



**AMREF INTERNATIONAL UNIVERSITY**  
**UNIVERSITY EXAMINATIONS**  
**SEPTEMBER – JANUARY 2023 SEMESTER**  
**SCHOOL OF PUBLIC HEALTH**  
**DEPARTMENT OF COMMUNITY HEALTH**  
**MASTER OF PUBLIC HEALTH**

**COURSE CODE: MPN 717      COURSE TITLE: NUTRITIONAL STATUS ASSESSMENT**

**DATE:** 21<sup>st</sup> April 2023

**TIME:** Three Hours

**Start:** 4. PM **Finish:** 7 PM

**Instructions**

1. This exam is marked out of 100 marks
2. This Examination comprises TWO Sections
3. This online exam shall take THREE Hours
4. Late submission of the answers will not be accepted
5. Ensure your web-camera is on at all times during the examination period
6. No movement is allowed during the examination
7. Idling of your machine for 5 min or more will lead to lock out from the exam
8. The Learning Management System (LMS) has inbuilt integrity checks to detect cheating
9. Any aspect of cheating detected during and or after the exam administration will lead to nullification of your exam
10. In case you have any questions call the Head of Department on Tel 0720573449
11. For adverse incidences please write an email to: [amiu.examinations@amref.ac.ke](mailto:amiu.examinations@amref.ac.ke)

### COMPULSORY QUESTION ONE

- A. List any three advantages of the following methods of nutritional status assessment
- i. Anthropometric measurements (3 marks)
  - ii. Deuterium dilution technique (3 marks)
  - iii. Clinical assessment (3marks)
  - iv. Biochemical assessment (3 marks)
- A. For the study objectives listed below; indicate which of the ABCD nutritional status assessment methods you would select to assess the variables in these objectives (7 marks)
- i. To determine the prevalence of stunting wasting and underweight in young children under five years old
  - ii. To explore the adequacy of intake of vitamin A rich foods in an older population >75 years of age
  - iii. To assess the occurrence of vitamin B-12 deficiency in pregnant women
  - iv. To measure the proportion of school children with night blindness
  - v. To determining the dietary risk factors for diabetes in an adult population
  - vi. To analyze the iron and vitamin A content in human breastmilk
  - vii. To determine the prevalence of overweight and obesity among corporate workers at a firm in Nairobi City.
- B. Define the three nutritional status indices namely wasting, stunting and underweight (6 marks)

### CHOOSE THREE OF THE FOLLOWING FIVE QUESTIONS

Total 75 marks

#### Question 2

- A. Using a head-to-toe approach to clinical assessment of nutritional status, outline the clinical appearance and the corresponding nutrient deficiencies in the following body parts (15 marks).

- i. Hair (3marks)
  - ii. Eyes (3marks)
  - iii. Nails (3marks)
  - iv. Mouth (6marks)
- B. Discuss the consequences of poor nutritional status in school age children and adolescents (10marks)

### Question 3

Compare and contrast between a 24-hour recall and a food frequency questionnaire describing the features, strengths and weaknesses of the two dietary assessment methods. (25 marks)

### Question 4.

- A. Describe your understanding of nutrition epidemiology (5marks)
- B. Differentiate between exposure and outcome in nutritional epidemiology (5marks).
- C. Differentiate between the Cross sectional study designs and the prospective cohort study designs for nutritional epidemiology (12 marks)
- D. For each of the following research questions, indicate if your best choice of a nutritional a nutritional epidemiology study design (3marks).
  - i. What is the prevalence of consumption of salty, sugary and fatty foods among school children in private primary schools in Nairobi County?
  - ii. Is dietary intake in childhood associated with early onset of diabetes in young adults?
  - iii. Does nutrition education and behaviour change communication promote consumption of fruits and vegetables in a cohort of university students?

### Question 5

- A. Kasena is a 32-year-old single mother of 4 children who lives in a slum settlement in Nairobi. She got pregnant at 15 years and consequently dropped out of school. She makes a living as a street food vendor in her neighbourhood and her business involves cooking and selling fast food items. She's currently not pregnant and weighs 89kg. She is 164cm tall, has waist circumference of 104.5cm and a hip circumference of 88cm.
- i. Calculate Kasena's BMI (3marks)
  - ii. Calculate her waist-hip ratio (3 marks)
  - iii. Classify Kasena's nutritional status based on WHO BMI cut off, waist circumference and the WHO waist hip ratio categorization (4mark)
- B. Describe the uses of food composition tables and databases (10marks)
- C. Describe the weaknesses of food composition tables (5marks)

### Question 6

- A. Explain reasons why nutritional assessment of the elderly population is important (20 marks).
- B. Describe the term 'functional capacity' in the elderly population (5marks).

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