



# The Co-operative University of Kenya

**SUPPLEMENTARY / SPECIAL EXAMINATION AUGUST-2019**

**EXAMINATION FOR THE DIPLOMA IN AGRIBUSINESS MANAGEMENT**

**UNIT CODE: DAFS 2116**

**UNIT TITLE: FOOD PROCESSING & PRESERVATION TECHNOLOGIES**

**DATE: 27<sup>TH</sup> AUGUST, 2019**

**TIME: 2:30 PM – 4:30 PM**

## **INSTRUCTIONS:**

Answer question **ONE (compulsory)** and any other **TWO** questions

### **QUESTION ONE**

- a) Define the following terms: (4 marks)
- Food
  - Food processing
  - Food preservation
  - Biodeterioration
- b) Differentiate between psychrophilic and psychrotrophic microorganisms (2 marks)
- c) With the aid of a diagram, explain the four stages of bacterial growth. (8 marks)
- d) State 3 main reasons for food packaging (3 marks)
- e) Outline 3 agents of food biodeterioration and briefly explain how they cause food spoilage (6 marks)
- f) State 3 reasons why chilling is such a popular method of preserving food. (3 marks)
- g) Outline 2 changes that limit the shelf life of frozen foods. (2 marks)
- h) State two challenges of milk collection (2 marks)

### **QUESTION TWO**

- a) Write short notes on the following:
- Curing (5 marks)
  - Pickling (2 marks)
  - Smoking (3 marks)
- b) Outline five characteristics of clean milk (5 marks)
- c) Briefly explain five techniques of clean milk production (5 marks)

### **QUESTION THREE**

- a) Discuss the following food preservation methods:
- High pressure processing (3 marks)
  - Ohmic heating (3 marks)
  - Irradiation (3 marks)
  - Microwave processing (3 marks)
- b) Briefly explain 4 causes of food biodeterioration (8 marks)

### **QUESTION FOUR**

- a) Discuss five methods of cooling milk (10 marks)
- b) Write short notes on the general milk treatments (10 marks)

### **QUESTION FIVE**

- a) Discuss the following food additives:
- Antioxidants. (4 marks)
  - Emulsifiers (3 marks)
  - Flavor enhancers (3 marks)
- b) Discuss Saccharin and Sodium Nitrate/Nitrite usage in the food industry. (10 marks)