

FIJI NATIONAL UNIVERSITY
College of Agriculture, Fisheries & Forestry
School of Agriculture and Forestry
Department of Crop Science
Bachelor of Science in Agriculture
Semester 2 Supplementary Examination Paper – 2020
HOR602 Production technology of spices, aromatics and medicinal plants
Writing Time: 3 hours
Reading Time: extra 10 minutes allowed at the beginning of the exam
Total Marks: 100

INSTRUCTIONS:

1. This paper consists of four pages.
2. Please check to see that all your paper is complete.
3. Answer all questions in the Answer Booklet only.
4. No written or printed material and mobile phones are allowed in the examination hall.
5. Marks allocated for each section appears at the side of each question so allocate your time accordingly.
6. This paper is divided into Three Section

SECTION	PARTICULARS	TOTAL MARKS
A	Part 1: Multiple Choice Part 2: True and False	10 10
B	Short Answers	30
C	Long answers	50
	TOTAL	100

Section A: There are two parts in this section. All the questions are COMPULSORY**Part 1: Multiple Choices. Select the correct answer. (10marks)****In your answer sheet write the question number followed by the answer.**

1. *Piper nigrum* L. is a plant of humid tropics and also a _____ vine grown for its berries used as spice and in medicine.
 - A. perennial
 - B. annual
 - C. biennial
 - D. deciduous

2. Medicinal yam contains _____ which is the most important sapogenin used as a starting material for synthesis of a number of steroidal drugs.
 - A. yamogenin
 - B. botogenin
 - C. diosgenin
 - D. kryptogenin

3. The botanical name of betel vine is _____.
 - A. *Piper betel*
 - B. *Papaver somniferum*
 - C. *Catharanthus roseus*
 - D. *Ocimum sanctum*

4. In coconuts, the leaves born at crown region are called _____.
 - A. fronds
 - B. caudex
 - C. tricarpic
 - D. spathe

5. _____ is the removal of male and female flowers in the early stages of oil palm growth.
 - A. Ablation
 - B. Spadix
 - C. Monoecious
 - D. Pollination

6. The main chemical constituent of *Artemisia pallens* is _____.
 - A. Davanone
 - B. Diosgenin
 - C. Botogenin
 - D. Kryptogenin

7. The oil obtained from species of *Cymbopogan* is known as _____ oil.
 - A. ginger grass
 - B. ginger leaf
 - C. citronella
 - D. geraniol

8. Vetiver oil is obtained by steam distillation of vetiver _____.
 - A. Leaves
 - B. Stem
 - C. Roots
 - D. Leaves and stem

9. The economic part of *Rauvolfia Serpentine* used is:
 - A. Stem
 - B. Leaf
 - C. Roots
 - D. Bark

10. Medicinal plants are rich in:
 - A. Secondary metabolites
 - B. Primary metabolites
 - C. Alcohol
 - D. Acid

Part 2: True or False. Select the correct answer. (10marks).

In your answer sheet write the question number followed by the answer.

1. Turmeric belongs to the botanical family *Zingiberaceae*.
2. *Trigonella foenumgracum* L. is the scientific name of fenugreek.
3. *Cocos nucifera* produces 60% of edible oil, consisting of saturated and unsaturated fatty acids.
4. Betel vine is a perennial, dioecious and evergreen climber plant.
5. *Dioscorea floribunda* is the scientific name of yam.
6. Oil palm is a wide spaced perennial crop with long juvenile period of 3 years.
7. Cardamom is known as “Queen of Spices”.
8. Botanical family of coriander is *Umbelliferae*.
9. Cumin is susceptible to fungus diseases.
10. Lemongrass is a good source of natural citral that is used in perfumery and favour agent for soft drinks.

SECTION B: Short Answers (30 marks)

Answer all the questions. Each question is worth of 5 marks.

1. Evaluate and discuss the harvesting and post-harvest management of Betel vine.
2. Analyse and discuss the importance of herbs and spices.
3. Evaluate the processing technique of cardamom.
4. Evaluate and discuss the importance of medicinal plants in human health with examples.
5. Apply your knowledge on pepper cultivation and discuss the methods of propagation.
6. Analyse and discuss the distillation process of Citronella.

Section C- Long Answers (50marks)

There are four questions in this section. All questions are COMPULSORY.

1. Evaluate and discuss the uses and importance of coconut in developing countries.
Outline the challenges affecting the coconut industry.
2. Apply your knowledge to discuss important processing techniques carried in cashew nut.
3. Analyse and discuss the betel vine in reference to:
 - i. Planting of betel vine cuttings
 - ii. Fertilizer schedule
 - iii. Harvesting and post-harvest management.
4. Evaluate your knowledge to describe climate, soil and propagation technique of cardamom.
5. Apply your knowledge to discuss the importance, climatic and soil requirements, and postharvest processing of citronella.

THE END!!!