



2ND SEM. 2007/2008

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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**

**DO NOT OPEN THIS PAPER UNTIL PERMISSION HAS BEEN
GRANTED BY THE CHIEF INVIGILATOR**

QUESTION 1 [COMPULSORY]

- a. What are the disadvantages of Maillard reactions in foods? [8 marks]
- b. Briefly discuss the difference between water content and water activity in foods. [8 marks]
- c. Fatty acid double bonds can be in 'cis' or 'trans' isomers. Which one has a lower melting point and which one is found in partially hydrogenated fat? [8 marks]
- d. What is the difference and similarities between starch and cellulose molecules? [8 marks]
- e. Why is it not advisable to press ripe fruits? [8 marks]

[TOTAL MARKS = 40]

QUESTION 2

- a) Maltose is a reducing sugar while sucrose is a non-reducing sugar. What is the meaning of the terms and what is the cause of this difference? [20 Marks]
- b) Discuss the factors that affect the melting point of fats [10 Marks]

[TOTAL MARKS = 30]

QUESTION 3

- a. What do you understand by primary, secondary and tertiary structure of proteins and which of these is most likely to be affected by protease enzymes? [20]
- b. Animal protein is said to be nutritionally superior to plant protein. Explain [10]

[TOTAL MARKS = 30 Marks]

QUESTION 4

- a. Discuss the major causes of post harvest deterioration in fruits and vegetables. [18 Marks]
- b. Why do some fruits turn yellowish and others purplish during ripening? [12 Marks]

[TOTAL MARKS = 30]