



1ST SEM. 2013/2014

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UNIVERSITY OF SWAZILAND
SUPPLEMENTARY EXAMINATION PAPER

**PROGRAMME : BACHELOR OF SCIENCE IN FOOD SCIENCE,
NUTRITION & TECHNOLOGY;
BACHELOR OF SCIENCE IN CONSUMER SCIENCE;
BACHELOR OF SCIENCE IN CONSUMER SCIENCE
EDUCATION. YEAR II**

COURSE CODE : FSNT 201

TITLE OF PAPER : FOOD SCIENCE

TIME ALLOWED : TWO (2) HOURS

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

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CHIEF INVIGILATOR**

QUESTION 1 (COMPULSORY)

- (a) Identify and explain the steps (chronologically) in the making of bread until it is completely baked. Be very detailed in explaining each of the steps or processes. (12 Marks)
- (b) Explain the frying process in terms of what happens to the food and the frying fat during frying. (10 Marks)
- (c) Describe the two types of fat/lipid/triglyceride spoilage. Give examples of foods where these types of spoilage are common. (10 Marks)
- (d) Enzymes play very important roles/functions in foods. Identify and explain **three (3)** of these functions or roles and give appropriate examples of foods where they were used in its manufacture. (8 Marks)

[TOTAL MARKS = 40]

QUESTION 2

Explain the importance or value of the following concepts in food applications.

- i) Iodine Value (3 Marks)
- ii) Retrogradation (3 Marks)
- iii) Fruit Ripening (4 Marks)
- iv) Marbling (3 Marks)
- v) Hydrocolloids (3 Marks)
- vi) Isoelectric point (pI) (4 Marks)
- vii) Modified starch (4 marks)
- viii) Maillard Browning (3 Marks)
- ix) pH (3 Marks)

[TOTAL MARKS = 30]

QUESTION 3

- a. Explain **three (3)** of the functions of water in food systems. (9 Marks)
- b. Identify and explain **four (4)** functions of proteins in food systems/products. (8 Marks)
- c. Identify the sectors that constitute the 'Food Industry'. Describe briefly what happens in each sector. (10 Marks)
- d. Name **three (3)** of the compounds classified as phyto-compounds (3 Marks)

[TOTAL MARKS = 30]

QUESTION 4

- a. Dietary fibre is widely distributed in the foods we eat in different forms. Identify 5 of the forms of dietary fibre naturally present in foods and explain its value and/or benefits in the diet and physiologically. (12 Marks)
- b. The group of compounds called fats/lipids is diverse and includes a broad range of interesting substances. Identify the substances that make up this group of compounds. (8 Marks)
- c. Why do some fruits and vegetables turn brown when cut and left sitting for some time? What is this kind of browning called? How can you minimize or stop the browning from occurring? (6 Marks)
- d. What are dextrins? What is their value in food systems? (4 Marks)

[TOTAL MARKS = 30]