

091206T4PTT

PERIOPERATIVE THEATRE TECHNOLOGY LEVEL 6

HE/OS/TT/CC/01/6/A

DEMONSTRATE KNOWLEDGE OF HUMAN ANATOMY AND PHYSIOLOGY

July/Aug 2024



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

WRITTEN ASSESSMENT

3 HOURS

INSTRUCTIONS TO CANDIDATE

1. This paper consists of two sections; **A** and **B**
2. Answer **ALL** the question as guided in each section
3. Marks for each question are as indicated in the brackets
4. You are provided with a separate answer booklet to answer the questions
5. Do not write in this question paper

This paper consists of FOUR (4) printed pages.

Candidate should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

SECTION A: (40 MARKS)

Answer ALL questions in this section

1. Anatomical positions and planes help in describing the location and relationships of various body parts. Define the following terms as used in anatomy and physiology. (2 Marks)
 - a) Coronal plane
 - b) Sagittal (median) plane
2. Normal human urine typically possesses several characteristics that indicate overall health and hydration status. Identify FIVE characteristics of normal urine. (5 Marks)
3. The human body performs a wide range of functions necessary for survival, health, and overall well-being. State THREE haemostatic roles of the human body. (3 Marks)
4. Muscle tissue is one of the four primary tissues in the human body. State FOUR functions of this tissue. (3 Marks)
5. Understanding the organization of body cavities provides a framework for understanding the location and relationships of internal organs during surgery. State THREE importance of body cavities. (3 Marks)
6. A human cell is the basic structural and functional unit of the human body. Draw and label a diagram of the human cell. (4 Marks)
7. The vertebral column, also known as the spine or backbone, is a flexible and sturdy structure found in vertebrates, including humans. Identify THREE functions of the vertebral column. (3 Marks)
8. Alveoli are tiny air sacs found in the lungs where gas exchange occurs. Draw and label a diagram of the alveoli. (4 Marks)
9. Synovial joints are the most common type of joint in the human body, characterized by their unique structure and function. State TWO structural characteristics of these joints. (2 Marks)
10. Positive and negative feedback mechanisms are two fundamental types of regulatory processes that maintain homeostasis in living organisms. Differentiate between positive and negative feedback mechanism giving an example for each. (4 Marks)
11. Thyroid hormones are a group of hormones produced by the thyroid gland. Name TWO functions of thyroid hormones. (2 Marks)

12. Understanding the physiology of the nervous system is crucial for comprehending various bodily functions and processes, as well as diagnosing and treating neurological disorders. Highlight the difference between somatic and autonomic nervous system. (2 Marks)
13. Nervous reflexes are essential for survival, allowing the body to respond rapidly to potentially harmful stimuli without conscious thought. Name THREE types of nervous reflexes. (3 Marks)

SECTION B: (60 MARKS)

*Answer any **THREE** questions in this section.*

14. The gastrointestinal (GI) system, also known as the digestive system, is responsible for digestion and absorption of food, as well as the elimination of waste from the body.
- a) Identify SIX physiological functions of the liver. (6 Marks)
 - b) Describe the difference between chemical and mechanical digestion. (4 Marks)
 - c) Describe FIVE adaptations of the small intestines to their function. (10 Marks)
15. The lymphatic system is a vital part of the human body's immune system and plays a crucial role in maintaining fluid balance.
- a) Name THREE characteristics of lymphatic vessels. (3 Marks)
 - b) Identify FIVE regions in the human body where lymph nodes are located. (5 Marks)
 - c) Describe SIX roles of the spleen. (12 Marks)
16. The cardiovascular system, also known as the circulatory system, is a complex network of organs and vessels responsible for transporting blood around the body.
- a) Draw a cross-sectional diagram of a blood vessel. (6 Marks)
 - b) Differentiate between an end artery and anastomosis giving an example for each. (4 Marks)
 - c) Describe the flow of blood through the heart. (10 Marks)
17. The reproductive system is a complex set of organs and structures responsible for the production of offspring. It differs between males and females, with each having specific organs and functions tailored to their respective roles in reproduction.
- a) Draw and label a diagram of external female genitalia. (5 Marks)
 - b) Identify THREE structures of the male reproductive system with their correct functions. (3 Marks)
 - c) Describe the FOUR phases of the menstrual cycle. (12 Marks)

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