AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF NURSING & MIDWIFERY SCIENCES
END OF SEMESTER AUGUST 2023 EXAMINATIONS

COURSE CODE AND TITLE: BSN 223 IMMUNOLOGY (MAIN EXAMINATION)

DATE: 8TH AUGUST 2023

Duration: 2 HOURS Start: 9:00 A.M. Finish: 11:00 A.M.

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. The following peripheral blood cells plays a key role in killing of parasites: -
   A. Neutrophils
   B. Monocytes
   C. Lymphocytes
   D. Eosinophils
2. One of the following best describes a hapten: -
   A. Not able to react with antibody
   B. Antigenic only when coupled to a carrier
   C. Has multiple determinant sites
   D. A large chemically complex molecule
3. The visible serological reaction between soluble antigen and its specific antibody is: -
   A. Sensitization
   B. Precipitation
   C. Agglutination
   D. Opsonization
4. The cells known to be actively phagocytic include: -
   A. Neutrophils, Monocytes, basophils
   B. Monocytes, Lymphocytes, Neutrophils,
   C. Neutrophils, Eosinophils, Monocytes
   D. Lymphocytes, Eosinophils, Monocytes
5. The IgG subclass MOST efficient at crossing the placenta is: -
   A. IgG1
   B. IgG2
   C. IgG3
   D. IgG 4
6. The following is the "membrane attack complex" of Complement activation: -
   A. C1
   B. C3
   C. C4, C2, C3
   D. C5b, C6, C7, C8, C9
7. A patient with a T-cell deficiency will most likely exhibit: -
   A. Decreased phagocytosis
   B. Increased bacterial infections
   C. Decreased complement levels
   D. Increased complement levels
8. The most rapid immediate hypersensitivity reaction is associated with: -
   A. Transfusion
   B. Anaphylaxis
   C. Contact dermatitis
   D. Serum sickness

9. The specific component of the adaptive immune system formed in response to antigenic stimulation is: -

A. Lysozyme
B. Complement
C. Commensal organisms
D. Immunoglobulin

10. The two organs considered as primary lymphoid organs are: -

A. Thymus and bone marrow
B. Thyroid and Peyer's patches
C. Spleen and mucosal-associated lymphoid tissue (MALT)
D. Lymph nodes and thoracic duct

11. The general definition of autoimmunity is: -

A. Increase of tolerance to self-antigens
B. Increase in clonal deletion of mutant cells
C. Loss of tolerance to self-antigens
D. Manifestation of immunosuppression

12. The disease likely indicated by antibodies to smooth muscle is: -

A. Atrophic gastritis
B. Autoimmune hepatitis
C. Myasthenia gravis
D. Sjögren's syndrome

13. A patient deficient in the C3 complement component would be expected to mount a normal: -

A. Type I and IV hypersensitivity response
B. Type II and IV hypersensitivity response
C. Type I and III hypersensitivity response
D. Type II and III hypersensitivity response

14. Di George syndrome results from defect in: -

A. Purine nucleoside phosphorylase
B. Thymic development
C. DNA repair
D. CD3

15. The T cell that expresses the CD8 marker and acts specifically to kill tumours or virally infected cells is:

A. Helper T
B. T suppressor
C. T cytotoxic
D. T inducer/suppressor

16. The following is an example of the second line of defense: -

A. Inflammation

B. Skin

C. T helper cells

D. Antibodies

17. One of following is an antigen-presenting cell: -

A. B cell

B. Macrophages

C. Natural Killer cells

D. Dendritic cell

18. ……. are released by activated T cells and macrophages to mobilize immune cells and attract other leukocytes.

A. Cytokines

B. Natural killer cells

C. B cells

D. Antibodies

19. The basic Immunoglobulin unit is composed of: -

A. 2 identical heavy and 2 different light chains

B. 2 different heavy and 2 identical light chains

C. 2 identical heavy and 2 identical light chains

D. 2 different heavy and 2 different light chains

20. The immune cells specialised with phagocytosis are: -

A. Lymphocytes

B. Monocytes

C. Dendritic cells

D. Macrophages

SECTION II: SHORT ANSWER QUESTIONS (30 MARKS)

1. State five (5) factors that affect the production of antibodies (5 Marks)
2. Outline five (5) classification of primary immune-deficiencies (5 Marks)
3. Describe briefly type III Hypersensitivity and list two (2) manifestation associated with the reaction (5 Marks)
4. State five (5) organ specific Autoimmune diseases (5 Marks)
5. Outline the classification episodes of Graft rejection (5 Marks)
6. Describe the salient features of Antigen-Antibody reaction (5 Marks)

SECTION III: LONG ANSWER QUESTION – (20 MARKS)

1. Discuss Five (5) biologic effects of the complement (10 Marks)
2. Discuss Five (5) classes (Isotypes) of human antibodies (10 Marks)