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2ND SEM. 2011/12

UNIVERSITY



OF SWAZILAND

FINAL EXAMINATION PAPER

**PROGRAMME : BACHELOR OF SCIENCE IN FOOD
SCIENCE, NUTRITION & 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**

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

QUESTION 1 [COMPULSORY]

- a. What is the importance of fermented foods to the consumer?
(10 marks)
- b. Most commercial starter cultures are made of more than one micro-organism. Give reasons for this practice.
(10 marks)
- c. A student wanted to make beer from molasses. In her setup, she included a blower, which constantly bubbled air through the fermentation vessel. Discuss the likely outcome.
(10 marks)
- d. Draw a labelled graph of bacterial numbers against time during batch lactic acid fermentation.
(10 marks)

[TOTAL MARKS = 40]

QUESTION 2

- a. Discuss the manufacture and importance of sauerkraut as a preservation technique and in nutrition.
(15 marks)
- b. What are the differences and similarities between pickling and brine fermentation?
(15 marks)

[TOTAL MARKS = 30]

QUESTION 3

- a. Give five uses of transgenic organisms in food production.
(10 marks)
- b. Discuss the concerns and arguments that have made GMOs not universally acceptable.
(20 marks)

[TOTAL MARKS = 30]

QUESTION 4

- a. Discuss the differences in procedures in the manufacture of red wine and white wine.

(15 marks)

- b. Explain the scientific principles of any three stages in the manufacture of beer from barley malt.

(15 marks)

[TOTAL MARKS = 30]