



MERU UNIVERSITY COLLEGE OF SCIENCE & TECHNOLOGY

P.O. Box 972-60200 Meru - Kenya. Tel: 020-2092048, 020 2069349
Fax: 020-8027449

University Examinations 2011/2012

FIRST YEAR, SECOND SEMESTER EXAMINATIONS FOR THE DEGREE OF
BACHELOR OF FOOD SCIENCE AND NUTRITION /BACHELOR OF FOOD SCIENCE
AND PRODUCTION

AHS 2130: CROP PRODUCTION

DATE: DECEMBER 2011

TIME: 2 HOURS

INSTRUCTIONS: Answer question *one* and any other *two* questions

QUESTION ONE (30 MARKS)

- a) Beans contain a toxic compound;
 - (i) Name the compound (1 Mark)
 - (ii) Give **three** symptoms associated with toxic compounds (3 Marks)
 - (iii) State **two** ways of controlling it. (2 Marks)
- b) Water is one of the most important constituents found in the soil.
 - (i) Name and describe the three forms of water which occurs in the soil (3 Marks)
 - (ii) Explain how high temperatures affects the quality of tomato fruits. (3 Marks)
- c) Mycorrhiza is an important organism in the soil. Explain how it influences crop production? (3 Marks)
- d)
 - (i) What is tillage? (1 Mark)
 - (ii) Give any **three** physical objectives of tillage (3 Marks)
 - (iii) State any **two** advantages of non-till systems of farming (2 Marks)
- e) Give four symptoms of bean fly infestation (4 Marks)
- f) What are the two possible causes of seed dormancy? (2 Marks)
- g) Farmers are advised not to apply excess nitrogen in maize crop. Explain (2 Marks)

QUESTION TWO (20 MARKS)

- a) Briefly explain how water stress influences
 - (i) Maize crop during flowering stage (5 Marks)
- b) Explain how the following influences phosphorous availability in maize crop.
 - (i) Liming (2 Marks)
 - (ii) Aluminum toxicity (2 Marks)

- c) Maize smut is a common disease in Kenya.
 - (i) Give the name of its causal agent (2 Marks)
 - (ii) Give three symptoms of this disease (3 Marks)
 - (iii) State any three methods of controlling it (3 Marks)
- d) Give a reason why maize does not raise like wheat (1 Mark)
- e) State any two methods of controlling catworms (2 marks)

QUESTION THREE (20 MARKS)

- a) Briefly explain how a farmer can establish sweet potatoes on an already tilled land (10 Marks)
- b) You have been approached by the local common bean farmers to advice them on the latest principles of bean production. Give a detailed explanation on how they should apply fertilizers in their bean farms. (5 Marks)
- c) Bean rust is a problematic disease in beans.
 - (i) State any two distinct symptoms of this disease (2 Marks)
 - (ii) Give any three methods of controlling this disease (3 Marks)

QUESTION FOUR (20 MARKS)

- a) Briefly explain any three factors which influences flowering age in crop plants. (8 Marks)
- b) (i) Give any four symptoms of cassava mosaic virus. (4 Marks)
- (ii) State two methods of controlling it (2 Marks)
- c) Briefly explain the harvesting practice in tomatoes (6 Marks)

QUESTION FIVE (20 MARKS)

- a) Halo blight is one of the serious diseases in beans.
 - (i) Give the name of its causal agent (2 Marks)
 - (ii) State any three symptoms of it (3 Marks)
 - (iii) What are the five methods farmers can employ to contain this disease? (5 Marks)
- b) (i) What is the toxic chemical formed in cassava (2 Marks)
- (ii) Give three methods which can be employed to reduce it (3 Marks)
- (iii) Briefly discuss how fertilizer application can be done in cassava farm. (5 Marks)

