

AMREF INTERNATIONAL TRAINING CENTRE

Qualification Code : 102106T4COH
Qualification : Assistant Community Health Officer Level 6
Unit Code : HE/OS/CH/CC/04/6/A
Unit of Competency : Apply Human Anatomy and Physiology

CANDIDATE WRITTEN ASSESSMENT

Time: 3 hours

INSTRUCTIONS TO CANDIDATE

1. This paper has two sections A and B.
2. You are provided with a separate answer booklet.
3. Marks for each question are indicated in the brackets.
4. Do not write on the question paper

This paper consists of FIVE (5) printed pages. Candidates should check the question paper to ascertain that all the pages are printed as indicated

SECTION A (40 Marks)

Answer ALL questions in this section

1. A neuron is a basic unit of the nervous system. Outline **THREE** morphological adaptations of the neuron that make it suitable for the transmission of nerve impulses. (4 marks)
2. The human organism is categorized into different levels of structural and functional organization. Identify **FOUR** levels of this organization. (4 marks)
3. The cell is the basic unit of life. Enumerate **THREE** elements of the cell theory. (4 marks)
4. Connective tissues can either be classified as wandering or fixed. Highlight **FOUR** functions of connective tissues. (4marks)
5. Anne has complained of pain in the upper ventral cavity. Identify **FOUR** organs that might be attributing to this pain. (4 marks)
6. The kidneys lie on the posterior abdominal wall, one on each side of the vertebral column, behind the peritoneum and below the diaphragm, identify **FOUR** functions of the kidney. (4 marks)
7. Lymph is a clear watery fluid, similar in composition to plasma, with the important exception of plasma proteins, and identical in composition to interstitial fluid. State **TWO** mechanisms that aid the flow of lymph. (4 marks)
8. Chewing is the first step in digestion. Highlight **FOUR** importance of chewing food in humans. (4 marks)
9. The anterior pituitary is an up-growth of glandular epithelium from the pharynx. State **FOUR** hormones secreted from the anterior pituitary glands. (4 Marks)
10. There are measures that one can take against disease-causing pathogens. Highlight **FOUR** principles of controlling and eradicating communicable diseases. (4 Marks)

SECTION B (60 marks)

Answer ANY THREE questions in this section. (Question 11 is Compulsory)

11. Sarah, a 25-year-old fitness enthusiast, experiences muscle cramps during her intense workout sessions. She seeks advice from a physiotherapist who suspects electrolyte imbalance as the cause. Using your knowledge of muscle physiology, answer the following:

- a. Describe the process of muscle contraction, including the role of calcium ions, ATP, and the sliding filament theory. (10 marks)
- b. Explain **TWO** ways how an electrolyte imbalance might lead to muscle cramps in Sarah's case. (4 marks)
- c. Discuss **THREE** dietary and lifestyle changes that Sarah can implement to prevent muscle cramps during her workouts. (6 marks)

12. The urinary system comprises of the kidney, ureters, bladder and the urethra. This system is critical in the elimination of waste products from the body.

- a. Illustrate the nephron of the kidney, indicating the direction of the filtrate. (10 Marks)
- b. Describe the **FIVE** functions of the urinary system. (10 Marks)

13. As an Assistant Community Health Officer in Moshi community. You are given a chance to conduct health promotion on food digestion and its relation to anatomy and physiology.

- a) Describe the **TWO** divisions of the digestive system. (6 Marks)
- b) Explain any **THREE** roles played by the digestive system. (6 Marks)
- c) Identify any **FOUR** disorders related to the digestive system. (8 Marks)

14. The human body is composed of trillions of cells. They provide structure for the body, take in nutrients from food, convert those nutrients into energy, and carry out specialized functions

- a) Illustrate the structure of a human cell indicating any **EIGHT** organelles within the cell. (12 marks)
- b) Explain any **FOUR** main types of cells in the body . (8 Mark)

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