W1340-14

JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY
University Examinations 2017/2018

YEAR IV EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN LAND RESOURCES PLANNING AND MANAGEMENT

ALP 2411: LAND EVALUATION II

DATE: AUGUST, 2018 **TIME: 2 HOURS**

INSTRUCTIONS: Answer Question ONE and Any Other TWO Questions. Illustrate your answers as necessary.

Question 1

a) Describe the principles which guide/ underlie the:

i) FAO-Framework for land evaluation (9 marks)

ii) USDA –SCS land capability Classification (3marks)

b) Discuss the similarities between the USBR System and the FAO-Framework for land evaluation. (3 marks)

c) The Ole Sotera family in Garissa County own a 100 Ha farm which they want to develop for horticultural crop production . Using your knowledge of the soils and climatic conditions in the area. describe:

i. Three horticultural crop based Land Utilization types in terms of key attributes (3 marks)

ii. Four relevant land qualities you identify as diagnostic criteria for suitability evaluation. (8 marks)

iii. The Land evaluation methodology you will use to assess the suitability for the land for the family. (4 marks)

Question 2.

a) Define the following terms;

i. Arable land iii) Irrigable lands

ii. Payment capacity iv) Land class

(7 marks)

b) Describe the following;

i) Suitability classes of USBR System (9 marks)

ii) Capability classes of the USDA-SCS land capability system(4 marks)

Question 3.

a) Define the terms:

i. land evaluation iii. Land Utilization Type (LUT)

iii. Matching iv. Land use planning

(4 marks)

b) Give a detailed description of the criteria used to select a diagnostic criteria in a given evaluation (4 marks)

c. Discuss the importance of some six major key attributes employed to describe land utilization types (6 marks)

d. For a named Irrigation area of your choice describe nature and effect, and assessment of some four land qualities you would to evaluate land suitability. (6 marks)

Question 4.

a. Define and explain the role of land quality and land characteristics in suitability evaluation (3 marks)

b. Give a detailed description of the matching process in land evaluation (5 marks)

c. Discuss the nature and effect, and assessment of the land qualities;

i) Excess salts ii) Availability of Nutrients

iii) resistance to erosion iv) Availability of oxygen

(12marks)