



1ST SEM. 2013/14

PAGE 1 OF 3

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 3

(a) Describe the process for manufacturing the following products:-

- i. Butter
- ii. Mayonnaise

(14 Marks)

(b) Explain the following process steps in beer manufacturing:-

- i. Malting
- ii. Mashing
- iii. Lautering

(16 Marks)

(TOTAL MARKS = 30)

QUESTION 4

(a) Describe the process steps for black tea production.

(15 Marks)

(b) List ingredients and explain a process you would use to make mint flavoured green hard candy.

(5 Marks)

(c) Briefly discuss the function of the following ingredient used in the soft drink industry:-

- i. Water
- ii. Acid
- iii. Sweeteners
- iv. Preservatives and
- v. Carbon dioxide

(10 Marks)

(TOTAL MARKS = 30)

QUESTION 1 (COMPULSORY)

- (a) Name the main **two (2)** causes of food deterioration and explain **two (2)** processing methods that could be used to slow down each cause.
(12 Marks)
- (b) Draw a generic chemical structures of the following compounds:-
i. Glycerol
ii. Free fatty acid
iii. Mixed triglyceride
(10 Marks)
- (c) Explain **three (3)** factors that affect the melting point of fatty acids.
(6 Marks)
- (d) Briefly explain **two (2)** reasons for including the following steps in oil processing:-
i. Dehulling
ii. Cooking
iii. Optional oil seed conditioning
(12 Marks)

(TOTAL MARKS = 40)

QUESTION 2

- (a) What substances are removed in the following oil processing steps?
i. Acid degumming
ii. Neutralization
iii. Washing
iv. Vacuum drying
v. Bleaching
vi. Deodorization.
(18 Marks)
- (b) Describe the following steps in fruit juice processing:-
i. Juice clarification
ii. Deaeration
iii. Pasteurization
(12 Marks)

(TOTAL MARKS = 30)