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# **UNIVERSITY OF SWAZILAND**

## **FINAL EXAMINATION PAPER**

**PROGRAMME : FOOD SCIENCE NUTRITION AND TECHNOLOGY**

**COURSE CODE : FSNT 407/308**

**TITLE OF PAPER : FOOD PRESERVATION**

**TIME ALLOWED : TWO (2) HOURS**

**INSTRUCTIONS : ANSWER QUESTION ONE AND ANY OTHER TWO QUESTIONS**

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

**QUESTION 1 [COMPULSORY]**

- a) List the factors influencing food spoilage.
  - i. Intrinsic factors
  - ii. Extrinsic factors
  - iii. Initial condition of product (12)
- b) Discuss the following processes in food preservation:
  - i) Curing
  - ii) Pickling
  - iii) MAP (15)
- c) Explain four major reasons of pre-treating fruits and vegetables before preservation? (4)
- d) Describe two methods of thermal preservation of food and give one example for each method. (4)
- e) Explain factors considered in selecting a suitable preservation method. (5)

**Total marks 40**

**QUESTION 2**

- a) State three peeling techniques in food processing and preservation and give one example of application for each. (6)
- b) Discuss advantages and disadvantages of drying in food preservation. (6)
- c) Describe two methods of cold storage of food and explain the principles involved. (6)
- d) Explain the concept of evaporation in food preservation. (4)
- e) State the advantages of indirect solar dryers. (8)

**Total marks 30**

**QUESTION 3**

- a) Discuss the preservative effects of thermal processing and describe five main advantages of heat processing. (12)
- b) Describe the reasons why cleaning food should take place at the earliest stage of food preservation. (4)
- c) List four technical methods of reducing food deterioration. (4)
- d) Define size reduction and discuss three benefits of size reduction in food processing and preservation (10)

**Total marks 30**

**QUESTION 4**

- a) Explain food fermentation and give advantages of this method in food preservation. (10)
- b) Explain the general principles of preserving fruits and vegetables. (8)
- c) Discuss four effects of Ultra-high temperature sterilization on food quality. (12)

**Total marks 30**