

**102105T4COH**

**COMMUNITY HEALTH LEVEL 5**

**HE/OS/CH/CC/03/5A**

**APPLY HUMAN ANATOMY AND PHYSIOLOGY**

**NOV/DEC 2023**



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION  
COUNCIL (TVET CDACC)**

**WRITTEN ASSESSMENT**

**Time: 3 Hours**

**INSTRUCTIONS TO CANDIDATE**

1. The paper consists of three sections: **A, B** and **C**.
2. You are provided with a separate answer booklet.
3. Marks for each question are as indicated.
4. Do not write on the question paper.

**This paper consists of seven (7) printed pages.**

**Candidate should check the question paper to ascertain that all pages are  
printed as indicated.**

**SECTION A: (20 MARKS)**

***Answer ALL the questions in this section.***

1. The spinal cord is anatomically located at \_\_\_\_\_.
  - A. Caudal
  - B. Frontal
  - C. Transverse
  - D. Dorsal
2. Which of the following is the large bone found superior to the patella and inferior to the ischium?
  - A. Calcaneus
  - B. Femur
  - C. Symphysis pubis
  - D. Tibia
3. A patient sustains severe blunt trauma to the left upper abdomen. Which one of the following organs is likely to be injured?
  - A. Appendix
  - B. Spleen
  - C. Gallbladder
  - D. Pancreas
4. Anita has suddenly developed yellowing of the eyes and the skin. Which of the following organ of her body is likely to have an abnormality?
  - A. Spleen
  - B. Kidneys
  - C. Liver
  - D. Heart
5. \_\_\_\_\_ is a substance found in large quantity in exhaled air.
  - A. Carbon dioxide
  - B. Nitrogen
  - C. Carbon monoxide
  - D. Oxygen

6. The cluster of blood capillaries in the kidney responsible for filtration are known as \_\_\_\_\_.
- A. Glomerulus
  - B. Afferent arteriole
  - C. Loop of Henle
  - D. Renal tubule
7. Which of the following proteins can cause coagulation if introduced into the blood stream?
- A. Fibrinogen
  - B. Prothrombin
  - C. Heparin
  - D. Thromboplastin
8. Identify from the following, the function of bile in the human body.
- A. Digestion of proteins
  - B. Breaking down of nucleic acids
  - C. Emulsification of fats
  - D. Phagocytosis
9. Choose from the following, a cell organelle that contains deoxyribonucleic acid (DNA).
- A. Peroxisome
  - B. Mitochondrion
  - C. Golgi apparatus
  - D. Smooth ER
10. Which one of the following is a function of adipose tissue?
- A. To protect and support the body and assist in motion
  - B. To transport nutrients
  - C. To store lipid and cushion organs
  - D. To support organs
11. Cancer cases are on the rise in both developing and developed countries. Genetic factors contribute to the development of cancer by \_\_\_\_\_.
- A. Altering the genetic code that instructs the cell on how to function
  - B. Altering the way one behaves towards a particular stimulus
  - C. Instructing the lymph nodes to prevent the spread of other diseases
  - D. Increasing one's appetite to food

12. Mr. Philemon has been diagnosed with a disease that weakens the bones. Which of the following conditions is he suffering from?
- A. Osteoporosis
  - B. Tendinosis
  - C. Osteocalcin
  - D. Osteoarthritis
13. Apart from the heart, choose from the following, any other organ that is affected by hypertension.
- A. Spinal cord
  - B. Kidney
  - C. Lungs
  - D. Liver
14. The cerebrum part of the brain is responsible for \_\_\_\_\_.
- A. Controlling arousal mechanisms
  - B. Controlling blood pressure
  - C. Coordinating motor functions
  - D. Regulating vision
15. A physician directs a medical assistant to complete a request form for an X-ray study of the fibula. The procedure will be performed on which of the following structures.
- A. Heel
  - B. Lower leg
  - C. Toes
  - D. Thigh
16. Hypertension is a common condition of the circulatory system affecting populations regardless of age, race or gender. Identify from the following, a blood reading that would lead to a diagnosis of hypertension.
- A. 130/80 mm Hg
  - B. 120/80 mm Hg
  - C. 129/77 mm Hg
  - D. 110/77 mm Hg

