



1ST SEM. 2019/2020

PAGE 1 OF 3

UNIVERSITY OF ESWATINI

FINAL EXAMINATION PAPER

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

COURSE CODE : FSNT 409 / FNS307

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) Describe the following steps in fruit juice processing:-
- i. Juice clarification (4 Marks)
 - ii. Deaeration (4 Marks)
 - iii. Pasteurization (4 Marks)
- (b) Explain **three (3)** factors that affect the melting point of fatty acids. (3 Marks)
- (c) Briefly explain **two (2)** reasons for including the following steps in oil processing and explain how it is done:-
- i. Seed cleaning (7 Marks)
 - ii. Size Reduction (6 Marks)
 - iii. Dehulling (6 Marks)
 - iv. Optional oil seed conditioning (6 Marks)

[TOTAL MARKS = 40]

QUESTION 2

- (a) Explain the main **two (2)** causes of food deterioration and **two (2)** processing methods that could be used to slow down each cause. (12 Marks)
- (b) What substances are removed in the following oil processing steps?
- i. Acid degumming (3 Marks)
 - ii. Neutralization (3 Marks)
 - iii. Washing (3 Marks)
 - iv. Vacuum drying (3 Marks)
 - v. Bleaching (3 Marks)
 - vi. Deodorization. (3 Marks)

[TOTAL MARKS = 30]

QUESTION 3

- (a) Describe the process for manufacturing the following:-
- i. Butter (10 Marks)
 - ii. Mayonnaise (4 Marks)
- (b) Explain the following process steps in beer manufacturing:-
- i. Malting (6 Marks)
 - ii. Mashing (6 Marks)
 - iii. Lautering (4 Marks)

[TOTAL MARKS = 30]

QUESTION 4

- (a) Describe the process steps for black tea production (15 Marks)
- (b) Given the following ingredients, explain the process you would use to make mint flavoured green hard candy. (5 Marks)
- Ingredients
- Sugar
 - Corn syrup
 - Water
 - Flavouring
 - Colouring
- (c) Briefly discuss the function of the following ingredients used in the soft drink industry:-
- i. Water
 - ii. Acid
 - iii. Sweeteners
 - iv. Preservatives and
 - v. Carbon dioxide

(10 Marks)

[TOTAL MARKS = 30]