



WI-2-60-1-6

JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY
UNIVERSITY EXAMINATIONS 2018/2019

FOURTH YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF
BACHELOR OF SCIENCE IN LAND RESOURCES PLANNING AND MANAGEMENT
ALP 2403: LAND EVALUATION I

DATE: DECEMBER 2018

TIME: 2 HOURS

INSTRUCTIONS: ANSWER QUESTION ONE AND ANY OTHER TWO QUESTIONS

Question 1

- a. Define the terms:
- | | |
|---------------------------|---------------------|
| i. Land capability | iii. Land class |
| ii. Potential suitability | iv. Land evaluation |
- (4 marks)
- b. Describe the procedure for conducting suitability classification according to the USBR System (5 marks)
- c. Define diagnostic criteria and outline the factors which must be considered when selecting it in an area (4 marks)
- d. Discuss the importance of six major key attributes employed to describe land utilization types (6 marks)
- e. Mr Ole Mpassa has a twenty hectare farm in the Athi Kapiti plain on which he intends to grow horticultural crops.
- i. Explain how you would assess the suitability of his farm for horticultural production. (5 marks)
- ii. Name four land qualities you would use as diagnostic criteria in the evaluation. Justify the selection of the diagnostic criteria (6 marks)

Question 2

- a. Describe the wider matching process in land evaluation (5 marks)
- b. Discuss the nature and effect, and assessment of the land qualities:
- i) Availability of moisture
- ii) Possibility for mechanization (10 marks)
- c. Give a detailed description of the role of soil survey in land evaluation. (5 marks)

Question 3

- a. Discuss the principles of the USBR system (6 marks)
- b. Describe the classification categories of the FAO Framework for land evaluation (4 marks)
- c. Discuss the nature and effect, and assessment of the land qualities:
- i) Availability of Nutrients
- ii) Availability of oxygen (10 marks)

Question 4

- a. Define the following terms:
- | | |
|----------------------|-----------------------|
| i. land | iii. Land suitability |
| ii. Payment capacity | |
- (6 marks)
- b. Outline the two approaches used in the FAO framework for land evaluation. (3 marks)
- c. Describe the four irrigable classes of the USBR System. (6 marks)
- d. Discuss the USDA-NC S I and Capability Classification System (5 marks)