

COLLEGE OF AGRICULTURE, FISHERIES & FORESTRY
FINAL EXAMINATION TRIMESTER 1 2014

AGO 403 FIELD CROP HUSBANDRY II

[Total Marks : 100]

Time Allowed : 3 hours plus 10 minutes reading time

Instructions : This paper consists of 8 pages.

Please check to see that your paper is complete.

Answer ALL questions in the answer booklet. Number your answers correctly in the answer booklet.

Write your student number on all the pages that you use including any additional sheet of paper.

Printed or written material is not allowed into the examination hall.

Mark values appear at the end of each question or part thereof.

Non-programmable calculators are permitted.

“MOBILE PHONES ARE STRICTLY NOT ALLOWED”

SECTION	DESCRIPTION AND MARK ALLOCATION
SECTION A	<u>40 Marks</u> Part 1 - Multiple Choice Questions – 20 Marks Part 2 – True or False – 5 Marks Part 3 – Matching – 5 Marks Part 4 – Fill in the Blanks – 10 Marks
SECTION B	Short Answer Questions – 60 Marks

Write the most appropriate answer of your choice in the answer booklet

1. Efficient mills or modern factories recover about _____% of the total sucrose originally present in the cane.
 - A. 100%
 - B. 97%
 - C. 87%
 - D. 77%
2. Cocoa was transferred from Sri Lanka into Fiji in
 - A. 1883
 - B. 1880
 - C. 1798
 - D. 1900's
3. Under ideal condition, Pawpaw fruit will mature in
 - A. 2 - 4 months
 - B. 4 - 6 months
 - C. 6 - 8 months
 - D. 8 - 10 months
4. Citrus seeds can be disinfected by hot water treatment. Which of the following is true?
 - A. 50° for 10 minutes
 - B. 52° for 20 minutes
 - C. 52° for 10 minutes
 - D. 50° for 20 minutes
5. Which part of the kava plant has the highest concentration of kava lactones?
 - A. Leaves
 - B. Basal stem
 - C. Stump
 - D. Roots
6. Which of the following soils type is classified as "rich" soil where sugarcane is grown
 - A. Gley soil
 - B. Sandy soil
 - C. Alluvial soil
 - D. Nigrescent
7. Cultivation of Papaya should be avoided in wet or poorly drained soil due to
 - A. Toxicity to young plants
 - B. Fixation of potash element
 - C. Spread of root disease
 - D. Highly susceptible to nematodes

8. Which of the following is true about the number of days the papaya fruit mature from fruit set?
- A. 30 - 50 days
 - B. 60 - 70 days
 - C. 80 - 90 days
 - D. none of the above
9. A well managed cocoa continue to be economic for over
- A. 20 years
 - B. 40 years
 - C. 50 years
 - D. 70 years
10. Which management practice is required to increase bunch weight and size of banana?
- A. Mulching
 - B. De-suckering
 - C. Propping
 - D. De-belling
11. Which of the following pineapple planting material would you use if you want early production?
- A. Ground suckers
 - B. Aerial suckers
 - C. Slips
 - D. Crowns
12. A farmer observes purplish tinge on mango leaves. Which nutrient deficiency is mostly to cause this symptoms?
- A. K deficiency
 - B. N deficiency
 - C. Mg deficiency
 - D. P deficiency
13. Which of the following is the recommended temperature and time combinations for planting material treatment of banana for control of nematodes?
- A. 51°C for 15 minutes
 - B. 55°C for 20 minutes
 - C. 60°C for 10 minutes
 - D. 65°C for 20 minutes
14. In coconut, flowering commences at
- A. 1 - 4 years after planting
 - B. 4 - 6 years after planting
 - C. 6- 12 years after planting
 - D. 0 -1 years after planting

15. Which of the following is used as meat tenderizer?
- A. coconut and papaya
 - B. cocoa and pineapple
 - C. pineapple and papaya
 - D. papaya and cocoa
16. The best time of planting papaya is during
- A. October to March
 - B. January to December
 - C. July to November
 - D. November to April
17. Which of the following crops cannot be propagation asexually?
- A. Mango
 - B. Pineapple
 - C. Banana
 - D. Papaya
18. Which of the following sugarcane variety would thrive in poor soils
- A. Mana
 - B. Ragna
 - C. Mali
 - D. Ono
19. For good oil production, copra should produce
- A. 85 - 90% oil
 - B. 80 - 85% oil
 - C. 75 - 80% oil
 - D. 65 - 70% oil
20. Which of the following is the deficiency symptom of potassium in mango?
- A. chlorosis
 - B. necrotic
 - C. stunt growth
 - D. early defoliation

PART 2**TRUE OR FALSE****[5Marks]**

Write 'T' for true or 'F' for False for each of the statement below. Write your answers in the answer booklet.

1. Mana is a replacement variety where Downey mildew is found.
2. Excessive consumption of mango can cause carotenemia.
3. Coconut tolerates saline conditions because of their shoot structure.
4. When grown from seeds cacao attains anthesis between 24 and 36 MAT and fully matured at about 10 YAT.
5. In continuous humid climate flowering and fruiting is poor since most orange variety require a cool spell or dry spell to flower.
6. Most pineapple varieties will flower after 8 - 10 months.
7. Kava varieties with long internodes cuttings are very resistant to plant disease during sprouting and the early stages of growth.
8. Banana plants can "walk" therefore training of suckers is required.
9. Pollination in mango usually occurs early in the morning
10. Kava planting material must be taken from the actively growing points since it is vegetatively propagated and plant survival is better.

