

SIR ARTHUR LEWIS COMMUNITY COLLEGE
DIVISION OF AGRICULTURAL SCIENCES
CERTIFICATE IN GENERAL AGRICULTURE
END OF SEMESTER II EXAM

#C39

CROP PRODUCTION AND TECHNOLOGY (CPT 111)

Date: Wednesday 28th April, 2010

Time: 9:00 am

Duration: 2.5 hrs



Instructions

The exam is composed of five (5) questions. Section A is compulsory. Select any two (2) questions in section B. Answer each question on a different sheet of paper.

SECTION A

1. Proper management of crop production and technology is important for success in the food production industry:
 - a. Define the terms:
 - (i) Crop Production (1 mark)
 - (ii) Technology (1 mark)
 - (iii) Use a simple diagram to illustrate the production process. (3 marks)
 - b. Briefly define the terms
 - (i) Planning (1 mark)
 - (ii) Implementation (1 mark)
 - (iii) The control theory. (3 marks)
 - c. In a crop production enterprise, the production plan is a very useful tool for evaluating the progress of the farmer. Define the terms
 - (i) Production plan (1 mark)
 - (ii) Cropping schedule (1 mark)
 - (iii) Explain how the production plan be a benefit to the farmer. (3 marks)
2. Using your knowledge of characteristics and types of cropping systems:
 - a. In the perspective of crop production;
 - (ii) Give three factors which help determine which crops are appropriate for a farm site are determined. (3 marks)
 - (iii) Explain how any one of the factors mentioned may influence crop production. (2 marks)
 - b. Recreate the conceptual diagram of a cropping system. (5 marks)
 - c. Differentiate between the following pairs of terms:
 - (i) Monoculture & Multiple cropping (2 marks)
 - (ii) Succession & Rotation (2 marks)
 - (iii) Give an advantage of any cropping pattern mentioned.(1 mark)

SECTION B

3. In order to establish a crop, the area of production needs to be conditioned.
- a. In field crop production, tillage is necessary for success in crop production
- (i) Differentiate between conventional tillage & minimum tillage (2 marks)
 - (ii) Give two advantages and one disadvantage of minimum tillage. (3 marks)
4. Primary and secondary tillage operations must be scheduled properly to achieve desired results in crop yields.

a. Copy and complete the following table:

Tillage	Description	Mechanical implements	Manual implements	Working depth
Primary				
Secondary				

(10 marks)

5. The incidence of pests, weeds and disease has been three of the greatest limitations to crop production.
- a. copy and complete the following table:

Pest	Type of life cycle	Explanation	Feeding habit	Control recommendation
Thrips				
Aphids				
Banana stem borer				
Spider mite				

(10 marks)

- b. Discuss two ways how weeds affect crop production, and recommend one ways in which weeds may be controlled. (5 marks)
6. Soil moisture and fertility monitoring are very important factors used to help determine when to irrigate and apply fertilizers, and the amount of each to apply.
- a. Describe two methods which can be used to measure soil moisture. (4 marks)
- (ii) Name instrument used to measure soil moisture. (1 mark)
- b. Name and describe one method of constructing a compost heap. (5 marks)
- c. Using a named crop, differentiate between the terms Botanical and Horticultural maturity. (5 marks)