



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

**Faculty of Health, Natural
Resources and Applied
Sciences**

School of Health Sciences

Department of Preventative
Health Sciences

13 Jackson Kaujeua Street
Private Bag 13388
Windhoek
NAMIBIA

T: +264 61 207 2970
F: +264 61 207 9970
E: dphs@nust.na
W: www.nust.na

QUALIFICATION : BACHELOR OF HUMAN NUTRITION	
QUALIFICATION CODE: 08BOHN	LEVEL: 5
COURSE: INTRODUCTION TO FOODS, NUTRITION AND HEALTH	COURSE CODE: IFN521S
DATE: JANUARY 2024	SESSION: 2
DURATION: 3 HOURS	MARKS: 100

SECOND OPPORTUNITY / SUPPLEMENTARY: EXAMINATION PAPER

EXAMINER: MS. MARJORIE VAN WYK

MODERATOR: DR LARAI AKU-AKAI

INSTRUCTIONS:

1. Answer all questions on the separate answer sheet.
2. Please write neatly and legibly.
3. Do not use the left side margin of the exam paper. This must be allowed for the examiner.
4. No books, notes and other additional aids are allowed.
5. Mark all answers clearly with their respective question numbers.

PERMISSIBLE MATERIALS:

1. Non-Programmable Calculator

This paper consists of 5 pages including this front page

QUESTION 1: MULTIPLE CHOICE QUESTIONS**[10 MARKS]**

Evaluate the statements in each numbered section and select the most appropriate answer or phrase from the given possibilities. Fill in the appropriate letter next to the number of the correct statement/phrase on your ANSWER SHEET. [10]

- 1.1. Vitamins A and C, thiamin, calcium, and magnesium are considered: [1]
A. Water-soluble vitamins.
B. Fat-soluble vitamins.
C. Energy nutrients.
D. Micronutrients.
- 1.2. Which of the following assessment methods provides objective data: [1]
A. Measurement of height
B. History of illnesses, injuries, and surgeries
C. Assessment of fatigue
D. Twenty-four-hour dietary recall
- 1.3. Which of the following is a critical function of vitamin C: [1]
A. It regenerates glutathione to its antioxidant form.
B. It reduces the incidence, duration, and severity of the common cold.
C. It is required for the formation of collagen.
D. It promotes the conversion of beta-carotene to vitamin A.
- 1.4. A process in which nutrients are shuttled across enterocytes with the help of a carrier protein but no use of energy is: [1]
A. Passive diffusion.
B. Facilitated diffusion.
C. Active transport.
D. Endocytosis.
- 1.5. The AMDR for fat is: [1]
A. 10% to 25% of total energy.
B. 15% to 30% of total energy.
C. 20% to 35% of total energy.
D. There is no AMDR for fat.
- 1.6. Which of the following is the correct formula for calculating body weight as a percentage of ideal body weight: [1]
A. Percent ideal body weight = (ideal weight/100) x current weight
B. Percent ideal body weight = (current weight/ideal weight) x 100
C. Percent ideal body weight = (ideal weight/current weight) x 100
D. Percent ideal body weight = (current weight/ideal weight) x 703
- 1.7. Which of the following is a common error that occurs with the 24-hour diet recall: [1]
A. Snack items and the use of gravies, sauces, and condiments may be underreported
B. The individual or family member may not be able to recall the type or amount of food eaten
C. The intake within the last 24 hours may be atypical of usual intake
D. All of the above

- 1.8. Compare the following statements and identify a **nutrition** claim: [1]
- A. Iron contributes to normal oxygen transport in the body.
 - B. Vitamin D is needed for normal growth and development of bone in children.
 - C. High in protein.
 - D. None of the above.

- 1.9. Compare the following statements and identify a **structure-function** claim: [1]
- A. Build stronger bones.
 - B. Source of Calcium.
 - C. Reduced fat.
 - D. None of the above.

- 1.10. Detailed sets of information on the nutrition components of food are: [1]
- A. Recommended Dietary Allowances
 - B. Nutrient Reference Intakes
 - C. Food-based Dietary Guidelines
 - D. Food Composition Data

QUESTION 2: TRUE/FALSE QUESTIONS [5 MARKS]

Evaluate the statements and select whether the statement is true or false. Write the word 'True' or 'False' next to the corresponding number on your ANSWER SHEET. [5]

- 2.1 It is not recommended to increase protein and fat intake for HIV positive individuals.
- 2.2 Vitamins taken in excess can have adverse side effects to the body.
- 2.3 Breastfeeding is not recommended for HIV positive mothers due to high risk of mother-to-child transmission of HIV.
- 2.4 Protein is a primary source of energy for our body.
- 2.5 Carbohydrates are fattening.

