



AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF NURSING AND MIDWIFERY SCIENCES
BACHELOR OF SCIENCE IN NURSING
END OF SEMESTER EXAMINATIONS AUGUST 2021

UNIT CODE: BSN 223

UNIT NAME: IMMUNOLOGY

DATE: WEDNESDAY 28TH JULY, 2021

TIME: 2 HOURS

Start: 2.00PM

Finish: 4.00PM

INSTRUCTIONS

1. The exam is set out of 70 marks
2. Section A has 20 MCQs, each is one mark
3. For section A, select only one correct response
4. Section B has Short Answer Questions (SAQs) worth 20 marks
5. Section C has Long Answer Questions (LAQs) worth 30 marks
6. Answer all the questions in all sections

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

- 1. Which of the following immune cells are specialised with phagocytosis?**
 - A. Macrophages
 - B. Monocytes
 - C. Dendritic cells
 - D. Lymphocytes
- 2. The following statement is true about cellular immunity: -**
 - A. There are no mature T cells in the bone marrow.
 - B. The pluripotent stem cell is one of the most abundant cell types in the bone marrow.
 - C. Neutrophils rise in cases of Bacterial Infections
 - D. Activation of macrophages increases their expression of class I MHC molecules, allowing them to present antigen to TH cells more effectively
- 3. The following component of the adaptive immune system Secretes Immunoglobulin (IG):-**
 - A. Activated B cells (Plasma cells)
 - B. CD4+ Activated T cells
 - C. CD8 + Cytotoxic T cells
 - D. B and C
- 4. The following is true about IgG Antibodies:-**
 - A. Are the only Antibodies that are able to cross the placenta barrier
 - B. Are involved with allergic reactions
 - C. They increase during parasitic infections
 - D. Is a pentamer
- 5. The following is a true definition of cytokines**
 - A. Cytokines are proteins that mediate the effector function of the immune system.
 - B. Cytokines are cells of the immune system
 - C. Cytokines are not involved in human infections
 - D. Cytokines do not bind to receptors on the plasma membrane and elicit their effects through the activation of an intracellular signaling cascade

6. **The following are major cells of the innate immunity EXCEPT?**
- A. Phagocytes
 - B. Natural killer (NK) cells
 - C. Other leukocytes, epithelial and endothelial cells
 - D. Dendritic cells
7. **The following is TRUE about innate and inflammatory responses of the Immune system**
- A. They can be harmful as well as helpful, they are highly regulated by positive and negative feedback pathways.
 - B. innate immunity is acquired from parents
 - C. They are not immunological responses
 - D. They are not used for fighting infections
8. **Complement system is:-**
- A. A system of memory cells
 - B. The term **complement** refers to a set of serum proteins that cooperates with both the innate and the adaptive immune systems to eliminate blood and tissue pathogens.
 - C. Is an immunological disorder
 - D. It is a series of cells.
9. **The following contributes to Naturally acquired active immunity :-**
- A. Vaccination
 - B. Drinking colostrum
 - C. Natural birth
 - D. Infection with disease-causing organism followed by recovery
10. **The following evokes immune response when bound to a larger molecule**
- A. Antigen
 - B. Virus
 - C. Hapten
 - D. Antibody
11. **B and T cells are produced by stem cells that are formed in:**
- A. Bone marrow
 - B. The liver
 - C. The spleen
 - D. The lymph nodes

12. **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
13. **Monoclonal antibodies recognize a single:**
- A. Antigen
 - B. Bacterium
 - C. Epitope
 - D. B cell
14. **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
15. **Immune disorders include:**
- A. Hypersensitivity
 - B. Auto-immune diseases
 - C. Immunodeficiency
 - D. All of the above
16. **The inappropriate response of immune system towards a relatively harmless antigen causing harm to the host is referred as.....**
- A. Hypersensitivity
 - B. Auto-immune diseases
 - C. Immunodeficiency
 - D. Tolerance
17. **Which of the following components enhances the binding of Antigen antibody complex to macrophages**
- A. C1
 - B. C3 a
 - C. C3b
 - D C8

18. The membrane attack complex consists of:

- A. Properdin
- B. C5b,6,7,8,9
- C. C3b, Bb
- D. Colicins

19. Di George syndrome results from defect in.....

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

20. 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

SECTION B. SHORT ANSWER QUESTIONS- (20 MARKS)

1. State four (4) functions of the Bone Marrow (4 Marks)
2. Outline four (4) effector functions of the complement system (4 Marks)
3. State four (4) determinants of Innate Immunity (4 Marks)
4. Outline four (4) factors that affect Antibody production (4 Marks)
5. State four (4) types of Hypersensitivity reactions (4 Marks)

SECTION C. LONG ANSWER QUESTIONS- (30 MARKS)

1. Describe the salient features of Antigen-Antibody reactions (10 marks)
2. Explain the differences between Innate and Acquired immunity (10 marks)
3. Describe the five (5) classes (Isotypes) of Human Antibodies (10 marks)