

**INSTRUCTIONS :** All questions are compulsory

**SECTION ONE: 20 MCQS. CHOOSE ONE CORRECT ANSWER.**

1. Autoimmunity simply refers to?
  - a) Immunodeficiency
  - b) Auto-immune diseases
  - c) Hypersensitivity
  - d) Self-cells turning against self self cells
2. Antibodies are involved in (1mark)
  - a) Phagocytosis
  - b) Complement activation
  - c) Opsonization
  - d) Binding to antigens
3. Heavy chains of antibodies are joined by (1mark)
  - a) Hydrogen
  - b) Hydrophobic bond
  - c) Van der waal forces
  - d) Di-sulphide bond
4. Which of the following is the site of B. cell maturation?
  - a) Bone marrow
  - b) Thymus
  - c) Bursa of Fabricus
  - d) Spleen
5. Administration of Monoclonal antibodies is an example of ?
  - a) Active immunity
  - b) Passive immunity
  - c) Inherent immunity
  - d) Naturally immunity
6. Which of the following characterize adaptive immune defense mechanism?
  - a) Fever
  - b) Mucous Membrane
  - c) Diversity
  - d) Complement system
7. Cilia in the nostrils protects us by preventing pathogen entry. This is an example of?
  - a) Artificially acquired adaptive immunity
  - b) Naturally acquired innate immunity
  - c) Naturally acquired passive immunity
  - d) Artificially acquired passive immunity
8. The ability of antigen to bind to antibody is referred to as (1 mark)
  - a) Affinity
  - b) Antigenicity
  - c) Immunogenicity
  - d) Elicitation
9. The carboxyl end of an immunoglobulin molecule is involved in?
  - a) Innate immunity
  - b) Complement activation
  - c) Antigen capture
  - d) Mannose pathway

10. The hypervariable region resides in the?
  - a) N-Terminal region of light chain
  - b) N-terminal region of light and heavy chain
  - c) C-terminal region of light chain
  - d) C-terminal region of light chain and heavy chain
11. The following are antigen binding sites:
  - a) Antitopes
  - b) Epitopes
  - c) Paratopes
  - d) Endotopes
12. Immune disorders do not include ?
  - a) Hypersensitivity
  - b) Immunodeficiency
  - c) Ammine therapy
  - d) Autoimmunity
13. The exaggerated response of immune system towards a relatively harmless antigen is called?
  - a) Tolerance
  - b) Immunodeficiency
  - c) Auto-immune diseases
  - d) Hypersensitivity
14. Which of the following Immunoglobulin is found in body secretions?
  - a) IgG
  - b) IgM
  - c) IgE
  - d) IgA
15. Viral infected cells and Tumor cells are often destroyed by?
  - a) T helper cells
  - b) T Cytotoxic cells
  - c) Macrophages
  - d) Antibodies
16. According to scientific acknowledgements, who is considered the father of Immunology?
  - a) Louis Pasteur
  - b) Edward Jenner
  - c) Carl Landsteiner
  - d) Joseph Miester
17. The appropriate method employed to acquire protection against various diseases is referred to as?
  - a) Immunization
  - b) Vaccinoid
  - c) Attenuation
  - d) Gene therapy
18. Which of the following statements are true regarding vaccines?
  - a) Salk and Sabin are polio vaccines
  - b) Sabin is live attenuated polio vaccines
  - c) Salk is an Inactivates polio vaccine
  - d) Dilute active poliomyelitis
19. Choose the statement that is not true regarding vaccination:
  - a) Vaccination is a method of active immunization
  - b) Vaccination is a method of artificially acquired active immunization
  - c) Vaccination can be a method of artificially acquired passive immunization

- d) Vaccinations are only given to immunocompromised individuals
20. Passive immunization includes?
- a) Introduction of antigens directly
  - b) Transfer of maternal antibodies across placenta
  - c) Transfer of phagocytes in-directly
  - d) Skin and appendages

**SECTION TWO: SHORT ANSWER QUESTIONS (40 marks)**

1. Describe merits of immunizations in developing countries (4 Marks)
2. Describe the science behind 'self and non-self-recognition' in immunologic studies
3. Discuss 4 characteristics of the acquired immune system (4 Marks)
4. Describe steps following an allergic reaction (6 Marks)
5. Briefly discuss role played by macrophages in immunology (6 Marks)
6. Describe the skin as an organ of immunity (6 Marks)
7. Giving appropriate example, describe how molecular weight of a molecule may affect immunogenicity (6 Marks)
8. Describe four types of Hypersensitivity reactions of the immune system (4 Marks)
9. Giving Pneumococcal vaccine as an example, discuss the benefits of Immunologic Memory 'to a human body'(4 Marks)

**SECTION THREE: LONG ANSWER QUESTION (40 Marks)**

1. Explain five factors under which the non specific immune defense mechanism operates (20 Marks).
2. Describe five factors that make antigens better immunogens (20 Marks)