



2nd SEM. 2017/18

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**UNIVERSITY OF SWAZILAND
SUPPLEMENTARY 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. ILLUSTRATE
YOUR ANSWERS WITH DIAGRAMS
WHERE NEEDED**

**DO NOT OPEN THIS PAPER UNTIL PERMISSION HAS BEEN GRANTED BY
THE CHIEF INVIGILATOR**

QUESTION 1 (COMPULSORY)

- (a) Discuss the types of reactors used in solid state fermentation. (20 Marks)
- (b) Using flow charts, discuss the process steps for stirred and set yoghurt manufacture. (20 Marks)
- TOTAL MARKS = 40]**

QUESTION 2

- (a) Explain the following:
- i. Decoction
 - ii. Downstream process
 - iii. Non-Growth associated products
 - iv. Orlean process
- (4×5 = 20 Marks)
- (b) Outline the desirable characteristics of dairy culture. (10 Marks)

[TOTAL MARKS = 30]

QUESTION 3

- (a) Identify five (5) factors affecting alcoholic fermentation and describe any two (2) further. (15 Marks)
- (b) Describe the steps in cider fermentation. (15 Marks)

[TOTAL MARKS = 30]

QUESTION 4

- (a) Describe the fermentation of malt whiskey. (15 Marks)
- (b) Describe the factors that affect the performance of bioreactors. (15 Marks)

[TOTAL MARKS = 30]