UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

PROGRAMME	:	**BACHELOR OF SCIENCE IN FOOD SCIENCE, NUTRITION & TECHNOLOGY YEAR IV**
COURSE CODE	:	**FSNT 401**
TITLE OF PAPER	:	**FOOD NUTRIENT ANALYSIS**
TIME ALLOWED	:	**TWO (2) HOURS**
INSTRUCTIONS	:	**ANSWER QUESTION ONE (1) AND ANY OTHER (2) QUESTIONS**

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QUESTION 1 (Compulsory)

Give short answers

a) Discuss the importance of proper sampling techniques in food analysis.

[8 marks]

b) Explain the main principles of crude fiber analysis. **[8 marks]**

c) How can thin layer chromatography be used in identifying and estimating the amount of a compound in a food sample? **[8 marks]**

d) What are the limitations in the use of standard curves in quantitative determinations? **[8 marks]**

e) Differentiate between iodine value and saponification value in fat characterization. **[8 marks]**

[Total Marks = 40]

QUESTION 2

a) Errors are difficult to eliminate during food analysis. Discuss the causes of errors and how they can be minimized during food analysis citing appropriate examples.

[20 marks]

b) What is the difference between precision and accuracy in data analysis?

[10 marks]

[Total Marks = 30]

QUESTION 3

a) Discuss the limitations of protein determination using the Kjeldahl method.

[10 marks]

b) Describe one method other than Kjeldahl method, that is available for determining protein content of foods. **[10 marks]**

c) Give the main steps in the quantitative determination of vitamin C (ascorbic acid) in fruit juice. **[10 marks]**

[Total Marks = 30]

QUESTION 4

a) Discuss the particulate theory of electromagnetic radiation in relation to spectrophotometric determination of food constituents. Give examples as necessary **[20 marks]**

b) Discuss two principles of constituents separation in column chromatography.

[10 marks]

[Total Marks = 30]