



1ST SEM. 2015/16

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UNIVERSITY OF SWAZILAND

FINAL 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) Discuss the following oil processing steps and their purpose:-
- i. Seed Cleaning (6 Marks)
 - ii. Dehulling (5 Marks)
 - iii. Size reduction (3 Marks)
 - iv. Cooking (5 Marks)
- (b) Discuss the following process steps in beer manufacturing:-
- i. Malting (6 Marks)
 - ii. Mashing (6 Marks)
- (c) Discuss the following process steps in fruit juice manufacturing:-
- i. Juice clarification (4 Marks)
 - ii. Deaeration (2 Marks)
 - iii. Pasteurization (3 Marks)

(TOTAL MARKS = 40)**QUESTION 2**

- (a) Explain the following processes for extracting fats and oils from plant tissue:-
- i. Pressure expulsion (6 Marks)
 - ii. Solvent extraction (5 Marks)
- (b) Describe the following steps in wine making:-
- i. Crushing and SO₂ addition (4 Marks)
 - ii. Maceration and partial fermentation (4 Marks)
 - iii. Aging (5 Marks)
- (c) Explain how beer is filled into bottles and cans. (6 Marks)

(TOTAL MARKS = 30)

QUESTION 3

- (a) Explain how you would produce mayonnaise using sunflower oil. (10 Marks)
- (b) Explain steps in a water treatment plant with the aid of a drawing. (14 Marks)
- (c) Briefly discuss the function of the following ingredient used in the soft drink industry:-
- i. Acid (2 Marks)
 - ii. Sweeteners (2 Marks)
 - iii. Carbon dioxide (2 Marks)

[TOTAL MARKS = 30]**QUESTION 4**

- (a) Describe the process steps for black tea production. (15 Marks)
- (b) Explain the following sugar manufacturing process steps:- (10 Marks)
- i. Clarification
 - ii. Crystallization
- (c) Explain the refining process to produce white refined sugar. (5 Marks)

(TOTAL MARKS = 30)