



**2<sup>ND</sup> SEM. 2009/2010**

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**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**

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**FSNT 409**

**QUESTION 1 [Compulsory]**

- a) Company A and B both sell crackers. Company A has on their label “Contains zero trans fats”, yet company B has on their label “20% trans fats”. Based on your knowledge of trans fats answer the following questions below:
- Discuss the process that leads to the formation of trans fatty acids
  - Which company would you choose to buy the crackers from and explain why?
  - Give 2 examples of other food products that are likely to contain trans fats

[25 marks]

- b) Explain how the following properties of fats affect its melting point
- Degree of saturation
  - Isomerism

[10 marks]

- c) Define a fruit and a vegetable to a food processor and to a horticulturist or botanist.

[5 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.

[20 Marks]

- b) Define the following terms: pure juice, from concentrate, nectar, fruit punch, and juice cocktail.

[10 Marks]

**(TOTAL MARKS = 30)**

**QUESTION 4**

- a) Explain the following steps in beer manufacturing process

- i. Malting
- ii. Mashing
- iii. Brewing
- iv. Fermentation
- v. Lagering

[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]**