

091506T4NUT

NUTRITION AND DIETETICS LEVEL 6

MED/OS/NUD/CR/03/6/A

APPLY PRINCIPLES OF HUMAN NUTRITION

July/ August 2024



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

WRITTEN ASSESSMENT

TIME: 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 THREE (3) printed pages

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

SECTION A: 40 MARKS

Answer ALL questions in this section

1. The following are terms used in principles of human nutrition. Define each of the terms;
 - a) Nutrition screening. (1 Mark)
 - b) Digestion. (1 Mark)
2. Nutrients perform key functions in the body. List any **four** examples of essential nutrients. (4 Marks)
3. Vitamins are required by the body in small quantities. Outline any **four** fat soluble vitamins. (4 Marks)
4. Metabolism involves changes which either use or generate energy. Distinguish between catabolic and anabolic changes. (4 Marks)
5. Bioavailability of a nutrient may be influenced by various factors in the metabolic pathway. State any **four** factors which affect bioavailability of nutrients. (4 Marks)
6. Dietary assessment involves various techniques to measure foods and drinks consumed. Identify any **four** techniques used in dietary assessment. (4 Marks)
7. Inadequate intake of proteins has various consequences in the body. State any **four** consequences of protein deficiency. (4 Marks)
8. Water is considered a macronutrient because it is required in considerably high amounts. Outline any **four** functions of water in the body. (4 Marks)
9. Malnutrition can either be undernutrition or overnutrition. Identify **four** health risks associated with being underweight. (4 Marks)
10. Identify any **four** factors that may result in improvement of Low-Density Lipoprotein (LDL) to High Density Lipoprotein (HDL). (4 Marks)
11. Vitamin C, also known as ascorbic acid, is an essential nutrient in the body needs for many functions. Enumerate any **two** functions of vitamin C in the body. (2 Marks)

SECTION B: 60 MARKS

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

12. Digestive system breaks nutrients into parts small enough for the body to absorb. Describe the following;
- a) Digestion of Carbohydrate. (10 Marks)
 - b) The role of the following in protein digestion;
 - i. Hydrochloric Acid. (2 Marks)
 - ii. Pepsin. (2 Marks)
 - iii. Trypsin. (2 Marks)
 - iv. Chymotrypsin. (2 Marks)
 - v. Carboxypeptidase. (2 Marks)
13. Protein metabolism is the intricate process of breaking down and building up protein molecules in the body.
- a) Discuss any **five** factors affecting protein metabolism. (10 Marks)
 - b) Proteins are an important building blocks in the body. Elaborate any **five** functions of proteins. (10 Marks)
14. Nutrients are the raw materials that support physiologic and metabolic functions needed for maintenance of normal cellular activity.
- a) Explain any **four** goals of nutrition in prevention of diseases. (8 Marks)
 - b) Describe any **six** physiological factors that influence nutrient intake. (12 Marks)
15. The human body is a complex structure that works as a unit to meet all the physical, mental and physiological functions.
- a) Discuss any **five** functions of saliva. (10 Marks)
 - b) Explain any **five** details captured in the 24-hour recall method used to collect data on diet history of an individual. (10 Marks)

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