



2ND SEM. 2008/2009

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 : ADVANCED FOOD PROCESSING

TIME ALLOWED : TWO (2) HOURS

**INSTRUCTIONS : ANSWER QUESTION ONE (1)
AND ANY OTHER (2) QUESTIONS**

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GRANTED BY THE CHIEF INVIGILATOR**

QUESTION 1 [Compulsory]

- a) Give **three** reasons why food is processed. [9 marks]
- b) Explain how the following properties of fats affect its melting point
- i. Chain length
 - ii. Degree of saturation
 - iii. Isomerism
- [6 marks]
- c) Define a fruit and a vegetable to a food processor and to a horticulturist or botanist. [5 marks]
- d) Explain the necessary steps involved in the manufacture of margarine and shortening from sunflower seeds [20 marks]

[TOTAL MARKS = 40]

QUESTION 2

- a) What quality characteristics do the following terms indicate: iodine value, peroxide value and acid value [12 marks]
- b) What is the difference between purity and apparent purity of juice in sugar manufacture? [6 marks]
- c) Give a general flow diagram for fruit juice manufacture. [12 marks]

[TOTAL MARKS = 30]

QUESTION 3

- a) Give a flow diagram for red and white wine making from red grapes.

[18 Marks]

- b) Discuss the juice clarification process in sugar manufacture

[12 Marks]

[TOTAL MARKS = 30]

QUESTION 4

- a) Explain the following steps in beer manufacturing process

- i. Malting
- ii. Mashing
- iii. Lautering
- iv. Boiling
- v. Whirlpool
- vi. Cooling
- vii. Fermentation

[15 Marks]

- b) Discuss the major processing steps in black tea manufacture and explain how it differs from green tea and oolong manufacture

[15 Marks]

[TOTAL MARKS = 30]