



AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF PUBLIC HEALTH
DEPARTMENT OF COMMUNITY HEALTH
DIPLOMA IN COMMUNITY HEALTH
END OF SEMESTER EXAMINATION AUGUST 2023

UNIT CODE: DCHP 131
UNIT NAME: HUMAN NUTRITION
DATE: 4th August, 2022
TIME: Two Hours **Start: 9.00 AM** **Finish 11.00 AM**

INSTRUCTIONS

1. This exam is marked out of 60 marks
2. This Examination comprises TWO Sections
Section A: Compulsory Question (20 marks)
Section B: Long Answer Questions (40 marks)

SECTION A: COMPULSORY (20 Marks)

1. Differentiate between
 - i. Heme and non heme Iron
 - ii. Gluconeogenesis and Glycogenolysis (2 marks)
2. Complete the following equations
Sucrose = Glucose + _____
_____ = Glucose + Galactose
Maltose = _____ + _____ (2 marks)
3. Highlight why complex carbohydrates are essential in management of diabetes (2 marks)
4. Summarize the circumstances under which deamination occurs (3 marks)
5. Identify the role of bile in the digestion of Lipids (1 mark)
6. Highlight four (4) factors affecting iron absorption in the body (2 marks)
7. State any 4 forms of micronutrient deficiencies of public health concern in Kenya (2 marks)
8. Identify three ways in which carbohydrates are metabolized in the body (3 marks)
9. For the following forms of malnutrition identify the indicators used to measure it
 - i. Underweight
 - ii. Wasting
 - iii. Stunting (3 marks)
10. Explain how insulin regulates blood sugar (2 marks)

SECTION B :ANSWER ANY TWO (2) QUESTIONS (40 Marks)

11.
 - a) Muli a construction worker consumes an average of 3,300 Kcals per day. He is keen on losing weight and intends to start eating clean. Out of his daily kilocalorie intake determine the required amount of the following;
 - i. Carbohydrates
 - ii. Lipids
 - iii. Assuming Muli weighs 92kg, what would be his required daily protein intake (8 marks)
 - b) WHO has published a report titled “Carbohydrates the silent killer” a debate has ensued on the topic. Discuss the functions of Carbohydrates in the body and give the possible reasons for the title (12 marks)

12.

- a) Disorders of protein digestion can occur when any of the processes involved in the digestion of protein is altered or abnormal. Discuss the digestion and absorption of Proteins in the body (12 marks)
- b) As a Community Health worker, you have been invited to the County Health committee to deliberate ways in which malnutrition rates will be reduced in the county. To achieve this objective, the committee has to understand the possible causes of malnutrition. Using the UNICEF's conceptual framework of malnutrition as a basis, discuss the possible enabling determinants of Malnutrition in the county (8 marks)

13.

- a) During routine nutrition education classes in the community, you have realized that a lot of the community members do not take water as per the required daily allowance. Prepare notes on the functions of water in the body to use in one of the education sessions during sensitization (10 marks)
- b) The ministry of health is carrying out a micronutrient deficiencies study in the country. The health personnel have been tasked to highlight the deficiencies disorders associated with various nutrients. Assuming that you are part of this team, identify the deficiency disorder associated with the following nutrients and indicate one rich food source that can be consumed to address the deficiency.

- i. Vitamin K
- ii. Vitamin A
- iii. Biotin
- iv. Folate
- v. Zinc

- vi. Tocopherol
- vii. Riboflavin
- viii. Niacin
- ix. Calcium
- x. Iodine