



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF AGRICULTURAL AND FOOD SCIENCES

SECOND YEAR SECOND SEMESTER UNIVERSITY EXAMINATION FOR THE
DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURAL EXTENSION EDUCATION

2024/2025 ACADEMIC YEAR

REGULAR

COURSE CODE: SBB 1206

COURSE TITLE: Plant Physiology

EXAM VENUE:

STREAM: BSc. Agricultural Extension Education

BSc. Horticulture

DATE:

EXAM SESSION:

TIME: 2 HOURS

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 from this Section

1. Explain the following terms [10
MARKS]

(a) Osmosis:

(b) Guttation:

(c) Transpiration:

(d) Water potential concept:

(e) Translocation:

2. Explain how the following are important in improving agricultural productivity [6 MARKS]

(a) Knowledge of plant metabolic processes:

(b) Knowledge on nitrogen fixation:

(c) Detailed knowledge of plant hormones, their synthesis and mode of action:

3. List and describe the three components of plant cell wall [6
MARKS]

(a) Middle lamella:

(b) Primary cell wall:

(c) Secondary cell wall:

4. Complete the following sentences [8 MARKS]

- (a) Elongation phase of cell growth is mostly dependent _____
- (b) Plants absorb enormous quantities of water and simultaneously lose greater amounts of water through _____
- (c) In C3 and C4 plants, primary carboxylation takes place with the help of _____
- (d) In the rainy season, doors get swelled up due to _____
- (e) Stomata open and close due to _____
- (f) The substrate for photorespiration is _____
- (g) Dark reactions of photosynthesis occur in _____

SECTION B (40 MARKS)

Answer ANY TWO questions in this section

5. From a physiological point of view, explain TEN differences between C3 and C4 plants [20 MARKS]

No	C3 Plants	C4 Plants
1		
2		

3		
4		
5		
6		
7		
8		
9		
10		

6. Explain the EIGHT importance of Pentose Phosphate Pathway [20 MARKS]

7. Describe the TEN stages involved in the Glycolytic pathway [20 MARKS]