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QUALIFICATION : **BACHELOR OF HUMAN NUTRITION**	
QUALIFICATION CODE: **08BOHN**	LEVEL: **6**
COURSE: **FOOD COMPOSITION AND ANALYSIS**	COURSE CODE: **FCA621S**
DATE: **NOVEMBER 2023**	SESSION: **1**
DURATION: **3 HOURS**	MARKS: **100**

FIRST OPPORTUNITY: QUESTION PAPER

EXAMINER: **MS. EFAISHE TWUHANGA ANGALENI KAVELA**

MODERATOR: **MR. GEORGE WALIOMUZIBU MUKISA**

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. No Permissible materials

This paper consists of 4 pages including this front page

SECTION A: MULTIPLE CHOICE [10 MARKS]

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 Sampling is done from a _____ of food material (1)

A. Small quantity
B. Manageable quantity
C. Large quantity
D. None of the above

1.2 The analytical technique selection is based on: (1)

A. The number of people available to carry out the analysis.
B. The location
The property to be measured.
C. Information about other analytical techniques

1.3 The ability to replicate an answer by scientists using the same experimental approach but in different laboratories using different equipment is called_____. (1)

A. precision
B. flexibility
C. accuracy
D. reproducibility

1.4 The water that retains its physical properties and acts as a dispersing agent for colloids and the solvent for salts is known as: (1)

A. Adsorbed water
B. Evaporated water
C. Free water
D. water of hydration

1.5 Proper handling of samples intended for moisture content analysis includes: (1)

A. Leaving the sample at room temperature
B. Leaving enough headspace in the container
C. Minimizing any heating of a sample by friction during grinding
D. Pre-drying the sample

1.6 Determination of specific minerals involves using certain physicochemical characteristics to distinguish different minerals. These characteristics include: (1)

A. Their low volatility
B. Their ability to react with specific chemical reagents.
C. Their unique electromagnetic spectra
D. All of the above

1.7 The protein analysis can be difficult because (1)

A. Some food components contain inorganic compounds
B. Some food components contain too much moisture
C. Some food components contain similar physicochemical properties
D. None of the above

1.8 The Biuret method for analyzing proteins looks at the_____. (1)

A. Substances containing at least two peptide bonds
B. Nitrogen% in the sample
C. Amino acids in the sample
D. Absorption of radiations by molecules

1.9 This is an Oligosaccharide (1)

A. Galactose
B. Maltose
C. Cellulose
D. Glucose

1.10 AACC stands for: (1)

A. American Analytical Control Center
B. American Analytical Control Chemist
C. American Association of Cereal Chemists
D. Africa Association of Control chemists

SECTION B: SHORT ANSWER QUESTIONS [44 MARKS]

Please answer ALL of the questions in this section.

QUESTION 2 [44 MARKS]

2.1 Define the following terms. (10)

a) A sample (2)

b) Precision (2)

c) Continues population. (2)

d) Specificity (2)

e) Mineral contents (2)

2.2 Nutritional labeling is mandatory for almost all food types. List five (5) important pieces of information included on the label. (5)

2.3 Name five (5) important points one should keep in mind when using vacuum oven. (5)

2.4 Outline Five (5) properties of lipids in food. (5)

2.5 List five (5) methods that are used to test Mono- and Oligosaccharides (5)

2.6 outline the principle of Total Carbohydrates, Phenol-Sulfuric acid method. (6)

2.7 Vitamins are sensitive to ultraviolet (UV) light, air (and any prooxidants), high temperatures, and moisture. What steps would you take to avoid adverse changes in vitamins? (4)

2.8 As an analyst, it is important to always keep a detailed notebook, so that should anything happen, traceability will be easy. What information would you keep in this notebook? (4)

SECTION C: LONG ANSWER QUESTIONS [46 MARKS]

QUESTION 3 [10 MARKS]

Discuss five (5) reasons for analyzing food

QUESTION 4 (8)

You have analyzed moisture content from some food samples in your lab recently. Outline the procedures you have followed during this experiment.

QUESTION 5 (13)

The Kjeldahl method is a common method used in protein analysis. Clearly discuss the four (4) steps carried out in sequence when using Kjeldahl method.

QUESTION 6 (15)

Before you start analysing vitamins from a food product, you need to extract the vitamin from the food sample/matrix. Explain how you would extract any five (5) vitamins of your choice, from the food matrix.

END OF QUESTION PAPER