



THE KENYA POLYTECHNIC

APPLIED SCIENCES DEPARTMENT

DIPLOMA IN FOOD TECHNOLOGY

END OF YEAR II EXAMINATIONS

JULY 2007 SERIES

FOOD PROCESSING & PRESERVATION

2½ HOURS

INSTRUCTIONS TO CANDIDATES:

This paper consists of TWO sections A and B.

Answer ALL questions in section A and any THREE questions from section B.

The maximum marks for each part of a question are as shown.

This paper consists of 3 printed pages.

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SECTION A:

Answer ALL questions from this section.

1. State the reasons for food preservation. (4 marks)
2. Define the following terms:
 - (a) Perishable food
 - (b) Semi-perishable food
 - (c) Reconstitutibility
 - (d) Thermal plasticity (4 marks)
3. State FOUR ways through which each of the following factors cause food spoilage:
 - (a) Light
 - (b) Oxygen (4 marks)
4. Explain the preservative effects of salt in pickling. (4 marks)
5. Explain FOUR factors that make microorganism be considered the most important spoilage agents. (4 marks)
6. Explain FOUR broad functions of packaging. (4 marks)
7. State FOUR properties of lacquers. (4 marks)
8. Define freeze drying and explain its THREE limitations. (4 marks)
9. Outline systematically the procedure for freshening a salt stock for use at the end of storage. (4 marks)
10. With the aid of a sketch, discuss the traditional method of smoking. (4 marks)

SECTION B:

Answer any THREE questions from this section.

11. (a) Name FIVE curing ingredients giving the primary function of each. (5 marks)
 - (b) Explain the principal methods of applying curing ingredients. (6 marks)
 - (c) With the aid of a fully labeled diagram only, describe the colour changes in meat during curing and handling. (9 marks)
12. (a) Discuss the effect of the initial rate of dehydration on the quality of dried foods. (6 marks)
 - (b) Draw and explain the stages in a normal dehydration curve. (8 marks)
 - (c) Explain how wetability and solubility affects reconstitutibility of products. (6 marks)

13. (a) Explain FOUR advantages of fermentation. (3 marks)
- (b) With the aid of a graphical sketch, describe the production of sauerkraut. (8 marks)
- (c) Discuss:
- (i) Deterioration of pickled products. (4 marks)
- (ii) Nutrient retention in freshened pickles giving specific examples. (5 marks)
14. (a) Discuss the following dose determining factors in irradiation:
- (i) Resistance of food ingredients. (4 marks)
- (ii) Resistance of enzymes. (4 marks)
- (b) Explain 3 requirements for plastics used in packaging carbonated beverages. (6 marks)
- (c) Discuss closures for glass containers. (6 marks)
15. Discuss each of the following using diagrams where applicable:
- (a) Gas permeability of plastics. (5 marks)
- (b) Modified atmosphere storage. (5 marks)
- (c) Influence of dehydration on food pigments. (5 marks)
- (d) Paper sacks. (5 marks)