



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2010/2011

SECOND SEMESTER EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE IN INTEGRATED SOIL FERTILITY MANAGEMENT (ISFM)

KRM 508- WATER AND SOILS CONSERVATION

DATE: FRIDAY 1ST APRIL, 2011

TIME: 9.00 A.M – 12.00 NOON

INSTRUCTIONS

Answer Question ONE and any other THREE Questions

1. a) Distinguish between
 - i) Soil erosion control and soil conservation
 - ii) Infiltration and Percolation
 - iii) Depression storage and Surface detention
 - iv) Windbreak and shelterbelts [8 marks]
- b) Explain how soil erodibility influence erosion [9 marks]
- c) Describe how water erosion can be measured in the field. [5marks]
- d) State three(3) conditions necessary for wind erosion to occur [3 marks]
- e) Explain how gully erosion is formed. How can it be controlled? [5 marks]
2. a) Describe the runoff process [5 marks]
- b) Explain how any 5 factors affect runoff generation [5 marks]
3. Discuss the agronomic or cultural methods used to reduce accelerated erosion on farmlands. [10 marks]
4. a) Discuss the mechanics of water erosion. [6 marks]
- b) Explain four general approaches which may be employed in soil conservation. [4 marks]
5. a) State the two (2) major processes by which precipitation is lost in dry lands. [2 marks]
- b) Discuss the methods through which precipitation losses referred to in 5 (a) above may be controlled. [8 marks]