



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2009/2010

INSTITUTIONAL BASED PROGRAMME (IBP)

EXAMINATION FOR THE DEGREE OF BACHELOR OF EDUCATION
(SCIENCE)

KRM 406: SOIL AND WATER CONSERVATION

DATE: Thursday, 29th April, 2010

TIME: 2.00 p.m. – 4.00 p.m.

INSTRUCTIONS:

Answer question **ONE** and any other **THREE** questions.

1. a) Differentiate between
 - i) Evaporation and Transpiration
 - ii) Erosivity and Erodibility
 - iii) Depression storage and Surface detention(6 marks)
- b) i) What is rain water harvesting? (2 marks)
ii) State two (2) methods of harvesting rain water in drylands for crop production (2 marks)
- c) State and explain four (4) factors which affect infiltration rates (8 marks)
- d) State three (3) conditions necessary for wind erosion to occur (3 marks)
- e) Describe how rainfall and evaporation are measured in the field (4 marks)

2.
 - a) Outline five (5) causes of accelerated soil erosion in Kenya (5 marks)
 - b) Discuss the effects of soil erosion on soil productivity (10 marks)
3.
 - a) Name the three (3) types of soil movements in wind erosion. Which one is the most dominant and why? (5 marks)
 - b) Discuss the factors that influence wind erosion (10 marks)
4. State and explain any three (3) agronomic/cultural and two (2) physical measures used to control erosion. (15 marks)
5.
 - a) Describe the runoff process (4½ marks)
 - b) Explain how any five (5) factors affect runoff generation (7½ marks)
 - c) Describe three (3) processes by which vegetation cover reduce runoff (3 marks)