



1ST SEM. 2014/15

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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) Briefly discuss **four (4)** reasons for processing food.
(12 Marks)
- (b) Name **three (3)** processing methods that are capable of destroying microorganisms in food.
(6 Marks)
- (c) Discuss the substances that are removed during vegetable oil refining.
(12 Marks)
- (d) How does the chain length and degree of saturation of fatty acid affect the melting point of fat or oil?
(4 Marks)
- (e) Explain the following processes for extracting fats and oil from plant tissue.
i. Pressure expulsion
ii. Solvent extraction

(6 Marks)

[TOTAL MARKS = 40]

QUESTION 2

- (a) Draw a flow chart and explain the process steps for the production of cooking oil from sunflower seeds.
(25 Marks)
- (b) Describe the following steps in wine making:-
i) Crushing and SO₂ addition
ii) Maceration and partial fermentation
iii) Aging

(5 Marks)

[TOTAL MARKS = 30]

QUESTION 3

(a) Explain the following quality parameters for fats and oils:

- i. Iodine value
- ii. Peroxide value

(6 Marks)

(b) Explain how you would produce mayonnaise using sunflower oil.

(9 Marks)

(c) Describe the following process steps in beer manufacturing:-

- i. Malting
- ii. Mashing
- iii. Fermentation
- iv. Lagering

(5 Marks)

(5 Marks)

(3 Marks)

(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:

- i. Clarification
- ii. Crystallization

(10 Marks)

(c) What is polarization?

(5 Marks)

[TOTAL MARKS = 30]