PART 3**MATCHING****[5 Marks]**

Match the followings and write in space given in front of each.

Botanical Name**Variety**

- | | | |
|--------------------------------|---|-----------------|
| 1. <i>Carica papaya</i> | a | Ripley Queen |
| 2. <i>Cocosnucifera</i> | b | Honolulu |
| 3. <i>Citrus reticulata</i> | c | Sweet orange |
| 4. <i>Saccharumofficinarum</i> | d | Dwarf Cavendish |
| 5. <i>Mangiferaindica L.</i> | e | Mandarin |
| 6. <i>Musa balbisiana</i> | f | Waimanalo |
| 7. <i>Piper Methysticum</i> | g | Lime |
| 8. <i>Ananascomosus</i> | h | Rotuman Tall |
| 9. <i>Citrus aurantifolia</i> | i | Vomo |
| 10. <i>Citrus sinensis</i> | j | Peach |

PART 4**FILL IN THE BLANKS****[10Marks]**

Fill in the blanks to complete the following statements. Write your answers in the answer booklet.

1. Two most commonly used rootstocks in citrus are _____, generally a deeper root system and lemon (*C. lemon*) a more spreading root system.
2. No fertilizer should be applied at less than _____ weeks before harvest because this results in lowering of sugar content in the crop.
3. A mango plant that has both male and female flowers and can bear fruit alone is called _____.
4. The colour of citrus is due to yellow, orange and red pigments called _____ located in the chloroplast.
5. Kesington pride is an example of a _____ mango variety widely grown in Fiji.
6. Kava dieback can be controlled by _____.
7. The harvesting index of mature orange is determined by _____.
8. Planting pineapple during dry season will prevent _____ problem.
9. A well developed banana plant that has not shot a bunch and is used as a propagating material is known as _____.
10. The best (optimum) time of the year to plant pawpaw is _____.

SECTION B**SHORT ANSWER QUESTIONS****[60 Marks]**

Give the answer of the following questions. All questions are compulsory.

1. a) State the deficiency symptoms of the following macronutrients with regard to sugar cane production
 - i. Calcium
 - ii. Magnesium
 - iii. Ironb) What are some effects of burnt cane on harvesting?
c) Explain two reasons for only growing approved varieties of sugarcane. (5 Marks)
2. a) Explain the climatic requirement of coconut under the following heading:
 - i. Rainfall
 - ii. Sunshine
 - iii. Temperature
 - iv. Soil requirementb) What are the important characteristics that coconut seedling should possess? (5 Marks)

3. a) Write in short about the climate (temperature, rainfall) and soil requirement of citrus.
b) State the criteria used to determine the maturity of citrus.
c) What is pruning and explain how pruning is done in citrus.
d) Why tropical oranges are still green when fully mature.
(5 Marks)
4. Briefly explain the following given topics for mango cultivation.
a) Define poly-embryonic and give one example of poly-embryonic mango variety.
b) Mango is a climacteric fruit. Give one benefit and one harmful effect during post harvest handling?
c) What is the recommended final spacing for mango? What would happen if spacing is too close?
d) Name two (2) ways of inducing flowers on mango.
(5 Marks)
5. a) Explain two common practices for training banana plant?
b) Briefly explain four (4) advantages of mulching.
c) Explain the ecological requirements for banana cultivation under following headings?
i. Optimum temperature for growth
ii. Annual rainfall
(5 Marks)
6. Discuss kava production under the following headings:
a) Climatic requirement (temperature and rainfall)
b) Preparation of planting material
c) Nursery raising of seedlings
d) Site selection and soil requirements
e) Plant spacing and harvesting
(5 Marks)
7. Discuss Cocoa production under the following headings:
a) Climate and soil requirements
b) Site selection and land preparation
c) Treatment of planting material and spacing
d) Harvesting
e) Post harvest handling
(5 Marks)
8. a) Explain the cultivation of pineapple under following headings
i. Planting time
ii. Varieties and their uses based on characteristics
iii. Types of propagation and their time taken to bear fruits
iv. Off-seasonal production
v. Production constraints
(5 Marks)
9. a) Briefly explain the cultivation practice of pawpaw under given topics
i. Land Preparation and planting (sowing/transplanting)
ii. Export variety and exporting requirements
iii. Harvest maturity index (signs of maturity) and proper stage of harvest
iv. What are the steps to reduce physical damage while handling papaya
v. Give two (2) production constraints of pawpaw in Fiji.
(5 Marks)

10. Under the following headings, briefly discuss sugar cane cultivation in Fiji.

- i. Planting and recommended practices
- ii. Selection and treatment of seed cane
- iii. Soil and general fertilizer recommendations
- iv. Harvesting index
- v. Advantages of trash conservation

(5 Marks)

11. Outline the reasons for the following in mango production:

- i. Pruning and shaping up the plant
- ii. Local varieties are used for rootstock
- iii. Fruit splitting in some varieties is a problem
- iv. split application of fertilizers
- v. Ripens faster when harvested

(5 Marks)

12. Define the following terms:

- a) Grafting
- b) Hardening off
- c) Budding
- d) Under-planting
- e) Late pruning

(5 Marks)

THE END