

THE PAPUA NEW GUINEA UNIVERSITY OF TECHNOLOGY

FIRST SEMESTER EXAMINATION

DEPARTMENT OF AGRICULTURE – SECOND YEAR DEGREE

AG211 – AGRONOMY I

MONDAY 7TH JUNE 2021 (1:00pm - 3.50pm)

TIME ALLOWED: 3 HOURS

INFORMATION FOR CANDIDATES:

1. You have 10 minutes to read the paper. You must not begin writing during this time.
2. Answer **ALL FIVE** questions in numerical order.
3. Answers must be written in the book provided. No other written materials will be required.
4. Rules, calculators and correction fluids are required in the examination room. **Notes, textbooks and mobile phones are not allowed.**
5. Write your name and student number clearly on the front page of your answer book and examination attendance slip. **DO IT NOW.**
6. Each question answered carry **EQUAL** marks.
7. Total marks = 100

Question 1

(20 marks)

- (i) **Define** the following terms:
- (a) Agronomy, (b) Land using planning, (c) Tillage, (d) Plant propagation, (e) Crop production management (**5x2=10 marks**).
- (ii) **Define** (a) root and (b) shoot systems of a plant. List three **main** features each of (c) the root and (d) the shoot systems and **describe** their basic functions that give rise to growth and development (**4+6=10 marks**).

Question 2

(20 marks)

- (i) **Explain** **FIVE** key processes that occur during seed germination (**5x2=10 marks**).
- (ii) **Explain** **FIVE** important requirements of seed germination (**5x2=10 marks**).

Question 3

(20 marks)

- (i) List **THREE** main organs, **TWO** vascular tissues, and a ground tissue of plants and **point out** their functions (**6+4+2 = 12 marks**).
- (ii) **Point out**, fully, **FOUR** key events that occur during the processes of pollination and fertilization in flowering plants (**8 marks**).

Question 4

(20 marks)

- (i) **Show** how these techniques are used to propagate a crop (**5x2=10 marks**).
- (a) Layering (b) Mound (c) Compound (d) Air layering (e) Trench
- (ii) **Show** how these techniques are used to propagate a crop (**5x2 =10 marks**).
- (a) Chip (b) Shield (c) Slice (d) Cleft (e) Vener

Question 5

(20 marks)

- (i) In agronomy, field management of nutrients, pests, weeds, diseases, and water, are important. **Write** clearly, how each of the above is managed (**5x2=10 marks**).
- (ii) Point out the two different types of tillage operations carried out during crop production. **Write** clearly, **THREE** main objectives of tillage (**5x2=10 marks**).
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