17. \_\_\_\_\_ is a site for red blood cells synthesis in the human body.
- A. Lymph nodes
  - B. Spleen
  - C. Bone marrow
  - D. Liver
18. Which of the following enzymes is responsible for the digestion in the mouth?
- A. Salivary maltase
  - B. Salivary amylase
  - C. Salivary lactate
  - D. Salivary lipase
19. Gaseous exchange from the lungs to the blood capillaries happens at the \_\_\_\_\_.
- A. Bronchi
  - B. Bronchioles
  - C. Trachea
  - D. Alveoli
20. Which of the following cell organelles is correctly matched to its function?
- A. Golgi apparatus – are protein factories
  - B. Mitochondria – provide energy for cellular functions
  - C. Centrioles- helps in transfer of materials from one part of the cell to another
  - D. Ribosomes – helps in the process of cell division.

**SECTION B: (40 MARKS)**

*Answer ALL the questions in this section*

21. The stomach contains strong acid and juices but does not digest itself. Using THREE reasons, justify why the stomach does not digest itself? **(3 Marks)**
22. Parkinson's disease is one of the degenerative brain diseases that progressively affects the nervous systems and body parts controlled by the nerves. State FOUR symptoms of Parkinson's disease. **(4 Marks)**
23. The human skull contains 22 bones, 8 cranial bones and 14 facial skeleton bones. Highlight FOUR bones of the cranium. **(4 Marks)**
24. Lymph is drained from blood vessel into the tissues and emptied into blood vessels via lymph nodes. State THREE mechanisms that aid the flow of lymph. **(3 Marks)**
25. The heart, blood and blood vessels are cardiovascular organs that work together to ensure there is constant blood flow throughout the body. Identify FOUR conditions of the cardiovascular system. **(4 Marks)**
26. Blood color ranges from scarlet red when rich in oxygen to dark red when deoxygenated. Identify THREE components of blood. **(3 Marks)**
27. Using an example, differentiate between positive and negative homeostasis feedback mechanism. **(4 Marks)**
28. Hormone levels must be strictly regulated because higher or lower levels lead to diseases. Describe THREE factors that determines the concentration of hormones in the body systems. **(3 Marks)**
29. Hormones stimulates action on their target sites. Outline TWO gonadotropins. **(2 Marks)**
30. Humans are organisms that share common characteristics with other organisms. Highlight FOUR characteristics of living things. **(4 Marks)**
31. The skin is the outer and largest organ of the human body. State FOUR functions of the skin. **(4 Marks)**
32. Outline TWO types of waste that the kidney gets rid of from the blood. **(2 Marks)**

**SECTION C: (40 MARKS)**

***Attempt any TWO questions in this section***

33. The female reproductive system is responsible for production of female gametes, conception, pregnancy and childbirth.
- a) Using a well labeled diagram, illustrate the female reproductive system stating the function of each mentioned organ. **(12 Marks)**
  - b) Describe the FOUR phases of menstrual cycle. **(8 Marks)**
34. The nervous system contains the human brain, spinal cord and nerves. The brain is segmented into different parts, responsible for different functions in the human body.
- a) Differentiate between sympathetic and parasympathetic nervous system. **(4 Marks)**
  - b) Explain THREE functions of the cerebrospinal fluid. **(6 Marks)**
  - c) Describe FIVE parts of the human brain and their functions. **(10 Marks)**
35. Tissues comprises of a group of similar cells that performs functions determined by the cells and material surrounding them.
- a) Describe FOUR body tissues, giving a function of each. **(12 Marks)**
  - b) The above tissues facilitate functioning of the body organs at a different structural level. Explain FOUR body structural levels. **(8 Marks)**

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