

CHUKA



UNIVERSITY

**UNIVERSITY EXAMINATIONS**

**SECOND YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR  
OF SCIENCE IN NURSING**

**NURU 171: NUTRITION AND HEALTH IN NURSING**

**STREAMS: BSC (NURS)**

**TIME: 2 HOURS**

**DAY/DATE: WEDNESDAY 16/04/2025**

**8.30 A.M. – 10.30 A.M.**

**INSTRUCTIONS:**

- 1. Do not write anything on the question paper.**
- 2. Mobile phones and any other reference materials are NOT allowed in the examination room.**
- 3. The paper has three sections. Answer ALL the questions.**
- 4. All your answers for Section I (MCQs) should be on one page.**
- 5. Number ALL your answers and indicate the order of appearance in the space provided in the cover page of the examination answer booklet.**

**PART ONE (MULTIPLE CHOICE QUESTIONS)**

- The following are roles of lipids except:
  - Comprises cell membranes
  - Store energy in adipose tissue
  - Provide energy during fasting
  - Provide energy during short exercises
- The following are true about biochemical assessment except:
  - It is useful in detecting early changes in body metabolism & nutrition before the appearance of overt clinical signs
  - It can be applied on a large scale
  - It is reproducible
  - It can measure clinical signs arising from changes in nutrition intake
- Niacin is necessary for:
  - Preventing pernicious anemia
  - Preventing osteomalacia
  - Preventing pellagra
  - Goiter

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4. One of the following is not a function of polysaccharide.
  - a) Energy production
  - b) Prevents ketoacidosis
  - c) Synthesis of enzymes
  - d) Provides a substrate for micro-flora fermentation
5. Which of the following is not a monosaccharide?
  - a) Glucose
  - b) Galactose
  - c) Fructose
  - d) Maltose
6. During starvation state, ketones are produced from:
  - a) Glycogen
  - b) Acetyl CoA
  - c) Pyruvate
  - d) Glucose
7. Anorexia nervosa is characterized by:
  - a) Eating a great deal of food in one sitting followed by vomiting
  - b) Obsession to a specific physical exercise
  - c) High fat intake following by heavy physical activity
  - d) Refusal to eat
8. The rate and extent to which a vitamin is absorbed and used in the body is known as:
  - a. Bioavailability
  - b. Intrinsic factor
  - c. Physiological effect
  - d. Pharmacological effect
9. A deficiency of vitamin B1 (Thiamin) in the diet causes:
  - a. Osteopenia
  - b. Ben-beri
  - c. Pellagra
  - d. Scurvy
10. The statement that correctly describes the approximate amount of energy yielded from 1 gram of each of the macronutrients is:
  - a. CHO 6Kcal, fat 9Kcal, protein 4Kcal, alcohol 7Kcal
  - b. CHO 16Kcal, fat 37Kcal, protein 17Kcal, alcohol 29 Kcal
  - c. CHO 4Kcal, fat 9Kcal, protein 4Kcal, alcohol 7Kcal
  - d. CHO 4Kcal, fat 7Kcal, protein 4KJ, alcohol 9Kcal

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11. Assessment of serum calcium levels is important for:
  - a. Severe malnutrition
  - b. Chronic kidney disease
  - c. Liver inflammation
  - d. Osteoporosis
12. A 46-year-old female weighing 82 kg and is 158 cm tall is classified as:
  - a. Very obese
  - b. Very overweight
  - c. Moderate overweight
  - d. Obese
13. The release of glucose from glycogen stores in the liver and muscle requires which B vitamin?
  - a. Pantothenic acid
  - b. Thiamin
  - c. Pyridoxine
  - d. None of the above
14. A deficiency of this vitamin often occurs on maize-based diets and is characterised by the '3 Ds' (diarrhoea, dermatitis and dementia). Which vitamin is it?
  - a. Vitamin B12
  - b. Folate
  - c. Vitamin C
  - d. Niacin
15. Which of the following is not a consequence of vitamin A deficiency?
  - a. Xerophthalmia
  - b. Keratomalacia
  - c. Bitot's spot
  - d. Osteomalacia
16. Height / length is key in nutritional assessments. Infantometer is indicated for which children?
  - a) Above 2 years old.
  - b) Less than 2 years old.
  - c) Above 5 years old.
  - d) Less than 1 year old.

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17. Mid upper arm circumference (MUAC) less than 11.5 cm signifies?
- a) Malnourished.
  - b) Adequate nutritional status.
  - c) Borderline.
  - d) All the above.
18. The following are essential amino acids except?
- a) Arginine, leucine, isoleucine.
  - b) Valine, arginine, lysine.
  - c) Arginine, glycine, cystein.
  - d) Methionine, phenylalanine, histidine.
19. Who performed the first scientific nutrition experiment in the year 1747?
- a) Antoine Lavoisier
  - b) James Lind
  - c) Anaxagoras
  - d) Claude Bernard
20. The following are true of anorexia nervosa except (1 mark)
- a) Increased body temperature
  - b) Decreased heart rate
  - c) Denial of appetite
  - d) Cachexia

### PART TWO (SHORT ANSWER QUESTIONS)

1. Define the following terms (3 marks)
- a) Underweight
  - b) Stunting
  - c) Wasting
2. State 5 symptoms of kwashiorkor (5 marks)
3. Discuss the role of sodium, chloride and potassium in maintenance of acid base balance and fluid volumes (6 marks)
4. Explain 4 methods used in nutritional assessment (4 marks)
5. The world today is experiencing nutrition transition marked by a stage of noncommunicable disease. Explain factors leading to this shift (6 marks)
6. Briefly discuss six principles which should be considered when planning a meal (6 marks)

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**PART THREE (LONG ANSWER QUESTIONS ) – 20 MARKS**

1. Explain nutrition indices used for nutrition assessment in children and adults stating the context in which they are applied. (10 Marks)
  2. Describe the world health organization therapeutic feeding protocol for treatment of complicated cases of severe malnutrition. (10 Marks)
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