



THE KENYA POLYTECHNIC UNIVERSITY
COLLEGE

DEPARTMENT OF INSTITUTIONAL MANAGEMENT
HIGHER DIPLOMA IN CATERING AND ACCOMMODATION
MANAGEMENT

END OF YEAR 1 EXAMINATIONS

FOOD MATERIAL SCIENCE MICROBIOLOGY

TIME: 3 HRS

INSTRUCTIONS TO CANDIDATES

This paper consists of two sections: A and B.

Answer all the questions in section A

Section B consists of two parts 1 and 11

Part 1 is **COMPULSORY**. Answer **TWO** questions in Part 11

SECTION A: FOOD MATERIAL SCIENCE

Answer all the questions in this section.

1. Explain the importance of the study of Food Material Science in the catering industry. (2 marks)
2. (a) Differentiate fats and oils. (2 marks)
(b) Discuss the rancidity of fats and oils (6 marks)
3. (a) Sugar can be made from two sources. Differentiate them. (2 marks)
(b) Discuss the wheat milling process. (8 marks)
4. Write notes on the classification of meat (5 marks)
5. (a) Explain why the fruit and vegetable markets are the most difficult markets in which a food buyer has to operate.
(b) Explain the manufacture of mincemeat (10 marks)
6. With examples, discuss the following methods of food preservation.
(a) Dehydration
(b) Canning (15 marks)

SECTION B - MICROBIOLOGY

PART 1 - COMPULSORY

7. (a) Define the following terms as concerns microbial food poisoning.
(i) Incubation period (ii) Stationary phase
(iii) Sterilization (iv) Pasteurization (4marks)
- (b) Differentiate between the following
(i) Anaerobic and facultative microbes
(ii) Acidophiles and neutrophiles
(iii) Mesophiles and thermophiles (6 marks)

PART 11 - Answer any two questions from this part

- 8 (a) Giving examples distinguish between food spoilage and food poisoning
(4marks)
- (b) Explain the causes and symptoms of the following
- (i) Botulism
 - (ii) Shigellosis (6 marks)
- (c) Explain **FIVE** ways in which pathogens can gain entry into the production area and suggest how this could be prevented. (10 marks)
- 9 (a) Typhoid has become a common problem lately in Kenya. Explain any **FIVE** preventive measures against it . (10 marks)
- (b) Discuss any **THREE** forms of chemical food poisoning, their effects on food and health. (10 marks)
10. Discuss factors that make fish prone to spoilage and how it can be preserved for use by the caterer. (20 marks)