



1ST SEM. 2017/18

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UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

**PROGRAMME : BACHELOR OF SCIENCE IN FOOD
SCIENCE, NUTRITION AND
TECHNOLOGY LEVEL 3 & YEAR IV**

COURSE CODE : FNS 307 / 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 **three (3)** reasons for processing food. (6 Marks)
- b) Name **two (2)** processing methods that are capable of destroying microorganisms in food without the application of heat. (6 Marks)
- c) Discuss the substances that are removed during vegetable oil refining. (16 Marks)
- d) Explain the following processes for extracting fats and oils from plant tissue:-
i. Pressure expulsion (4 Marks)
ii. Solvent extraction (4 Marks)
- e) Explain **two (2)** factors that affect the melting point of fatty acids. (4 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. (24 Marks)
- b) Describe the following steps in wine making:-
i. Crushing and SO₂ addition
ii. Maceration and partial fermentation
iii. Aging

(6 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) Discuss the following process steps in beer manufacturing:-
i. Malting (5 Marks)
ii. Mashing (5 Marks)
iii. Fermentation (3 Marks)
iv. Lagering (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) List ingredients and explain a process you would use to make mint flavoured green hard candy.
(5 Marks)

[TOTAL MARKS = 30]