

CHUKA



UNIVERSITY

**UNIVERSITY EXAMINATIONS**

**FIRST YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF PSYCHOLOGY**

**FOND 121: PRINCIPLES OF HUMAN NUTRITION**

**STREAMS: B. PSYC**

**TIME: 2 HOURS**

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

**11.30 A.M. – 1.30 P.M.**

**INSTRUCTIONS:**

- Answer **ALL** questions
- Do not write anything on the question paper
- No reference materials are allowed in the examination room
- No use of mobile phones or any other unauthorized materials
- Write your answers legibly and use your time wisely

**SECTION MULTIPLE CHOICE QUESTIONS (20 MARKS)**

1. The process by which nutrients move from the intestinal lumen into the bloodstream is called:
  - A. Metabolism
  - B. Absorption
  - C. Digestion
  - D. Assimilation
2. Which of the following best represents a function of water-soluble vitamins?
  - A. Storage in adipose tissue
  - B. Absorption with dietary fats
  - C. Immediate use by the body
  - D. Long-term storage in the liver
3. In food safety, HACCP stands for:
  - A. Health And Cleanliness Control Program
  - B. Hazard Analysis Critical Control Point
  - C. Hygiene Assessment Control and Prevention
  - D. Health Analysis and Control Prevention
4. The temperature danger zone for bacterial growth in food is between:
  - A. -4°C to 0°C
  - B. 0°C to 20°C
  - C. 4°C to 60°C
  - D. 60°C to 100°C

5. Which nutrient is primarily responsible for maintaining acid-base balance in the body?
  - A. Carbohydrates
  - B. Fats
  - C. Fiber
  - D. Proteins
6. When implementing food safety measures, cross-contamination is best prevented by:
  - A. Cooking food thoroughly
  - B. Using separate cutting boards for raw meat and vegetables
  - C. Keeping food covered
  - D. Washing hands frequently
7. What is the primary storage form of carbohydrates in the human body?
  - A. Starch
  - B. Glycogen
  - C. Glucose
  - D. Cellulose
8. Which of the following is a characteristic of kwashiorkor?
  - A. Severe muscle wasting
  - B. Edema and distended abdomen
  - C. Excessive weight loss
  - D. Hyperactivity
9. The process of breaking down large food molecules into smaller, absorbable units is called:
  - A. Absorption
  - B. Assimilation
  - C. Digestion
  - D. Transportation
10. Which nutrient plays a crucial role in oxygen transport in the blood?
  - A. Calcium
  - B. Zinc
  - C. Iron
  - D. Magnesium
11. The recommended method for thawing frozen food safely is:
  - A. Leaving it on the counter at room temperature
  - B. In the refrigerator
  - C. In hot water
  - D. Under direct sunlight
12. Which of the following is NOT a function of dietary fiber?
  - A. Promotes regular bowel movements
  - B. Helps maintain healthy gut bacteria
  - C. Provides essential amino acids
  - D. Helps control blood sugar levels

13. The primary site of protein digestion is the:
  - A. Mouth
  - B. Small intestine
  - C. Large intestine
  - D. Stomach
  
14. In terms of food storage, which practice is most likely to lead to food spoilage?
  - A. Storing raw meat on the bottom shelf
  - B. Keeping cooked rice at room temperature for 6 hours
  - C. Refrigerating leftovers within 2 hours
  - D. Freezing food at  $-18^{\circ}\text{C}$
  
15. The role of bile in digestion is to:
  - A. Break down proteins
  - B. Emulsify fats
  - C. Absorb vitamins
  - D. Digest carbohydrates
  
16. Which food safety practice is most effective in preventing foodborne illness?
  - A. Using strong cleaning chemicals
  - B. Proper hand washing
  - C. Wearing jewelry while cooking
  - D. Using the same cutting board for all foods
  
17. The most important factor in maintaining food safety during storage is:
  - A. The size of the storage container
  - B. Temperature control
  - C. Light exposure
  - D. Container material
  
18. Unsaturated fatty acids are characterized by:
  - A. Saturated carbon chains
  - B. Double bonds between carbon atoms
  - C. Straight carbon chains
  - D. Exclusive presence in animal products
  
19. The term protein denaturation refers to:
  - A. Protein synthesis
  - B. Protein breakdown
  - C. Structural changes in protein shape
  - D. Protein transportation
  
20. Which statement best describes the relationship between nutrition and chronic disease?
  - A. Poor nutrition is the only cause of chronic diseases
  - B. Proper nutrition can help prevent certain chronic diseases
  - C. Nutrition has no effect on chronic diseases
  - D. Chronic diseases only affect nutrient absorption

**SECTION B SHORT ANSWER QUESTIONS (20 MARKS)**

1. Outline four ways in which dietary fiber benefits human health. (4 marks)
2. Mention four ways in which food handlers can prevent cross-contamination. (4 marks)
3. Elaborate on four factors that affect nutrient absorption in the human body. (4 marks)
4. Describe the parts that constitute the nutrition-facts panel in a food label (4 marks)
5. Expound on any two eating disorders that are common among adolescents (4 marks)

**SECTION C LONG ANSWER QUESTIONS (30 MARKS)**

1. Explain steps involved in the implementation of HACCP system to ensure food safety. (10 marks)
  2. Describe the different types of protein-energy malnutrition (PEM) disorders in children, highlighting the clinical manifestations, causes, and preventive measures. (10 marks)
  3. Describe the digestion and absorption of carbohydrates in the human body. (10 marks)
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