



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND  
TECHNOLOGY**

**SCHOOL OF AGRICULTURAL AND FOOD SCIENCES**

**SECOND YEAR SECOND SEMESTER EXAMINATION FOR THE  
DEGREE OF  
BACHELOR OF SCIENCE IN HORTICULTURE  
2024/2025 ACADEMIC YEAR**

**SIAYA**

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**COURSE CODE: APB 2210**

**COURSE TITLE: PLANT GROWTH PROCESSES**

**EXAM VENUE:**

**STREAM: BSC. Horticulture**

**DATE:**

**EXAM SESSION:**

**TIME: 2 HOURS**

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**Instructions:**

- 1. Answer ALL questions in section A and ANY other 2 Questions in section B**
- 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. Differentiate between plant development and plant growth. [6 marks]
- b. How does temperature affect development and growth of plants? [5 marks]
- c. Explain the term phyllotaxy and its relevance to plant growth process? [4 marks]
- e. Outline the importance of mitotic cell division. [4 marks]
- f. (i) What is apical dominance? [2 marks]
- (ii) Draw a diagrammatic representation of a shoot apex. [4 marks]
- g. Explain the role of abscission in the health and reproductive success of plants. [5 marks]

**SECTION B [40 MARKS]**  
**Answer ANY TWO questions in this section**

- 2 a. Discuss the role of the following hormones in plant growth:
- i) Gibberellins [5 marks]
- ii) Cytokinins [5 marks]
- b. Explain the concept of juvenility in plant growth process. [10 marks]
3. Using examples, explain the practical application of hormones in commercial plant growth and production. [20 marks]
4. a. Using a diagram, illustrate the course of vegetative and reproductive phases in the development of plants. [10 marks]
- b. Explain phytochrome and its importance in plant growth process. [10 marks]