



169

2ND SEM. 2016/17

PAGE 1 OF 3

**UNIVERSITY OF SWAZILAND
FINAL EXAMINATION PAPER**

PROGRAMMES : BACHELOR OF SCIENCE IN FOOD SCIENCE,
NUTRITION AND TECHNOLOGY, YEAR III
CONSUMER SCIENCE EDUCATION, YEAR III
CONSUMER SCIENCE, YEAR III

COURSE CODE : FSNT 308

TITLE OF PAPER : FOOD PRESERVATION

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) Describe and explain the **theory, principles and practice** underlying the following preservation methods. For each outline the key steps and show the critical points/steps where loss of quality can occur or safety compromised. Illustrate with appropriate examples.
- i. Dehydration (8 Marks)
 - ii. Freezing (8 Marks)
 - iii. Concentration (Jam/marmalade-making) (8 Marks)
 - iv. Bottling/Canning (8 Marks)
- b) Discuss the reasons and value for preserving food. (8 Marks)

[TOTAL MARKS = 40]**QUESTION 2**

Explain the theory behind the use of the following in the Preservation of Food. For each, give examples of foods or food products that are preserved in this way.

- i. Wood Smoke (7.5 Marks)
- ii. Acetic acid (vinegar) (7.5 Marks)
- iii. Nitrates/Nitrites (7.5 Marks)
- iv. Large amounts of salt in fresh vegetables (7.5 Marks)

[TOTAL MARKS = 30]**QUESTION 3**

Explain the application and importance of the following terms in the preservation of food. Illustrate with appropriate examples.

- i. Hermetically sealed (5 Marks)
- ii. Case hardening (5 Marks)
- iii. Purging (5 Marks)
- iv. D-value (5 Marks)
- v. Blanching in preservation by Heat (5 Marks)
- vi. Chilling before start to preserve by freezing (5 Marks)

[TOTAL MARKS = 30]

QUESTION 4

- (a) Identify **three (3)** intrinsic factors and **three (3)** extrinsic factors that are involved and contribute to the spoilage of foods. (6 Marks)
- (b) You are required to make an orange and pineapple marmalade as a small business.
- i. Identify and explain the role and function of the ingredients that are essential and used in the making of a safe and good quality marmalade or jam. (12 Marks)
- ii. How would you make sure that your marmalade is a safe, high quality and consistent product over the years? (6 Marks)
- (c) Explain the technology and value of germination and fermentation as methods of preservation or processing. (6 Marks)

[TOTAL MARKS = 30]