



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2011/2012

INSTITUTIONAL BASED PROGRAMME (IBP) – DECEMBER SESSION
EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN LAND AND
WATER MANAGEMENT

KRM 512: PRINCIPLES OF HYDROLOGY AND WATERSHED MANAGEMENT

DATE: Friday, 4th May, 2012

TIME: 2.00 p.m. – 5.00 p.m.

INSTRUCTIONS:

Answer question **1** and any other **THREE** Questions.

1.
 - (a) Explain why the study of the hydrologic cycle is important. [5 Marks]
 - (b) Explain the mechanism for producing precipitation. [10 Marks]
 - (c) Outline the uses of precipitation data. [5 Marks]
 - (d) Briefly discuss the human activities that alter the water cycle. [5 Marks]
 - (e) Discuss the fate of precipitation after reaching the earth's surface. [5 Marks]

2.
 - (a) Identify important aquifer properties. [3 Marks]
 - (b) Briefly discuss the processes involved in groundwater recharge and discharge. [7 Marks]

3.
 - (a) Discuss the land use activities which commonly generate groundwater pollution threats. [5 Marks]
 - (b) Identify 5 key groundwater protection strategies. [5 Marks]

4. (a) What is a conservation plan? [2 Marks]
- (b) Briefly discuss the factors considered in designing soil and water conservation structures. [8 Marks]
5. Discuss the core principles of watershed management. [10 Marks]