QUESTION 3: MATCHING QUESTIONS [5 MARKS]

Evaluate each description in Column 1 and compare it with each Determinant that influence what we eat, presented in Column 2. Write the letter of the Determinant that is best defined, next to the corresponding number on your ANSWER SHEET. [10]

COLUMN 1	COLUMN 2
3.1 Appetite	A. Consumer Attitudes, Beliefs, and Knowledge
3.2 Income and Cost of food	B. Social Determinants
3.3 Cooking skills	C. Economic Determinants
3.4 Mood	D. Psychological Determinants
3.5 Culture	E. Biological Determinants
	F. Physical determinants

SECTION B: SHORT ANSWER QUESTIONS**[20 MARKS]**

Please answer ALL of the questions in this section.

QUESTION 4**[20 MARKS]**

- 4.1 Identify the nutrient deficiency or disease that is indicated by the following signs and symptoms:
- 4.1.1 Pellagra. [1]
 - 4.1.2 Goitre. [1]
 - 4.1.3 Conjunctival Xerosis [1]
 - 4.1.4 Beriberi. [1]
 - 4.1.5 Waist Circumference > 102 cm in a male [1]
- 4.2 Define the following terms:
- 4.2.1 Basal metabolic rate [2]
 - 4.2.2 Percent daily values [2]
 - 4.2.3 Digestion [2]
 - 4.2.4 Functional foods [2]
 - 4.2.5 Food substitutes [2]
- 4.3 Fill in the missing words:
- 4.3.1 _____ is the study of nutrient-gene interactions and the effects of these interactions on health. [1]
 - 4.3.2 _____ is the state of complete physical, mental and social well-being and not merely the absence of disease. [1]
 - 4.3.3 People who have enough food to meet their needs at all times experience _____. [1]
- 4.4 Describe any **two (2)** limitations of food composition databases. [2]

SECTION C: LONG ANSWER QUESTIONS**[30 MARKS]**

Please answer ALL of the questions in this section.

QUESTION 5**[30 MARKS]**

- 5.1 Identify at least **four (4)** ways in which fiber helps us maintain a healthy digestive system. [4]
- 5.2 The nutritional intake of humans are assessed by five different methods. Please identify the **five (5)** different methods. [5]
- 5.3 Briefly describe any **five (5)** of the clinical signs of kwashiorkor. [5]
- 5.4 Describe the effect of nutritional status on HIV. [6]
- 5.5 The Namibian Food and Nutrition Guidelines state "Use only iodised salt, but use less salt". Briefly recommend some methods to reduce our sodium intake. [5]
- 5.6 Briefly describe a healthful diet. [5]

SECTION D: CASE STUDY QUESTIONS**[30 MARKS]**

Please answer ALL of the questions in this section.

QUESTION 6**[30 MARKS]****CASE STUDY**

Kandji is a 26 year old male and HIV positive. He is 167 cm tall and weighs 65 kg and is moderately active. Kandji usually eats a spinach salad and a glass of milk for lunch. The lunch consists of:

1 cup of milk: 300 mg Calcium and 85 kcal

½ cup cooked spinach: 100 mg Calcium and 15 kcal

- 6.1 Calculate Kandji's BMI. [2]
- 6.2 Determine the nutritional status of Kandji, based on his BMI. [1]
- 6.3 Compare the servings of milk and spinach and indicate which food item provides the most calcium per serving. [1]
- 6.4 Compare the nutrient densities of the milk and spinach for calcium. Which food is the most nutrient dense. Give a reason for your answer. [4]
- 6.5 Discuss the effect of HIV on Nutrition with regards to the increased energy needs. [4]
- 6.6 Calculate the energy requirements of Kandji. [6]
- 6.7 If, for example, Kandji's energy requirements are 2275 kcal, design a diet for Kandji that provides 50% carbohydrates, 20% protein and 30% fat. Calculate the quantities of carbohydrates, protein and fat in grams and also the energy contribution of each macronutrient to the total energy requirement. [12]

END OF QUESTION PAPER