



2010/2011

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UNIVERSITY OF SWAZILAND
SUPPLEMENTARY 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

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QUESTION 1 [COMPULSORY]

- a) What is food preservation? (3)
- b) Discuss the importance of food preservation (6)
- c) Describe 3 major chemical changes which occur in lipids/fats during food processing and preservation which leads to deterioration of sensory qualities of food. (9)
- d) Discuss three technical methods of reducing food deterioration during food preservation. (6)
- e) Explain two major types of cleaning techniques in food processing and preservation and give three examples for each. (10)
- f) Discuss the importance of water activity and pH in food preservation. (6)

Total marks 40

QUESTION 2

- a) Describe the general process flow chart for banana drying. (12)
- b) Discuss Modified-atmosphere and packaging storage of the following food products.
 - i. Fruits and vegetables
 - ii. Fish and fish products (6)
- c) Explain the following pre-treatments in food preservation:
 - i) Addition of sodium meta-bisulfite
 - ii) Cracking
 - iii) Dipping
 - iv) Blanching (12)

Total marks 30

QUESTION 3

- a) State the reasons for food preservation. (4)
- b) Discuss the following thermal methods of food preservation:
 - i) Pasteurization
 - ii) Heat sterilization
 - iii) Evaporation/concentration (12)
- c) List four basic operations in raw material handling during food preservation. (2)
- d) Explain the effects of drying on the following quality attributes of fruits and vegetables during food preservation.
 - i) Texture
 - ii) Colour
 - iii) Flavor (12)

Total marks 30**QUESTION 4**

- a) Explain four advantages of UHT processing on food and give two examples of food products processed by this method. (6)
- b) State five commonly used food preservatives, examples of food for each preservatives and levels applied. (15)
- c) Explain five main advantages of preserving food by fermentation and give two examples of fermented foods. (5)
- d) What are the main changes in frozen foods during storage? (4)

Total marks 30