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)**