

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN
FOOD SCIENCE AND TECHNOLOGY**

FOST 463: FOOD QUALITY ASSURANCE

STREAMS: FOST

TIME: 2 HOURS

**DAY/DATE: MONDAY 27/09/2021
A.M.**

8.30 A.M. – 10.30

INSTRUCTIONS

Answer all questions in Section A and any two questions in section B

SECTION A: Answer All questions (30 marks)

1. State key elements of total quality management. (6 marks)
2. Briefly discuss ISO 22000 clauses that make up the food safety and quality management system. (6 marks)
3. Explain the purpose of monitoring in the implementation and maintenance of a quality and safety management system. (6 marks)
4. Discuss good manufacturing practices and their benefits in a fruit processing factory. (8 marks)
5. In a scan seaming operation, the number and type of visual defects that occurred in the seams of 35 samples units of 5 cases of cans were registered. The average of nonconformities, C , was = 7.25. Establish the control limits for this

operation. (4 marks)

SECTION B: Answer any TWO questions (40 marks)

6. A) as a manager of a food company that is implementing a food quality and safety management system, discuss your role in the implementation process. (6 marks)

b) Using a product of your choice, discuss the process of developing a HACCP plan. (14 marks)

7. a) You are a food safety team leader in your company. You intent to implement ISO 9000 quality management system to improve on service and product quality. How would you convince the management that there is need for a quality management system implementation?

(10 marks)

b) Discuss the concept of continuous improvement in quality management systems.

(10 marks)

8. a) Discuss the dimensions of quality that link customer requirements to the design of products. (10 marks)

b) The net weight in grams of a product is to be monitored by control carts using a sample size of $n = 3$. Twenty samples were collected from a given production line at regular intervals (10 marks)

	Y1	Y2	Y3		
1	23	24	21		
2	27	25	23		
3	24	24	24		
4	24	24	22		
5	23	23	24		
6	27	27	22		

7	23	24	24		
8	27	22	24		
9	23	24	23		
10	27	22	27		
11	24	18	23		
12	24	27	27		
13	23	18	23		
14	24	27	27		
15	24	24	23		
16	24	22	27		
17	23	24	20		
18	27	22	21		
19	21	18	19		
20	20	27	21		

- i. Construct the mean and range charts
 - ii. Construct the range chart
 - iii. Identify the out-of-control sample in both charts in question (i) and (ii) above. What action should be taken.
-