



1ST SEM. 2015/16

PAGE 1 OF 3

UNIVERSITY OF SWAZILAND

SUPPLEMENTARY 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 methods used to extract fat or oil from the following sources:-
i. Animal tissue (10 Marks)
ii. Oil seeds (10 Marks)
- (b) Discuss the use of cereal adjuncts in beer brewing.
(8 Marks)
- (c) Explain the following steps in fruit juice manufacturing:-
i. Clarification (4 Marks)
ii. Deaeration (4 Marks)
iii. Pasteurization (4 Marks)

[TOTAL MARKS = 40]

QUESTION 2

- (a) Briefly discuss the following oil refining processing steps:-
i. Water degumming (5 Marks)
ii. Neutralization (5 Marks)
iii. Bleaching (5 Marks)
iv. Deodorization. (5 Marks)
- (b) Draw a flow diagram for red wine processing.

(10 Marks)

[TOTAL MARKS = 30]

QUESTION 3

- (a) Explain the following quality parameters used in fats and oils:-
i. Acid value (5 Marks)
ii. Saponification value (5 Marks)
- (b) Discuss the following butter processing steps:-
i. Pasteurization (3 Marks)
ii. Aging (2 Marks)
iii. Cooling and churning (5 Marks)
- (c) Discuss inter- and intraesterification processes. (10 Marks)

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

- (a) Explain the process steps for oolong tea production. (15 Marks)
- (b) Briefly describe the following steps:-
i. Carbonation in soft drinks (3 Marks)
ii. Boiling in candy making (2 Marks)
- (c) Explain **five (5)** changes that take place during the brewing of beer in the kettle

(10 Marks)
(TOTAL MARKS = 30)
