



W1-2-60-1-6

**JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY
UNIVERSITY EXAMINATIONS 2017/2018**

**YEAR I SEMESTER I EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN
LAND RESOURCE MANAGEMENT
EGE 2202: CARTOGRAPHIC TECHNIQUES**

DATE: JANUARY 2018

TIME: 2 HOURS

INSTRUCTIONS: Answer question one and any other two questions.

QUESTION ONE (30 MARKS) COMPULSORY

- i. Define the following terms:
 - a. Cartographer (2 marks)
 - b. A map (1 mark)
 - c. Cadastral plan. (1 mark)
 - d. Map. (1 mark)
- ii. A general reference is used in land resource management to understand distribution of features. What is a general reference map? Give two examples of the GRM and name at least four complementary features found on the map. (6 marks)
- iii. Describe the three classifications of maps giving at least two examples. (3 marks)
- iv. Calculate the scale given that the distance between Thika Town and Nairobi is 42km on the ground and 7cm on the map. (2 marks)
- v. Location and attribution allows for many types of relationships to be formed. Using a sketch map illustrate two relationships that can be formed. (6 marks)
- vi. State and give examples of four main types of drawing materials. (2 marks)
- vii. Map scale reduction or enlargement is part of the mapping activities. Using illustrations, describe the two techniques for changing map scale. (6 marks)

QUESTION TWO (20 MARKS)

- i. A cartographer uses various instruments and equipment to produce a map. Illustrate using diagrams, seven instruments, their uses and maintenance. (7 marks)

- ii. Discuss the three map scale representation methods used in cartography. (3 marks)
- iii. A cartographer designing the thematic map of Kenya would like to decide which scale to use. What factors should be considered in selecting the map scale? (10 marks)

QUESTION THREE (20 MARKS)

- i. Cartography requires the use of materials to display and visualize its work. Describe five properties of these materials. (10 marks)
- ii. A cartographer has several roles. One of their roles is to communicate to a given audience. What information can be packaged and communicated through cartography. (4 marks)
- iii. Draw a map to illustrate how cartography communicates to a given audience based on two aspects of the information package mentioned in (i) above. (6 marks)

QUESTION FOUR (20 MARKS)

- i. Using maps, illustrate and discuss the graphical and visual variables in the classification of symbols applicable to land resource management. (10 marks)
- ii. Environmental phenomena may be described using symbols. Discuss the classes of symbols as may be applicable in land resource management. (4 marks)
- iii. Using a map, illustrate and describe the three cartographic symbols according to their geo-data shape applicable in land resource management. (6 marks)

QUESTION FIVE (20 MARKS)

- i. Thematic maps are applicable in land resource management. What is a thematic map? List two themes using a map to indicate land resources. (1 mark)
- ii. Map generation is a systematic process, which considers many factors before beginning the actual process. Using illustrations, discuss five factors that affect map design? (10 marks)
- iii. The problem with applying map projection in a map is that it distorts one or seven of the properties of the earth surface. Discuss four of these properties. (4 marks)
- iv. Different map projections result in different spatial relationships between regions. Discuss five map projections applied in maps. (5 marks)