



**MERU UNIVERSITY COLLEGE
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University Examinations 2010/2011

SECOND YEAR, SECOND SEMESTER EXAMINATIONS FOR DIPLOMA IN AGRICULTURAL
EDUCATION AND EXTENSION

NAR 0241: SOIL AND WATER CONSERVATION

DATE: APRIL 2011

TIME: 1½ HOURS

INSTRUCTIONS: Answer Question *one* which is Compulsory and any other *two* questions

QUESTION ONE – (30 MARKS)

- (a) Discuss the factors that influence soil erosion to take place. (10 Marks)
- (b) What are the roles of trees in soil and water conservation? (5 Marks)
- (c) Describe the cultural methods of soil erosion control. (5 Marks)
- (d) Outline the measures to be taken to eliminate landslides. (5 Marks)
- (e) Differentiate between retention ditch and cut off drain. (5 Marks)

QUESTION TWO – (15 MARKS)

- (a) Describe the application of universal soil loss equation. (5 Marks)
- (b) State the factors that influence selection and design of structures. (5 Marks)
- (c) Outline the causes of land degradation which can result to low crop productivity. (5 Marks)

QUESTION THREE – (15 MARKS)

- (a) Explain the following methods of water harvesting:
 - (i) Root catchment
 - (ii) Rock catchment
 - (iii) Ponds (6 Marks)
- (b) With the aid of diagram illustrate how mulching is most effective method to minimize soil erosion. (4 Marks)
- (c) State five uses of mulching. (5 Marks)

QUESTION FOUR – (15 MARKS)

- (a) Describe the steps used when planning for structure constructions for large mechanized farms. (5 Marks)
- (b) Describe the physical methods of soil erosion control. (5 Marks)
- (c) Describe how to get out a graded terrace line. (5 Marks)

QUESTION FIVE – (15 MARKS)

- (a) State what is solifluction (2 Marks)
- (b) Discuss the factors that influence solifluction (5 Marks)
- (c) State the effects of mass wasting. (5 Marks)
- (d) State three types of landslides. (5 Marks)