



1ST SEM. 2014/15

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UNIVERSITY OF SWAZILAND

SUPPLEMENTARY EXAMINATION PAPER

**PROGRAMME : BACHELOR OF SCIENCE IN FOOD
SCIENCE, NUTRITION AND
TECHNOLOGY YEAR IV**

COURSE CODE : FSNT 409

TITLE OF PAPER : FOOD PROCESSING II

TIME ALLOWED : TWO (2) HOURS

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

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

QUESTION 1 (COMPULSORY)

- (a) Name the **two (2)** main causes of food deterioration and explain **two (2)** processing methods that could be used to slow down each cause.

(12 Marks)

- (b) Discuss the use of cereal adjuncts in beer manufacturing.

(8 Marks)

- (c) Explain the following steps in fruit juice manufacturing:-

- i. Clarification
- ii. Deaeration
- iii. Pasteurization

(12 Marks)

- (d) Discuss the oxygenation process in beer processing

(8 Marks)

[TOTAL MARKS = 40]

QUESTION 2

- (a) Briefly discuss the following oil refining steps:-

- i. Water degumming
- ii. Neutralization
- iii. Bleaching

(20 Marks)

- (b) Draw a flow diagram for red wine processing.

(10 Marks)

[TOTAL MARKS = 30]

QUESTION 3

(a) Explain the following quality parameters used in fats and oils:-

- i. Acid value
- ii. Saponification value

(10 Marks)

(b) Discuss the following butter processing steps:-

- i. Pasteurization
- ii. Aging
- iii. Cooling and churning

(10 Marks)

(c) Discuss inter- and intraesterification processes.

(10 Marks)

[TOTAL MARKS = 30]

QUESTION 4

(a) Explain the process steps for oolong tea production.

(15 Marks)

(b) Briefly describe the following steps:-

- i. Carbonation in soft drinks
- ii. Boiling in candy making

(5 Marks)

(c) Explain **five (5)** changes that take place during the brewing of beer in the kettle.

(10 Marks)

[TOTAL MARKS = 30]