Instructions:

1. This paper consists of TWO sections, A and B.
2. Answer ALL questions from section A and any TWO from section B.
3. Write all answers in the booklet provided.
SECTION A [30 MARKS]

Answer ALL questions.

1. (a) Outline the internal and external factors that influence respiration of fresh produce. [6 marks]
   (b) Briefly explain how endogenous ethylene would influence respiration in the following commodities:
      i) Bananas [2 marks]
      ii) Oranges [2 marks]

2. (a) What is chilling injury in fruits and vegetables and why is it difficult to control? [5 marks]
   (b) Explain the principle of food preservation. [3 marks]
   (c) Outline four challenges of value addition in Arid and Semi – Arid Lands (ASALs). [2 marks]

3. (a) Outline the procedure in drying of leafy vegetables. [5 marks]
   (b) Explain aflatoxin contamination and its impact on human health. [5 marks]

SECTION B [40 MARKS]

Answer ANY TWO questions.

4. The words Quality and Food Safety have often been confused and there has been no clear distinction between the two. Define each and explain the two concepts according to the Food and Agriculture Organization (FAO). [20 marks]

5. (a) What is respiration climacteric? How is the pattern influenced by ethylene and temperature? [8 marks]
   (b) Briefly discuss each of the following precooling methods for fresh produce.
      i) Hydrocooling. [6 marks]
      ii) Vacuum cooling. [6 marks]

6. (a) Discuss the following in food preservation:
      i) Freezing. [5 marks]
      ii) Fermentation. [5 marks]
      iii) Dehydration [5 marks]
   (b) Explain why food processing is important to farmers. [5 marks]