



1ST SEMESTER 2011/2012

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**UNIVERSITY OF SWAZILAND
FINAL EXAMINATION PAPER**

**PROGRAM : BACHELOR OF SCIENCE IN FOOD
SCIENCE, NUTRITION AND TECHNOLOGY,
CONSUMER SCIENCE, CONSUMER
EDUCATION YEAR II**

COURSE CODE : FSNT 201

TITLE OF PAPER : FOOD SCIENCE COURSE

TIME ALLOWED : TWO HOURS

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

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

QUESTION ONE [COMPULSORY]

- a. Discuss the objectives or purposes of blanching? (10 Marks)
- b. List the functional properties of protein in food processing (10 Marks)
- c. Explain the phenomena of retrogradation in starches (10 Marks)
- d. Discuss the working principle of microwave cooking (10 Marks)

[TOTAL MARKS: 40]

QUESTION TWO

- a. Outline the purposes of food drying (8 Marks)
- b. What are the two types of rancidity and what causes them (10 Marks)
- c. Explain browning reaction in foods (6 Marks)
- d. Describe the function of lipids in food processing (6 Marks)

[TOTAL MARKS: 30]

QUESTION THREE

- a. What type of drying is used to produce powder milk (2 Marks)
- b. Explain the difference between pasteurization and sterilization (8 Marks)
- c. List four properties of sugars (6 Marks)
- d. Explain the importance of water activity in relation to food preservation (8 Marks)
- e. List four applications of enzymes in food processing (6 Marks)

[TOTAL MARKS: 30]

QUESTION FOUR

- a. Describe the gelatinization process. (8 Marks)
- b. Discuss Maillard browning and caramelization reactions (8 Marks)
- c. Enumerate five hygienic food handling practices (8 Marks)
- d. Describe the food quality categories detectable by human senses (6 Marks)

[TOTAL MARKS: 30]