



**AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF NURSING & MIDWIFERY SCIENCES
BACHELOR OF SCIENCE IN NURSING (UPGRADING)
END OF TRIMESTER EXAMINATIONS AUGUST 2022**

UNIT CODE:BSN 223 IMMUNOLOGY

DATE: 2nd August, 202

TIME:2 Hours START: 9:00AM FINISH: 11:00AM

INSTRUCTIONS: ANSWER ALL QUESTION IN SECTION A, B & C

SECTION A. MULTIPLE CHOICE QUESTIONS (MCQs)-20 MARKS

1. From the following, identify a specific component of the adaptive immune system that is formed in response to antigenic stimulation:
 - A. Lysozyme
 - B. Complement
 - C. Commensal organisms
 - D. Immunoglobulin

2. Which two organs are considered the primary lymphoid organs in which immunocompetent cells originate and mature?
 - A. Thyroid and Peyer's patches
 - B. Thymus and bone marrow
 - C. Spleen and mucosal-associated lymphoid tissue (MALT)
 - D. Lymph nodes and thoracic duct

3. All of the following are immunologic functions of complement except:
 - A. Induction of an antiviral state
 - B. Opsonization
 - C. Chemotaxis
 - D. Anaphylatoxin formation

4. Which immunoglobulin(s) help(s) initiate the classic complement pathway?
 - A. IgA and IgD
 - B. IgM only
 - C. IgG and IgM

- D. IgG only
5. Which region of the immunoglobulin molecule can bind antigen?
- A. Fab
 - B. Fc
 - C. CL
 - D. CH
6. Which immunoglobulin can cross the placenta?
- A. IgG
 - B. IgM
 - C. IgA
 - D. IgE
7. The interaction between an individual antigen and antibody molecule depends upon several types of bonds such as ionic bonds, hydrogen bonds, hydrophobic bonds, and van der Waals forces. How is the strength of this attraction characterized?
- A. Avidity
 - B. Affinity
 - C. Reactivity
 - D. Valency
8. What is a general definition for autoimmunity?
- A. Increase of tolerance to self-antigens
 - B. Loss of tolerance to self-antigens
 - C. Increase in clonal deletion of mutant cells

D. Manifestation of immunosuppression

9. Which of the following is a description of a type I hypersensitivity reaction?

- A. Ragweed antigen cross links with IgE on the surface of mast cells, causing release of preformed mediators and resulting in symptoms of an allergic reaction
- B. Anti-Fya from a pregnant woman crosses the placenta and attaches to the Fya antigen-positive red cells of the fetus, destroying the red cells
- C. Immune complex deposition occurs on the glomerular basement membrane of the kidney, leading to renal failure
- D. Exposure to poison ivy causes sensitized T cells to release lymphokines that cause a localized inflammatory reaction

10. A patient who is blood group O is accidentally transfused with group A blood and develops a reaction during the transfusion. What antibody is involved in this type II reaction?

- A. IgM
- B. IgE
- C. IgG and IgE
- D. IgM and IgG

11. Which complement component is found in both the classic and alternative pathways?

- A. C1
- B. C4

C. Factor D

D. C3

12. The following is an autoimmune disorder

A. Sickle cell disease

B. Severe combined immune deficiency (SCID)

C. Rheumatoid arthritis

D. Pernicious anaemia

13. Rhesus hemolytic disease of the newborn involves:

A. IgE

B. Antibody to cell surfaces

C. Soluble immune complexes

D. Cytokine release from T-Cells

14. The function of memory B cell is.....

A. Antibody production

B. Immunologic memory

C. Regulated antibody production

D. None of these

15. 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

16. Phagocytes ingest particular matter into cells for degradation. Which of the following is NOT considered a phagocyte?

A. Macrophage

B. Neutrophil

- C. Eosinophil
- D. Basophil

17. Which of the following is a non-organ specific (systemic) disease

- A. Myasthenia
- B. Systemic lupus erythematosus (SLE)
- C. Hashimoto's thyroiditis
- D. Pernicious anemia

18. HIV attacks.....

- A. T helper cells
- B. T cytotoxic cells
- C. B cells
- D. Macrophages

19. Di George syndrome results from defect in

- A. Purine nucleoside phosphorylase
- B. Thymic development
- C. DNA repair
- D. Defect of B cell circulation

20. Cell – mediated immunity:

- A. Is unaffected by exercise
- B. is unaffected by surgical trauma
- C. May be grossly impaired by protein –calorie malnutrition
- D. Is unaffected by diet

SECTION B. SHORT ANSWER QUESTIONS- (30 MARKS)

1. Outline FIVE ways through which Antibodies help the body
2. against foreign pathogens (5 marks)
3. Discuss briefly the types of hypersensitivity reactions (5 marks)
4. State the factors which affect Antibody production (5 Marks)

5. State the functions of the Complement system (5 Marks)
6. State FIVE organ-specific autoimmune diseases (5 Marks)
7. Autoimmune diseases are classified into TWO classes. Mention the classes and give examples (5 Marks)

SECTION C. LONG ANSWER QUESTIONS- (20 MARKS)

1. Differentiate between Active and Passive immunity (10 marks)
2. Discuss briefly the FOUR classification of Hypersensitivity reactions (10 marks)

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