



## **MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

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### **University Examinations 2024/2025**

#### **SECOND YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF MEDICAL LABORATORY SCIENCES**

#### **HMU 3215: HUMAN NUTRITION AND DIETETICS**

**DATE: JANUARY 2024**

**TIME: 3 HOURS**

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#### **INSTRUCTIONS:**

Answer *All* questions

Ensure that all your answers are properly numbered

*Part I multiple Choice Questions (MCQ): Write the correct answer on the space provided in the answer booklet. Each MCQ is one mark*

*Part II: Short Answer Questions – Answer questions following each other on the answer booklet*

*Part III: Long Answer Questions – Answer each question on the answer booklet*

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#### **SECTION A: MULTIPLE CHOICE QUESTIONS (20 marks)**

1. One of the following is the role of community involvement in nutritional interventions during emergencies
  - a) It is not important
  - b) It helps tailor interventions to local needs and ensures better adherence
  - c) It complicates the process
  - d) It delays the response

2. A common sign of protein-energy malnutrition in adults is:
  - a) Overweight
  - b) Muscle wasting
  - c) Increased appetite
  - d) High energy levels
3. The first step in addressing malnutrition in a disaster-affected population is .
  - a) Distributing food aid
  - b) Conducting a nutritional assessment
  - c) Establishing a feeding center
  - d) Educating about nutrition
4. What is the consequence of a severe deficiency in vitamin K?
  - a) Increased risk of fractures
  - b) Increased risk of bleeding
  - c) Skin discoloration
  - d) Hair loss
5. Which disorder is characterized by an extreme fear of gaining weight and leads to selfimposed starvation
  - a) Bulimia nervosa
  - b) Anorexia nervosa
  - c) Binge-eating disorder
  - d) Pica
6. The main effect of a niacin (vitamin B3) deficiency is:
  - a) Scurvy
  - b) Pellagra
  - c) Rickets
  - d) Osteomalacia

7. One of the following is the main cause of vitamin D deficiency in adults:
- a) Excessive sun exposure
  - b) Poor dietary intake and lack of sunlight
  - c) High intake of calcium
  - d) Over-consumption of carbohydrates
8. Which of the following is a common symptom of iron deficiency anemia:
- a) Weight gain
  - b) Fatigue
  - c) High blood pressure
  - d) Skin rashes
9. Which of the following affects the individual's nutritional status;
- a) Age
  - b) Socioeconomic status
  - c) Physical activity level
  - d) All of the above
10. What type of assessment would involve measuring skin-fold thickness?
- a) Biochemical assessment
  - b) Dietary assessment
  - c) Anthropometric assessment
  - d) Clinical assessment
11. Which biochemical marker is commonly used to assess iron status in the body?
- a) Hemoglobin
  - b) Glucose
  - c) Cholesterol
  - d) Albumin

12. What is an important limitation of self-reported dietary assessments?
- a) They are always accurate.
  - b) They can be influenced by memory bias.
  - c) They require professional training.
  - d) They are very time-consuming
13. One of the following is a sign of proper food storage
- a) Food stored in airtight containers
  - b) Food left uncovered in the refrigerator
  - c) Raw meat placed on top of cooked food
  - d) Expired food still in use
14. The most common symptom of foodborne illness is:
- a) Excessive energy
  - b) Nausea and vomiting
  - c) Increased appetite
  - d) Improved psychomotor function
15. Which method is effective in ensuring food safety during preparation?
- a) Cooking food to the appropriate temperature
  - b) Rinsing meat before cooking
  - c) Leaving food out for extended periods
  - d) Using expired ingredient
16. Which practice is essential for preventing cross-contamination in the kitchen?
- a) Using the same utensils for all food types
  - b) Keeping raw and cooked foods separate
  - c) Storing food in open containers
  - d) Not cleaning surfaces regularly

17. The function of zinc in the body is:
- a) Oxygen transport
  - b) Immune system support and wound healing
  - c) Blood pressure regulation
  - d) Energy metabolism
18. What is the primary purpose of meal planning is:
- a) To reduce food waste
  - b) To save money
  - c) To ensure a balanced diet
  - d) All of the above
19. What is the primary role of amino acids in the body's metabolism?
- a) Energy production
  - b) Protein synthesis
  - c) Glucose storage
  - d) Fat synthesis
20. Which mineral is important for nerve function and muscle contraction?
- a) Phosphorus
  - b) Iron
  - c) Magnesium
  - d) Manganese

**SECTION B: SHORT ANSWER ALL QUESTIONS (40 MARKS)**

- State five medical complications of a BMI > than 30kg/m (5 marks)
2. Explain the importance of nutritional assessment (5 marks)
3. Explain five predisposing factors to iron deficiency anemia (5 marks)

4. Explain five reasons why you would advice the community to increase their consumption of dietary fibers (5 marks)
5. Outline five strategies of maintaining food hygiene (5 marks)
6. Explain five nutritional interventions in an emergency situation (5 marks)
7. Explain the nutrition advice that you would share with a client who wishes to commence her six months old baby on supplementary feeding (5 marks)
8. Distinguish between kwashiorkor and marasmus (5 marks)

**SECTION C: LONG ANSWER TWO QUESTIONS (40 MARKS)**

1. Discuss factors predisposing a country to food insecurity and the possible interventions to avert the situation (20 marks)
2. Discuss the factors influencing nutritional status of a population (20 marks)
3. Discuss the direct and indirect methods of assessing nutritional status. (20 marks)