



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

**UNIVERSITY EXAMINATION 2012/2013**

**1<sup>ST</sup> YEAR 1<sup>ST</sup> SEMESTER EXAMINATION FOR THE DEGREE  
OF BACHELOR OF EDUCATION (SCIENCE) WITH IT  
(SCHOOL BASED)**

**COURSE CODE: SBT 301**

**TITLE: PLANT GROWTH AND DEVELOPMENT**

**DATE: 3/5/2013**

**TIME: 9.00-11.00AM**

**DURATION: 2 HOURS**

**INSTRUCTIONS**

- 1. Answer ALL questions in Section A**
- 2. Answer ANY two Questions from Section B**
- 3. Use illustrations where possible**

**SECTION A (30 Marks)**

- 1.Explain why determination of growth using fresh weight is not recommended (3marks).
2. List the types of meristems and their functions (3marks).
- 3 Explain the steps in plant growth and development (3 marks).
- 4.Draw TWO graphs to explain(a)changes of plant growth with time(b)Changes of rate of plant growth with time (3 marks).
- 5.Explain the importance of seeds in fruit growth (3 marks).
- 6.List the juvenile and adult morphological traits (3marks).
- 7.Explain the importance of totipotency in plant growth and development(3 marks).
- 8.List THREE commercial applications of plant hormones (3marks).
- 9.Explain the relationships between senescence and abscission (3marks).
- 10.Describe briefly leaf development (3 marks).

**SECTION B(40 MARKS)**

- 11.Describe the following:
  - (a) Nastic movements (6 marks).
  - (b)Phototropism (6 marks).
  - (c) Role of Hormones in seed germination and dormancy (8 marks).
- 12 Discuss the role of photoperiodism in plant growth and development with EXAMPLES( 20 marks).
- 13.Describe the following:
  - (a) Radial and lateral growth of roots (10 marks).
  - (b) Synthesis and destruction of auxins(10 marks).
- 14.Discuss the relationship between vegetative and reproductive growth(20 marks).