

THE PAPUA NEW GUINEA UNIVERSITY OF TECHNOLOGY  
DEPARTMENT OF AGRICULTURE

FIRST SEMESTER FINAL EXAMINATION - 2021

PERENNIAL CROP PRODUCTION - AG 405

TIME ALLOWED: 3 HOURS

TOTAL MARKS: 50

**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. Mobile phones must not be used during exams, and if in your possession, switch off or silence them.

**Answer ALL the questions**

**A.** State the origin of the following crops (5 marks):

1. Banana
2. Cocoa
3. Oil palm
4. Pawpaw
5. Pineapple

**B.** Write the scientific names for the following crops. Note that spelling of names will be critically considered when marking (5 marks):

6. Pawpaw
7. Pineapple
8. Oil palm
9. Sugarcane
10. Tea

**C.** Write a “T” for true and an “F” for false for the following statements (5 marks):

11. Tenera is a variety of oil palm.
12. *Hypothenemus hampei* is an important disease of coffee.
13. The inflorescence of sugarcane is a terminal panicle.
14. In pineapple, suckers grow faster than crowns.
15. Cocoa is cultivated using vegetative and reproductive propagules.

**D.** Select a letter corresponding to the correct answer (5 marks):

16. Common planting practice for sugarcane followed at Ramu sugar is:

- (a) Transplanting of seedlings from seedbeds.
- (b) Direct planting using meristem tips.
- (c) Direct planting in furrows using setts.
- (d) None of the above.

17. In PNG, production of which crop is confined to two provinces?

- (a) Cocoa
- (b) Coconut
- (c) Tea
- (d) Oil palm

18. *Theobroma cacao* belongs to the family \_\_\_\_\_.
- (a) Palmae
  - (b) Euphorbiaceae
  - (c) Sterculiaceae
  - (d) Rubiaceae
19. Which of the following statements is incorrect when considering the relationship between agricultural crops and weeds?
- (a) Weeds have allelopathic effects on crops.
  - (b) Weeds are alternate hosts of insect pests and diseases.
  - (c) Weeds do not interfere with incoming photon energy.
  - (d) Weeds compete for dissolved nutrients.
20. An insect that causes significant yield losses in cocoa is:
- (a) *Conopomorpha cramerella*.
  - (b) *Ganoderma* spp.
  - (c) *Hemileia vastatrix*.
  - (d) *Phytophthora palmivora*.

**E.** Answer the following questions in details:

21. Papaya ringspot virus (PRSV) is a virus that causes significant economic losses in papaya worldwide. As the scientific officer (SO) of a certain province, formulate how would you go about addressing the impacts of the virus if it became an issue in that province? (10 marks).
22. Explain the postharvest operations of *Theobroma cacao* (10 marks).
23. Pineapple is a fruit crop widely grown in PNG.
- (i) Explain why it has not become one major export crop (5 marks), and
  - (ii) Outline how you would develop it to become one large-scale commercial crop (5 marks).