

CHUKA

UNIVERSITY



UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE OF SCIENCE IN NURSING

NURS 171: NUTRITION AND HEALTH

STREAMS: BSc. NURSING

TIME: 2 HOURS

DAY/DATE: TUESDAY 12/08/2025

11.30 A.M. – 1.30 P.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 questions All your answers for Section I (MCQs) should be on one page.
4. Number ALL your answers and indicate the order of appearance in the space provided in the cover page of the examination answer booklet.
5. Write your answers legibly and use your time wisely

SECTION A: MULTIPLE CHOICE QUESTIONS [ONE MARK EACH] [20 MARKS]

1. Which carbohydrate is indigestible by humans but aids digestion?
 - a) Glucose
 - b) Fructose
 - c) Dietary fiber
 - d) Sucrose
2. Which nutrient is classified as a macronutrient and provides the highest amount of energy per gram?
 - a) . Protein
 - b) . Carbohydrate
 - c) . Fat
 - d) . Water

3. The primary storage form of lipids in the body is:
 - a) Phospholipids
 - b) Cholesterol
 - c) Triglycerides
 - d) Lipoproteins
4. Which of the following is a complete protein source?
 - a) Beans
 - b) Rice
 - c) Eggs
 - d) Corn
5. Which vitamin deficiency causes beriberi?
 - a) Vitamin B1
 - b) Vitamin B12
 - c) Vitamin C
 - d) Vitamin D
6. Which one of the following minerals is crucial for thyroid function?
 - a) Iron
 - b) Iodine
 - c) Zinc
 - d) Magnesium
7. Osteoporosis is primarily linked to a deficiency in:
 - a) Vitamin C
 - b) Calcium & Vitamin D
 - c) Iron
 - d) Sodium
8. Hyponatremia refers to dangerously low levels of:
 - a) Potassium
 - b) Sodium
 - c) Calcium
 - d) Magnesium

9. Which mineral is a major component of hemoglobin?
- a) Zinc
 - b) Iron
 - c) Iodine
 - d) Selenium
10. The most abundant mineral in the human body is:
- a) Iron
 - b) Calcium
 - c) Sodium
 - d) Potassium
11. A BMI of 17 indicates that the patient is:
- a) Underweight
 - b) Normal weight
 - c) Overweight
 - d) Obesity
12. Waist circumference is used to assess:
- a) Muscle mass
 - b) Central obesity
 - c) Abdominal density
 - d) Hydration
13. A child with low height-for-age is classified as:
- a) Wasted
 - b) Stunted
 - c) Underweight
 - d) Overweight
14. Which biochemical marker indicates protein malnutrition?
- a) Blood glucose
 - b) Serum albumin
 - c) Hemoglobin
 - d) Cholesterol

15. Pellagra is caused by a deficiency of:

- a) Niacin (Vitamin B3)
- b) Thiamine (Vitamin B1)
- c) Vitamin A
- d) Iron

16. A patient with spoon-shaped nails may have:

- a) Iron deficiency
- b) Vitamin A toxicity
- c) Excess protein
- d) High sodium intake

17. Which disease is linked to excessive sodium intake?

- a) Hypertension
- b) Diabetes
- c) Anemia
- d) Osteoporosis

18. A key nutrient for preventing neural tube defects is:

- a) Iron
- b) Folate
- c) Vitamin D
- d) Zinc

19. Teenagers need increased intake of:

- a) Calcium & Iron
- b) Vitamin C only
- c) Fats only
- d) Protein only

20. An elderly woman with frequent fractures has low bone density. She needs more:

- a) Vitamin D & Calcium
- b) Iron & Folate
- c) Vitamin C
- d) Protein only

SECTION B: SHORT ANSWER QUESTIONS (30 MARKS)

1. State five causes of protein-energy malnutrition (PEM). (5 marks)
2. List three essential amino acids and three non-essential amino acids (3 marks)
3. State three fat-soluble vitamins, two sources and one function of each (6 marks)
4. Classify proteins and give two examples of food sources for each type. (5 marks)
5. Explain how diabetes mellitus is managed through dietary modifications (6 marks)
6. State two importance of dietary fiber and list three good sources. (5 marks)

SECTION C: LONG ANSWER QUESTION (20 MARKS)

1. Discuss four methods used in nutritional status assessment. In your answer, explain how each method is applied in practice and indicating its strengths and limitations.

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