

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATION

**RESIT/SUPPLEMENTARY / SPECIAL EXAMINATIONS
EXAMINATION FOR THE AWARD OF BACHELOR OF SCIENCE IN PUBLIC
HEALTH**

PUHE 126: IMMUNOLOGY

STREAMS: BSc. (PUHE) Y1S2

TIME: 2 HOURS

DAY/DATE: THURSDAY 12/08/2021

8.30 A.M - 10.30 A.M.

INSTRUCTIONS:

1. Do not write anything on the question paper.
2. Mobile phones and any other reference materials are NOT allowed in the examination room.
3. The paper has three sections. Answer ALL questions in Sections I and II and ONE question in section III.
4. All your answers for Section I (MCQs) should be on one page.
5. Number ALL your answers and indicate the order of appearance in the space provided in the cover page of the examination answer booklet.
6. Write your answers legibly and use your time wisely

SECTION 1: MULTIPLE CHOICE QUESTIONS [10 MARKS]

1. _____ is the basic structural, functional, and biological unit of all known organisms

- [a]. Molecule
- [b]. Tissue
- [c]. Cell
- [d]. Organ

2. Which of the following best defines antibody?

- [a]. Immunoglobulin
- [b]. Molecule
- [c]. Antigen
- [d]. Serum

3. _____ studies the relationship between the body systems, pathogens, and immunity.
 - [a]. Clinical immunology
 - [b]. Classical immunology
 - [c]. Developmental Immunology
 - [d]. Systemic immunology

4. Which one of the following cells do not arise from the common myeloid-erythroid progenitor?
 - [a]. Granulocytes
 - [b]. Monocytes
 - [c]. Macrophages
 - [d]. Lymphocytes

5. Which one of the following is not a secondary lymphoid organ?
 - [a]. Bone marrow
 - [b]. Spleen
 - [c]. Lymph nodes
 - [d]. Specialized sites in the gut

6. All immune cells that traffic through tissues, blood, and lymph nodes are guided by small molecules known as
 - [a]. Antigens
 - [b]. Chemokines
 - [c]. Neurotransmitters
 - [d]. Antibodies

7. What is the common name for organisms that cause disease?
 - [a]. Pathogens
 - [b]. Bacteria
 - [c]. Microorganisms
 - [d]. Virus

8. Which one of the following is not a lymphoid cell?
 - [a]. Natural killer (NK) cells
 - [b]. B lymphocytes
 - [c]. T lymphocytes
 - [d]. Monocytes

9. Which year was the last known case of naturally acquired smallpox reported?
 - [a] 1977
 - [b] 1980

- [c] 1948
- [d] 1987

10. Which one of the following disease categories is not exclusively associated with dysfunction or failure of the immune system

- [a] Infectious diseases
- [b] Hypersensitivity diseases
- [c] Autoimmune diseases
- [d] Immune deficiency diseases

SECTION II: SHORT ANSWER QUESTIONS [40 MARKS]

1. Define the following terms

- [a] Immune Response [2 marks]
- [b] Antigen [2 marks]
- [c] Immunization [2 marks]

2. A successful immune response to a pathogen depends on finely choreographed interactions among diverse cell types. Outline the four (4) broad classes of immune cells [4 marks]

3. Discuss the characteristics and role of Thymus as one of the key primary lymphoid organs [5 marks]

4. Generally, immunity exists in two components namely humoral and cellular immunity. Discuss the humoral immunity [5 marks]

5. Immunology is about more than just vaccines and infectious diseases. Discuss [10 marks]

6. The immune system is basically comprised of two interconnected arms which collaborate to protect the body against foreign invaders. These arms include innate and adaptive immunity. Discuss innate immunity [10 marks]

SECTION III: LONG ANSWER QUESTIONS [20 MARKS]

1. Immunization is the process of eliciting a long-lived state of protective immunity against a disease-causing pathogen. Discuss the two major ways of achieving protective immunity [20 marks]

2. There are several vaccine strategies, each with unique advantages and challenges. Discuss the live, attenuated vaccine strategy stating its functional principles, its advantages and disadvantages [20 marks]

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