



MERU UNIVERSITY COLLEGE OF SCIENCE & TECHNOLOGY

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

University Examinations 2012/2013

SECOND YEAR, SECOND SEMESTER EXAMINATION FOR DIPLOMA IN AGRICULTURE

AGR 0223: PERENNIAL CROPS

DATE: DECEMBER 2012

TIME: 1 ½ HOURS

INSTRUCTIONS: Answer question **ONE** and any other **TWO** questions

QUESTION ONE – 30 MARKS

- (a) (i) Soil salinity and sodicity affects sugarcane production. State any three symptoms of soil salinity and sodicity in sugarcane. (3Marks)
- (ii) Sugarcane is established by use of cane setts. Explain the procedure of obtaining and preparing the setts in readiness for planting. (3Marks)
- (iii) Briefly explain how weeds can be controlled in a sugarcane farm. (3Marks)
- (b) (i) Explain the procedure of establishing a single stem pruning method and give any two advantages of this system. (8Marks)
- (ii) State any three factors which affect the quality of coffee. (3Marks)
- (c) (i) State any three factors which determine the performance of tea stem cuttings in the vegetative propagation unit.
- (ii) Name any two common tea disease and pests. (4Marks)
- (d) (i) Name any two types of cotton grown in the world. (2Marks)
- (ii) What is the scientific name of cotton? (1Mark)

QUESTION TWO – 15 MARKS

- (a) Give the climatical conditions which favours sugarcane production. (10Marks)
- (b) Give any three parameters used for determining the maturity stage of sugarcane. (3Marks)
- (c) Differentiate detrashing from propping. (2Marks)

QUESTION THREE – 15 MARKS

- (a) Give the family and scientific name of tea. (3Marks)
- (b) Explain the procedure of preparing mother bushes before obtaining the stem cuttings. (3Marks)
- (c) Define the following terms as they are used in tea production.
 - (i) Bringing young tea into bearing. (1Mark)
 - (ii) Tipping (1Mark)
- (d) (i) What is a plucking table? (1 Mark)
- (ii) State any three factors which determine the plucking interval. (3Marks)
- (e) Explain the procedure of conducting formative pruning. (3Marks)

QUESTION FOUR – 15 MARKS

- (a) Give the scientific names of the two types of Coffee grown in Kenya. (2Marks)
- (b) Genetically engineered coffee has been developed and is already in production in some countries. State any three qualities which need to be improved in this type of coffee. (3Marks)
- (c) Explain the procedure of planting coffee seedlings beginning with land preparation. (6Marks)
- (d) Coffee leaf rust (CLR) is common disease in warm and humid areas.
 - (i) State two symptoms of the disease. (2Marks)
 - (ii) State two methods of controlling it. (2Marks)

QUESTION FIVE – 15 MARKS

- (a) (i) State any three effects of shading in cotton. (3Marks)
- (ii) What is the spacing and the seed rate in cotton (2Marks)
- (iii) Name any two cotton varieties grown in Kenya (2Marks)
- (b) Differentiate between changing the cycle from handling as used in non-capped multiple stem pruning system in coffee. (2Marks)
- (c) Coffee berry disease (CBD) is the most problematic disease in coffee
 - (i) Give the name of the causal agent (1Mark)
 - (ii) Give a reason why it causes the highest coffee berry loss. (3Marks)
- (d) What are the two common methods used for propagating tea. (2Marks)