



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

1st YEAR 1st SEMESTER 2022/2023 ACADEMIC YEAR

MAIN CAMPUS - REGULAR

COURSE CODE: SBB1101
COURSE TITLE: PLANT STRUCTURE AND FUNCTIONS
EXAM VENUE: ZOO LAB STREAM: (BED.SC)
DATE: 16/12/2022 EXAM SESSION: 9.00-11.00AM
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**
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SECTION A: SHORT ANSWER QUESTIONS (30 MARKS)

1. State any three functions of the plasma membrane (3 marks)
2. Describe the differences between vascular and cork cambium (3 marks)
3. Define:
 - a. Saturation capacity (1mark)
 - b. Wilting range (1 mark)
 - c. Capillary porosity (1 mark)
4. Describe soil water potential (3 marks)
5. State three adaptive characteristics of hydrophytes (3 marks)
6. Describe any three characteristics of an essential mineral (3 marks)
7. Describe any three characteristics of the CAM plants (3 marks)
8. Describe any three applications of anaerobic respiration (3 marks)
9. Outline the process of seed germination (3 marks)
10. Distinguish between cohesion-tension and pressure-flow hypotheses (3 marks)

SECTION B: ESSAY QUESTIONS (40 MARKS)

11. Discuss protein composition of a cell plasma membrane (20 marks)
12. Discuss the role of symbiotic associations in plant mineral nutrition (20 marks)
13. Discuss the structure and function of the chloroplast (20 marks)
14. Discuss types and the roles of dormancy in plants (20 marks)