2ND SEM. 2010/11

UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

PROGRAMME	:	**BACHELOR OF SCIENCE IN FOOD SCIENCE, NUTRITION & TECHNOLOGY YEAR III**
COURSE CODE	:	**FSNT 307**
TITLE OF PAPER	:	**FOOD NUTRIENT ANALYSIS**
TIME ALLOWED	:	**TWO (2) HOURS**
INSTRUCTIONS	:	**ANSWER QUESTION ONE (1) AND ANY OTHER TWO (2) QUESTIONS**

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QUESTION ONE [COMPULSORY]

a. What is the importance of proper sampling techniques in food analysis

(10 Marks)

b. Give the main steps in the quantitative determination of vitamin C in fruit juice.

(10 Marks)

c. Differentiate between acid value and saponification value in fat characterization and state the significance of each.

(10 Marks)

d. What is the difference between precision and accuracy in data analysis?

(10 Marks)

[TOTAL MARKS = 40]

QUESTION TWO

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

(15 Marks)

b. Discuss the use and limitations of standard curves in quantitative determinations.

(15 Marks)

[TOTAL MARKS = 30]

QUESTION THREE

a. Discuss the chemistry of the main steps involved in the Kjeldahl method protein determination.

(20 Marks)

b. Describe one other method that is available for determining protein content of foods.

(10 Marks)

[TOTAL MARKS = 30]

QUESTION FOUR

a. Discuss the application of Beer's law in quantitative spectrophotometric determination of food constituents.

(15 Marks)

b. Explain two principles of separation in column chromatography.

(10 Marks)

c. What is retention factor (RF) in thin layer chromatography and what is its use?

(5 Marks)

[TOTAL MARKS = 30]