

# JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY SCHOOL OF AGRICULTURAL AND FOOD SCIENCES

# THIRD YEAR FIRST SEMESTER UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN FOOD SECURITY

### **2022/2023 ACADEMIC YEAR**

# REGULAR

**COURSE CODE: APB 9401** 

**COURSE TITLE: Postharvest Physiology and Technology** 

**EXAM VENUE:** STREAM: BSc. Food Security

DATE: EXAM SESSION:

**TIME: 3 HOURS** 

#### **Instructions:**

- 1. Answer question ONE and ANY other 2 Questions
- 2. Candidates are advised not to write on question paper.
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.

#### SECTION A [30 MARKS]

## Answer all questions in this section.

1.

- a) Illustrate the characteristics of quality in fresh produce that influence sorting and grading (5 Marks)
- b) State the primary causes of postharvest spoilage

(5 Marks)

- c) How does it influence the respiration rate of climacteric and non-climacteric fruits? Give examples of climacteric and non-climacteric fruits (5 Marks)
- d) Chilling injury and examples of produce susceptible to chilling injury (5 Marks)
- e) What is Q10? What are the implications of Q10 =1; Q>1.0 and Q<1.0? (5 Marks)
- f) Describe a low-cost cold storage alternative technology that can be used in rural areas without electricity. (5 Marks)

# Section B [40 Marks]

# **Answer any TWO questions**

2. Explain in detail the role of ethylene in postharvest technology ripening and storage

(20 Marks)

3. Describe the cool bot technology

(20 Marks)

4. You are an extension worker with a bean seed company. The farmers have a bumper harvest and need to store the beans until prices improve. Discuss with the farmers the postharvest management of beans.

(20 Marks)