JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY

SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES

SPECIAL RESIT EXAMINATION FOR THE DEGREE OF BACHELOR OF EDUCTION SCIENCE WITH IT

MAIN CAMPUS – REGULAR

COURSE CODE: **SBT 301**

COURSE TITLE: **PLANT GROWTH AND DEVELOPMENT**

EXAM VENUE: **STREAM: (BED)**

DATE: **EXAM SESSION:**

TIME: 2 HOURS

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**

SECTION A: SHORT ANSWER QUESTIONS (30 MARKS)

1. Explain briefly three main processes of seed germination. (3 marks)
2. Distinguish between plant growth and development. (3 marks)
3. Using an appropriate diagram, explain the role of auxin hormones in phototropism. (3 marks)
4. Outline three implication of increased soil bulk density on growth of pasture grasses. (3marks)
5. Using appropriate graph, outline the main phases of plant growth. (3 marks)
6. Explain the following terms. (3 marks)

   a). Parthenocapy b). meristem c). apical dominance
7. Explain the concept of ´hydraulic lift` and indicate its ecological significance. (3 marks)
8. Outline three factors responsible for seed dormancy in plants. (3 marks)
9. Provide a reason for the slow transport of ethylene over large distances in plant shoots. (3 marks)
10. A plant was allowed to disperse its seeds naturally. The seedlings were examined two weeks after they had started to grow. They were found to be of very different heights. Suggest three environmental factors which may have affected the height. (3 marks).

SECTION B: ESSAY QUESTIONS (40 MARKS)

11. Discuss primary growth in plant roots. (20 marks).
12. Discuss mitotic cell division in plants. (20 marks).
13. Discuss senescence and its biological significance in plants. (20 marks).
14. Discuss thevarious methods of overcoming seed dormancy. (20 marks).