



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF AGRICULTURAL AND FOOD SCIENCES
UNIVERSITY EXAMINATION FOR DEGREE OF BACHELOR OF SCIENCE
IN AGRIBUSINESS MANAGEMENT

THIRD YEAR SECOND SEMESTER 2013/2014 ACADEMIC YEAR

REGULAR

COURSE CODE: APT 3321

COURSE TITLE: Perennial Crops

EXAM VENUE:LR 7

STREAM: BSc (Agribusiness Management)

DATE:11/12/14

EXAM SESSION: 2.00 – 4.00 PM

TIME: 2.00 HOURS

Instructions:

- 1. Answer ALL question in Section A (compulsory) and ANY TWO questions in Section B.**
- 2. Candidates are advised not to write on the question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

SECTION A **[30 MARKS]**

Question 1.

Distinguish between the following terminologies as used in perennial crop production:

- (a) Selective picking and stripping. [4 marks]
- (b) Green and black Tea. [4 marks]
- (c) Dry and wet processing in coffee. [4 marks]
- (d) Formative pruning and Tipping in Tea. [4 marks]
- (e) Bole and pole in sisal production. [4 marks]

Question 2

Root knot nematodes (*Meladogynespp*) are wide spread pest problem in perennial crops:

- (a) Describe the symptoms of attack on perennial crop like pyrethrum. [5 marks]
- (b) Outline the conditions which predispose perennial crops to nematode attack. [5 marks]
- (c) Prescribe measures to prevent and or control attacks. [10 marks]

Question 3

(a) Explain why sisal (*Agave Sisalana*) is an ideal crop for the rid and semi-arid lands.

[6 marks]

(b) Outline the key objectives of sisal improvement programme.

[10 marks]

(c) Sisal is one of the crops whose production has drastically declined in Kenya. Briefly identify the factors that may have contributed to the decline.

[4 marks]

Question 4

(a) Briefly outline the breeding objectives of coffee (*Coffea arabica*) improvement programme.

[6 marks]

(b) Explain why pruning is necessary in coffee husbandry.

[4 marks]

(c) Describe multiple stem pruning in coffee and outline advantages associated with this system.

[6 marks]

(d) Outline the manifestation of coffee Berry Disease and briefly explain management strategies.

[4marks]

SECTION B [40 MARKS]

Question 5

- (a) Briefly describe environmental conditions suitable for cashew nut production. [5 marks]
- (b) What are the products that need to be targeted in cashew nut production? [4 mark]
- (c) Outline the important uses of coconut. [6 marks]

Question 6

Effective control of weedy plant species is critical in ensuring good establishment of perennial crop plantations.

- (a) Identify three critical periods of weed control in pyrethrum, coffee, tea and sugar cane plantations. [4 marks]
- (b) State the common perennial weed species likely to be found in fields of all these crops. [3 marks]
- (c) Discuss the most effective control methods for these perennial weeds in each of the crops above, citing any precautions necessary to ensure effectiveness of the methods. [8 marks]

Question 7

- (a) Describe frame formation in Tea (*Cameliasinensis*). [3 marks]
- (b) Explain effects of nitrogen nutrition on Tea Quality. [4 marks]
- (c) Briefly describe field factors which influence quality of Tea. [8 marks]

Question 8

With regards to Pyrethrum production:

- (a) Outline the selection criteria for pyrethrum improvement programme. [5 marks]
- (b) Briefly outline the key factors which affect the pyrethrin content. [10 marks]