



# FIJI NATIONAL UNIVERSITY

College of Agriculture, Fisheries & Forestry

Department of Crop Production

School of Agricultural Sciences

Bachelor of Science in Agriculture – Year III

Trimester II Final Examination - 2017

## HOR: 602 – Production Technology of Spices, Aromatics and Medicinal Plants

**Total Marks: 100**

**Time Allowed: Three Hours**

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

### **INSTRUCTIONS**

1. This paper consists of 6 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.
6. There are **Six** question pages in this paper.

### **SUMMARY OF QUESTIONS**

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



**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.
- D. For each question, circle the letter of the **best** answer on the grid provided in the Answer Booklet.

1. Turmeric belongs to family
  - a. Zingiberaceae.
  - b. Anacardiaceae.
  - c. Apocynaceae.
  - d. Graminae.
2. Yellow is a variety of
  - a. Ginger.
  - b. Turmeric.
  - c. Clove.
  - d. Pepper.
3. In ginger, the commercially used part is
  - a. Root.
  - b. Tuber.
  - c. Rhizome.
  - d. None of above.
4. Which of the following has a blood cleansing property?
  - a. Coconut.
  - b. Ginger.
  - c. Potato.
  - d. Pepper.
5. Name the crop which is shade loving (Pseophyte)
  - a. Cardamom.
  - b. Citronella.
  - c. Coconut.
  - d. Pepper.



6. Black pepper is a type of \_\_\_\_\_ vine.
- Annual.
  - Ephemeral.
  - Biennial.
  - Perennial.
7. Citronella is propagated by:
- Slips.
  - Tubers.
  - Root.
  - Stem.
8. Oil palm is \_\_\_\_\_ crop.
- Self-pollinated.
  - Often cross pollinated.
  - Highly cross pollinated.
  - None of the above.
9. Chromosome number of coriander is:
- 16.
  - 22.
  - 18.
  - 24.
10. Coconut belongs to family:
- Graminae.
  - Palmae.
  - Fabaceae.
  - Rutaceae.



**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**

- \_\_\_\_\_ 1. Rhizome rot is a disease found in
- \_\_\_\_\_ 2. Scientific name of lemongrass is
- \_\_\_\_\_ 3. Oil extracted from palmarose is
- \_\_\_\_\_ 4. Scientific name of citronella is
- \_\_\_\_\_ 5. Contraceptive is made from an steroid known as
- \_\_\_\_\_ 6. Best temperature requirement for the growth of geranium is
- \_\_\_\_\_ 7. The principle pollinating agent in cardamom is
- \_\_\_\_\_ 8. The method adopted for propagation of black pepper is
- \_\_\_\_\_ 9. Site selected for planting black pepper should be in
- \_\_\_\_\_ 10. Lemon grass is used as a flavouring agent for

**List B**

- a. Soft drinks
- b. North eastern
- c. 30-32°C
- d. Rapid multiplication method
- e. North western
- f. Honey bee
- g. Diosgenin
- h. 20 – 25°C
- i. Geraniol
- j. Cymbopogon flexuosus
- k. Cymbopogon winterianus
- l. Tumeric

**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 on the right-hand side beside each question number.

- \_\_\_\_\_ 1. The appearance of tumeric is improved by smoothening and polishing the outer surface by manual or mechanical rubbing.
- \_\_\_\_\_ 2. Bacterial rot caused by Erwinia is major disease in ginger.
- \_\_\_\_\_ 3. Sandalwood and cinnamon are very good repellent.
- \_\_\_\_\_ 4. Honey has an antibiotic property.
- \_\_\_\_\_ 5. 45000-50000 slips required for planting 1hectar area of lemon grass.
- \_\_\_\_\_ 6. Citronella oil is used as a main substitute for cod liver oil.
- \_\_\_\_\_ 7. Percentage of oil extraction in vetiver is 12%.
- \_\_\_\_\_ 8. Origin of Geranium is South Africa.
- \_\_\_\_\_ 9. Scientific name of oil palm is Elaeis guineensis.
- \_\_\_\_\_ 10. Fenugreek belongs to family Apiaceae.





**Part.4****Fill in the blanks****[10 marks]**

- Fill in the blanks with the appropriate word from the list given below to complete the following statements.
- Do NOT use a word more than once.
- Write your answers in the space provided in the Answer Booklet.

|                 |            |                       |                    |
|-----------------|------------|-----------------------|--------------------|
| Tumeric         | sandy loam | <i>Cocos nucifera</i> | 3.5kg              |
| Black pepper    | 14-18      | fronds                | 18-20              |
| 2% washing soda | 12 tonnes  | 2.5kg                 | steam distillation |
| Ginger          |            |                       |                    |

1. In coconut plantation \_\_\_\_\_ can be grown as an intercrop.
2. Hollow berry disease is observed \_\_\_\_\_.
3. Cardamom is treated with \_\_\_\_\_ to retain its colour.
4. The best soil for cultivation of citronella is \_\_\_\_\_ soil.
5. Oil palm comes to flowering \_\_\_\_\_ months after planting.
6. Oil palm plant (4-8 years) old will give a yield of \_\_\_\_\_ per hectare.
7. Scientific name of Coconut is \_\_\_\_\_.
8. Coconut leaves are born at crown region and they are called as \_\_\_\_\_.
9. Seed required for planting 1 hectare area of palmarosa is \_\_\_\_\_.
10. In citronella the oil is extracted from herbage is by \_\_\_\_\_ process.

**SECTION. B****[Compulsory]****(30 Marks)****SHORT ANSWERS**

- Answer the following questions.
  - Each question is worth 5 marks.
  - There are 6 questions only.
  - Discussing a point is very important to gain full marks.
1. Evaluate the cultivation practices of Black Pepper in reference to :
    - (a) Manures and Fertilizers
    - (b) Irrigation
  2. Demonstrate the processing technique of Cardamom?
  3. Evaluate the importance of some 8beneficial herbs?
  4. Judge the different types of geranium?
  5. Demonstrate the distillation process of Citronella?
  6. Evaluate the harvesting and post-harvest management of Coriander?



**Section C**

**Long Answers**

**[30 marks]**

- **Answer any three (3) questions only.**
- Each question is worth 10 marks.
- There are 4 questions given.
- Answer each question in approximately 250-300 words in the Answer Booklet provided.

1. Evaluate the effect of climate, soil and propagation technique on cardamom growth?
  
2. Evaluate the uses and importance of Coconut in our life?
  
3. Judge the cultivation practices of Citronella in reference to
  - a. Planting,
  - b. growth,
  - c. Interculture and
  - d. fertilizer application ?
  
4. Judge the cultivation of oil palm in reference to:
  - a) Climatic requirement
  - b) Planting
  - c) Irrigation Management

**THE END**

