



2nd SEM. 2015/16

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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 406

TITLE OF PAPER : FERMENTATION TECHNOLOGY

TIME ALLOWED : TWO (2) HOURS

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

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THE CHIEF INVIGILATOR**

QUESTION 1 (COMPULSORY)

- (a) Discuss the superiority of fed-batch mode of fermentation over the others in terms of obtaining the desired products. (15 Marks)
- (b) A processor engaged in fermented foods business reported to you that he had still or slow fermentation in several instances. As a professional, advise him on **five (5)** possible causes of still fermentation and the associated remedies. (15 Marks)
- (c) Give the classification of fermentation based on the type of product produced and the nature of the substrate. (10 Marks)

[TOTAL MARKS = 40]

QUESTION 2

- (a) Write short notes on the following: (20 Marks)
 - i. Down processes (give two examples)
 - ii. Meat curing
 - iii. Kilning
 - iv. Hetrofermentative bacteria
- (b) Name bioreactors for liquid state fermentation and describe any **one (1)** further. (10 Marks)

[TOTAL MARKS = 30]

QUESTION 3

- (a) Discuss **four (4)** benefits of fermenting a food. (16 Marks)
- (b) State the function of SO₂ in wine fermentation. (8 Marks)
- (c) Back sloping has been a common way to start meat fermentation. Explain reasons that make back-sloping work. (6 Marks)

[TOTAL MARKS = 30]

QUESTION 4

- (a) Describe cultured butter milk and show the process steps using a flow chart.
(15 Marks)
- (b) Outline the steps in vinegar fermentation using open vat and orlean process.
(15 Marks)

[TOTAL MARKS = 30]