



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY  
SCHOOL OF BIOLOGICAL, PHYSICAL, MATHEMATICS AND ACTUARIAL  
SCIENCES**

**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF  
EDUCATION SCIENCE AND BACHELOR OF SCIENCE WITH IT  
2<sup>nd</sup> YEAR 1<sup>st</sup> SEMESTER 2022/2023 ACADEMIC YEAR  
MAIN CAMPUS - REGULAR**

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<b>COURSE CODE:</b>	<b>SBB1205</b>
<b>COURSE TITLE:</b>	<b>PLANT GROWTH AND DEVELOPMENT</b>
<b>EXAM VENUE:</b>	<b>STREAM: (BSC)</b>
<b>DATE: 22/12/2022</b>	<b>EXAM SESSION: 9.00-11.00AM</b>
<b>TIME: 2 HOURS</b>	

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**Instructions:**

- 1. Answer ALL questions in Section A and Any two 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**
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**SECTION A: SHORT ANSWER QUESTIONS (30 MARKS)**

1. Differentiate between growth and development as applied in plant growth and development (3 marks)
2. State three distinctive phases of growth and development (3 marks)
3. Describe the following terms (3 marks)
  - a. Differentiation
  - b. Dedifferentiation
  - c. Re-differentiation
4. State three distinctive characteristics of plant phytohormone (3 marks)
5. Seeds is a major plant tissue, state three economic importance of seeds to plants (3 marks)
6. Seed dormancy is often referred to as unnecessary evil, state three reason to justify the statement (3 marks)
7. Plant development is controlled by two factors, state the factors and example of each (3marks)
8. Plants exhibit two types of growth patterns, briefly describe and state the organs in which the two forms of growth are expressed. (3 marks)
9. Differentiate between vernalization and morphogenesis (3marks)
10. By use of a diagram, describe three forms of germination as exhibited by plants (3 marks)

**SECTION A: SHORT ANSWER QUESTIONS (30 MARKS)**

11. Define the term seed dormancy, types of seed dormancy and briefly describe four cause and the best mechanism of breaking seed dormancy (20 marks)
12. Germination is both physical and biochemical process. Use the two concepts to describe holistic seed germination in plants (20 marks)
13. Climate change has drastically reduced food production. Discuss the use of tissue culture to resolve challenges of climate change on food production (20 marks)
14. Discuss the contribution of plant phytohormones to plant growth and development (20 marks)