



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

**PAGE 1 OF 3**

**UNIVERSITY OF SWAZILAND  
SUPPLEMENTARY 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) Discuss the food security situation in Swaziland. (15 Marks)
- (b) Explain **two (2)** policy instruments and **two (2)** programmes respectively developed and designed in response to the food situation you have described in (a) above in Swaziland. (15 Marks)
- (c) Food Hunger or '*Indlala*' is an undesirable food situation that if left unchecked for a long time, can start an unpleasant vicious cycle. Explain the elements, stages and impact of this vicious cycle. (10 Marks)

[TOTAL MARKS = 40]

**QUESTION 2**

Explain the role and function(s) of the following ingredients in the preservation of foods. Give appropriate examples.

- (a) Sugar (5 Marks)
- (b) Acetic acid (5 Marks)
- (c) Salt (5 Marks)
- (d) Nitrites/nitrates (5 Marks)
- (e) Lactic acid bacteria (5 Marks)
- (f) Sulfites (sulfur dioxide) (5 Marks)

[TOTAL MARKS = 30]

**QUESTION 3**

You are required to make an orange and pineapple marmalade as a small business.

- (a) 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. (12 Marks)
- (b) Make a process flow chart/diagram and indicate the critical stages that when properly controlled will assure you of good quality marmalade. (10 Marks)
- (c) How would you make sure that your marmalade is a safe, high quality and consistent product over the years? (8 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. **(12 Marks)**
- (b) Explain the importance of washing and cleaning fresh produce with potable water as a step before preservation. **(8 Marks)**
- (c) Discuss why chilling/freezing and the Hurdle concept are considered the best methods of preservation in modern days. **(10 Marks)**

**[TOTAL MARKS = 30]**