

THE PAPUA NEW GUINEA UNIVERSITY OF TECHNOLOGY  
DEPARTMENT OF AGRICULTURE

SECOND SEMESTER FINAL EXAMINATION - 2020

PLANT PHYSIOLOGY - AG 127

TOTAL MARKS: 50

FRIDAY 30TH OCTOBER, 2020 (12:50 PM)

VENUE: AG1-32; TIME ALLOWED: 3 HOURS

**INFORMATION FOR CANDIDATES**

1. You have ten minutes to read the paper. You must not begin writing during this time.
2. Write your name and student number clearly on the front page of your answer booklet.
3. Answer **ALL** the questions in the answer booklet provided.
4. The marks for each question are given at the end of each question.
5. Notes and textbooks are not allowed in the examination room.
6. All mobile phones **MUST** be silenced or switched off during the exam.

### Answer ALL the Questions

- Q1. State any five properties of water vital to physiological functions of plants (5 marks)
- Q2. Name five groups of hormones and growth regulators (5 marks)
- Q3. Explain why it is important for agriculturalists to study the physiological processes of photosynthesis? (5 marks)
- Q4. Illustrate the “SPAC” principle and explain its application to crop physiological processes (10 marks)
- Q5. State the stages of seed germination and give biochemical events that take place at each stage (10 marks).
- Q6. Explain the effects of global climate change on crop productivity (5 marks)
- Q7. Clearly illustrate and then explain the two pathways of water and dissolved nutrients from the soil into the roots and then into the xylem vessels (10 marks)

Enjoy!

*“He who works his land will have abundant food,  
but he who chases fantasies lacks judgment.”*

Proverbs 12: 11