immunity
b. Tolerance
c. Cell-mediated immunity
d. Antigenic immunity

18. Which of the following is not an acute phase protein:
a. Chondroitin sulfate.
b. C-reactive protein.
c. Fibrinogen.
d. Mannose-binding lectin.

19. Polymorphonuclear neutrophils attack bacteria:
a. By phagocytosis.
b. By secreting complement.
c. By secreting interferon.
d. Exclusively by oxygen-dependent mechanisms.

20. After contact with foreign antigens, body produces specific antibody. These specific antibodies are readily detectable in serum following primary contact with antigen after:
a. 10 minutes
b. 1 hour
c. 5–7 days
d. 3–5 weeks

SECTION B: SHORT ANSWER QUESTIONS (SAQS)

1. Differentiate between Innate and adaptive immunity (6 marks)
2. Define the following terms: (4 Marks)
a) Antigen
b) Immunogen
c) Epitope
d) Hapten

3. Compare and contrast primary and secondary immune responses. (6 Marks)

4. What are the basic functions of the following blood cells: (8 Marks)
a) Neutrophils
b) Eosinophil
c) Basophil
d) Lymphocyte

5. What would happen if there was no adaptive immunity? (2 Marks)

6. Describe the stages of an infection and response in a skin wound (4 Marks)

SECTION C: LONG ANSWER QUESTIONS (LAQS) ANSWER ONLY ONE QUESTION - (20 MARKS)

1. With specific examples, discuss Classification of vaccine. (20 Marks)
2. Discuss immune system in human (20 Marks).