



FIJI NATIONAL UNIVERSITY

College of Agriculture, Fisheries & Forestry

School of Agricultural Sciences and Forestry

Department of Crop Production

Bachelor of Science in Agriculture- Year III

Final Examination

Trimester II – 2018

HOR 602 – Production Technology of Spices, Medicinal and Aromatic Plants.

Total Marks: 100

Time Allowed: Three Hours

[An extra ten minutes is allowed for reading this paper]

INSTRUCTIONS

1. This paper consists of five pages. Please check your paper is complete.
2. Write your student number on the front page of your **Answer Book**.
3. Write **all** your answers in the **Answer Booklet** provided.
4. If you use extra sheets of paper be sure to show clearly the number of question being answered and to tie each sheet securely in your **Answer Book** at the appropriate place.
5. There are **three** sections in this paper. Sections A and B are compulsory. Note the **choices** in **Section C**.

SUMMARY OF QUESTIONS

Section	Guidelines	Total Marks	Suggested Time
A	Part 1: Multiple Choice Questions	10	40 minutes
	Part 2: Matching	10	
	Part 3: True and False	10	
	Part 4: Fill in the Blanks	10	
		40 Marks	
B	Short answers Answer all the questions. Each question is worth 5 marks.	30 Marks	50 minutes
C	Long answers Answer only three (3) questions from the following. Answer each question in 300 words. Each question carries 10 marks.	30 Marks	90 minutes

SECTION A**[Compulsory]****[40 marks]**

**Answer all four parts in this section.
Each part is worth 10 marks.**

PART .1**MULTIPLE CHOICE****[10 marks]**

- A. There are ten multiple-choice questions in this part.
B. **All** are compulsory.
C. Each question is worth 1 mark.

1. Which of the following acts as an antipyretic herbs?
 - a. Black pepper
 - b. Cardamom
 - c. Turmeric
 - d. Cumin

2. Coconut belongs to family
 - a. Palmae
 - b. Apiaceae
 - c. Umbelliferae
 - d. None of the above

3. Coconut plants have _____ ovary.
 - a. Single
 - b. Bicarpic
 - c. Tricarpc
 - d. None of the above

4. The economic part of *Rauvolfia Serpentine* is used is:
 - a. Stem
 - b. Leaf
 - c. Roots
 - d. Bark

5. Betel vine belongs to family
 - a. Piperaceae
 - b. Zingiberaceae
 - c. Dioscoreaceae
 - d. Umbelliferae

6. Feni a type of liquor is prepared from
- Cashew nut
 - Coconut
 - Pepper
 - Cardamom
7. Medicinal plants are rich in :
- Secondary metabolites
 - Primary metabolites
 - Alcohol
 - Acid
8. Which of the following crop is a surface feeder:
- Ginger
 - Cardamom
 - Turmeric
 - Pepper
9. Quantity of seed required for raising one hectare of plantation of Rauvolfia is
- 12kg
 - 24kg
 - 16kg
 - 8kg
10. Yield of raw opium varies from
- 20-30kg
 - 35-40kg
 - 50-60kg
 - 70-80kg

PART .2

Matching

[10 marks]

- Match the descriptions in List B with the words in List A.
- Write the letter of the description from List B in the space beside the matching word.

List A

List B

A. Chromosome number of fenugreek		1. Opium
B. Flowering in oil palm comes in		2. Rauvolfia
C. <i>Elaeis guineensis</i>		3. Opium
D. <i>Areca catechu</i>		4. Pepper
E. <i>Piper betel</i>		5. <i>Dioscorea floribundae</i>

F. Diosgenin		6. Betel vine
G. Piper nigrum		7. Areca nut
H. Papavaraceae		8. Oil palm
I. Apocynaceae		9. 14-18 months
J. <i>Papaver somniferum</i>		10. 16
		11. 14
		12. 22

Part.3

True and False

[10 marks]

- Write 'T' if you think that the statement is correct and 'F' if you think it is incorrect.
 - Write your answers in the Answer Booklet provided.
1. Chirayata is an antipyretic herbs.
 2. Pollination in cardamom is done by insects.
 3. Plant of *Sesbania grandiflora* are raised to provide support and shade in betel vine.
 4. Bleaching is done in betel vine by successive heat treatments at 75°C to 80°C for 6-8 hours.
 5. Oil palm is a wide spaced perennial crop with long juvenile period of 3 years.
 6. 143 plants of oil palm per hectare should be maintained with a spacing of 9x9x9 meter.
 7. Areca nut inflorescence is known as cymose.
 8. Fenugreek belongs to family umbellifereae.
 9. The best pH range for cultivation of Citronella is 5-7pH.
 10. For the planting of vetiver in one hectare area 1, 00,000 slips are required.

Part.4

Fill in the blanks

[10 marks]

Write your answers in the space provided in the Answer Booklet.

1. The inflorescence of Coconut is known as _____.
2. The origin of cashew nut is _____.
3. Sandal wood and _____ are very good astringent.
4. The fruit of black pepper is _____.
5. Alkaloid _____ is found in the root of Rauwolfia plant.
6. The stem cuttings heaving _____ nodes are used for propagation of betel vine.
7. The shelling percentage in cashew nut varies from _____ percent.
8. Oil palm comes to flowering _____ after planting.
9. Areca nut has three alkaloids namely Arcoline, _____ and Guracine.
10. Diosgenin is used in making of _____.

SECTION. B**[Compulsory]****(30 Marks)****SHORT ANSWERS****Answer the following questions.****Each question is worth 5 marks.****There are 6 questions only.**

1. Apply your knowledge to discuss the process of roasting and selling during cashew nut processing.
2. Evaluate your knowledge to discuss the harvesting and post-harvest management of Betel vine.
3. Analyse and discuss the importance of some beneficial herbs in human life.
4. Apply your knowledge to discuss the distillation process of Citronella.
5. Evaluate the processing technique of cardamom.
6. Analyse the types of geranium found in nature.

Section C**Long Answers****[30 marks]****There are 4 questions in this section.****Answer only three (3) questions.****Each question is worth 10 marks.****Answer each question in approximately 300 words in the Answer Booklet provided.**

1. Analyse and discuss the betel vine in reference to:
 - a. Planting of betel vine cuttings.
 - b. Fertilizer schedule.
 - c. Harvesting and post-harvest management.
2. Evaluate your knowledge to describe climate, soil and propagation technique of cardamom.
3. Apply your knowledge to discuss the importance, botany and climatic requirements of Rauwolfia.
4. Judge your knowledge on the uses and importance of coconut in our life.

THE END