



COLLEGE OF AGRICULTURE, FISHERIES & FORESTRY
School of Agricultural Sciences and Forestry

Department of Crop Production

Trade Diploma in Agriculture – Year 2

AGO 506: Field Crops

Trimester 1, 2018 Final Examination

[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 ID 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	Part 1 - Multiple Choice Questions – 10 Marks
	Part 2 – Matching – 10 Marks
	Part 3 – True or False – 15 Marks
	Part 4 – Fill in the Blanks – 15 Marks
SECTION B	Short Answer Questions – 20 Marks
SECTION C	Long Answer Questions – 30 Marks

SECTION A**PART 1****MULTIPLE CHOICE****[10 Marks]**

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

1. An advantage of using pulse crop for green manuring is _____.
 - A. Pest resistant
 - B. Disease resistant
 - C. Ability to fix atmospheric nitrogen
 - D. High yield

2. Green colour of potato is due to the presence of _____.
 - A. Solanine
 - B. Chlorophyll
 - C. Pigments
 - D. Lycopene

3. Growth habit of Yam is _____.
 - A. Herb
 - B. Vine
 - C. Grass
 - D. Leafy

4. Major constrain of pigeon pea cultivation in Fiji is _____.
 - A. Aphid
 - B. Damping off
 - C. Climatic condition
 - D. Poor soil condition

5. During a prolonged dry period, which of the following system will be more efficient in irrigating your crops?
 - A. Sprinkler
 - B. Furrow irrigation
 - C. Drip irrigation system
 - D. Basin irrigation

6. Vurai balavu is a variety of?

- A. Cassava
- B. Dalo
- C. Yam
- D. None of these

7. Botanical name of Taro is:

- A. *Dioscorea alata*
- B. *Colosasia esculanta*
- C. *Vanilla fragrans*
- D. *Cucumis sativa*

8. Nicotine is found in _____ crop.

- A. Mustard
- B. Pigeon pea
- C. Tobacco
- D. None of the above

9. Sugarcane flower is known as _____.

- A. Silk
- B. Tassel
- C. Arrow
- D. Panicle

10. For early and effective nodulation, seeds are treated with _____.

- A. Bio-herbicides
- B. Bio-pesticide
- C. Bio-Fertilizers
- D. Bio-Solution

MATCHING

[10 Marks]

Match List A with the corresponding correct answer from List B and write the answer in the answer booklet provided.

#	Section A		Section B
1	Sunflower	A	is referred to as “ King of Fibres “and also known as “White Gold”
2	Potato	B	Also known as "millable cane".
3	Thinning	C	Operation of tying the leaves together using the bottom dry and green leaves is known as propping.
4	Green Potatoes	D	Latest instrument used to analyze sucrose percent.
5	Recommended varieties of potato	E	Removal of unwanted bottom dry and green leaves at 150 days after planting.
6	Detrashing	F	Red rascal, dalisay and sebago
7	“Seuolyser”	G	Development of chlorophyll on the superficial layer of potato when it gets exposed to sunlight.
8	Propping	H	This is done to keep one healthy plant per hill as excess plant populations adversely affect the growth and yield.
9	Stalk	I	<i>Solanum Tuberosum</i>
10	Cotton	J	<i>Helianthus annuus</i>

PART 3

TRUE OR FALSE

[15 Marks]

In the Answer booklet provided write "TRUE or FALSE" if the statement is correct and "FALSE" if the statement is incorrect.

Sl.no.	Statements	T or F
1	Soil analysis should be done after application of fertilizer.	
2	Heliotropism is the diurnal motion or seasonal motion of plant parts (flowers or leaves) in response to the direction of the sun.	
3	<i>Indicas</i> are the traditional varieties of rice with weak stems and susceptible to lodging.	
4	The wild variety of maize is called Teosinte.	
5	<i>Discorea alata</i> is by far the most important yam species used in Fiji.	
6	Yam tubers remain dormant for about 3-4 months and can be stored easily in a dry shaded well-ventilated area.	
7	Delay in harvesting of the sunflower seeds leads to shattering of the seed in field.	
8	The best method to store potato is by the means of cold storage system.	
9	Sunflower being a photo insensitive can be grown irrespective of the season.	
10	Topping refers to the removal of the terminal bud. Level of topping or at what node topping is to be done will differs with cotton plant type.	
11	Root nodules containing the bacteria <i>Rhizobium</i> fix free nitrogen for the plants.	
12	Sunflower being a photo insensitive can be grown irrespective of the season.	
13	Cotton is highly sensitive to frost occurrence.	
14	Delinting is the process by which H ₂ SO ₄ is poured on seed and simultaneously wash the seed with fresh water followed by lime water again with fresh water to neutralize the acid residues.	
15	Tubers having solanine content more than 20 mg are considered unsuitable for consumption	

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

1. The wild variety of maize is called the _____.
2. Mechanical manipulation of the soil at high moisture regime which reduces deep percolation losses is termed as _____.
3. _____, when they are heated, the pressure build up within the kernel suddenly results in an explosion and the grain is turnout.
4. _____ is called "QUEEN OF THE CEREALS".
5. _____ is the removal of grains from the panicles.
6. Panicles form the rice _____.
7. Rice belongs to the family of _____.
8. The _____ contributes largely to the filling of grains because it supplies photosynthetic products, mainly to the panicle.
9. Operation of tying the leaves together using the bottom dry and green leaves is known as _____.
10. The scientific name of taro is _____.
11. _____ is the diurnal motion or seasonal motion of plant parts (flowers or leaves) in response to the direction of the sun.
12. _____ is by far the most important yam species used for food in Fiji.
13. _____ is the best method of storing potatoes with minimum loss in weight and long term storage.
14. The sugar and starch makes the major component of the endosperm that results in sweetish taste of the kernels are known as _____.
15. _____ is one of the recommended varieties of rice in Fiji.

SECTION B**SHORT ANSWER QUESTIONS****[20 Marks]****All are compulsory**

1. Analyse and discuss the importance of staking in yam, method of staking and its advantage? **(2 Marks)**
2. Differentiate between the different rice plant types? **(2 Marks)**
3. Define puddling and list 4 objectives of puddling. **(4 Marks)**
4. Analyse what leads to uneven or miss filing of the kernel (grains) in maize? **(2 Marks)**
5. Define threshing. Differentiate the 2 different types of threshing? **(2 Marks)**
6. Convey the visible maturity indices of rice? **(2 Marks)**
7. Analyse and discuss is the distribution of nicotine content in a tobacco plant? **(2 Marks)**
8. Analyse and discuss will happen if the potato tubers are exposed to sunlight before harvesting? **(2 Marks)**
9. Analyse and discuss constrains of growing sugarcane? **(1 Mark)**
10. Distinguish the critical stage of water application in maize plant? **(1 Mark)**

SECTION C**LONG ANSWER QUESTIONS****[30 Marks]**

This section consists of 3 long answer questions. Answer any TWO questions.

1. Analyse and discuss rice under the following headings:

- a) Scientific name and family
- b) Origin and classification of rice
- c) Growth stages of rice plant
- d) Pest and disease of rice
- e) Harvesting and threshing

(15 Marks)

2. Analyse and discuss maize under the following headings:

- a) Scientific and family of maize
- b) Origin and classification of different maize types
- c) Climate and soil type
- d) Variety
- e) Critical stages of irrigation

(15 Marks)

3. Analyse and discuss potato under the following heading:

- a) Botanical name and family
- b) Soil requirements
- c) Recommended varieties in Fiji
- d) Harvesting and storage
- e) Economic importance of potato

(15 Marks)

The End