UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

PROGRAMME : BACHELOR OF SCIENCE IN FOOD SCIENCE, NUTRITION & TECHNOLOGY OPTION YEAR II

COURSE CODE : FSNT 206

TITLE OF PAPER : FOOD CHEMISTRY

TIME ALLOWED : TWO (2) HOURS

INSTRUCTIONS : ANSWER QUESTION ONE (1) AND ANY OTHER (2) QUESTIONS

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QUESTION 1 [COMPULSORY]

a. Differentiate between free and bound water, citing appropriate examples **[6 marks]**

b. Draw a '*cis*' and a '*trans*' isomer of a double bond in a typical fatty acid. Which isomer is normally found in nature? **[6 marks]**

c. Compare and contrast starch and cellulose as human food components. **[8 marks]**

d. List all the fractions usually determined in the proximate analysis of foods **[6 marks]**

e. What is the difference between browning of cut apple surface and browning of fried potato chips? **[6 marks]**

f. Briefly discuss the changes likely to occur during bread baking. **[8 marks]**

[TOTAL MARKS = 40]

QUESTION 2

The protein and fat contents of food are often expressed as crude protein and crude fat respectively. Explain these terms giving specific examples. **[30 Marks]**

QUESTION 3

Discuss cases where processing improves the bioavailability of nutrients and where it makes them unavailable. **[30 Marks]**

QUESTION 4

a. Discuss the advantages and disadvantages of enzyme activity in foods products giving examples as necessary. **[18 Marks]**

b. Differentiate the mineral and ash content of food. **[12 Marks]**

[TOTAL MARKS = 30]