

JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

University Examinations 2016/2017

**THIRD YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF
BACHELOR OF SCIENCE IN LAND RESOURCE MANAGEMENT****EGE 2202: CARTOGRAPHIC TECHNIQUES****DATE: DECEMBER 2016****TIME: 2 HOURS****INSTRUCTIONS:**

Attempt question ONE and any other TWO questions

QUESTION ONE (30 MARKS)

- i). Define the following terms:
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|-------------------|-----------|-------------------|----------|
| a. Cartography | (2 marks) | b. A map | (1 mark) |
| c. Cadastral plan | (1 mark) | d. Map Projection | (1 mark) |
- ii). A General reference map may be used in map design. What is a general reference map? Name at least six features found on the map applicable to land resource management. (4 marks)
- iii). Thematic maps are useful in this modern society. What is a thematic map? Give two themes for land resource management. (4 marks)
- iv). A cartographer is expected to produce excellent maps. Outline the 3 basic principles of good drawing? (3 marks)
- v). Maps may be displayed on different types of surfaces. State and give examples of four main types of drawing materials (2 marks)
- vi). A cartographer has several roles. One of their roles is to communicate to a given audience. What information can be packaged and communicated by a cartographer. (3 marks)
- vii). To communicate to a map user effectively, a cartographer must consider the properties of the materials. Discuss four properties of good materials. (5 marks)
- viii). Cartographers require instruments to execute their work. Using diagrams, describe two drawing instruments and their maintenance (3 marks)
- ix). A cartographer generating for different purposes and map users. Given the following titles, give the appropriate purpose and map user. (2 marks)
- A. The map of Mt. Kenya Region
B. The Population of Nairobi County

QUESTION TWO (20 MARKS)

- i). Map scale is a very important element of a map. Define Map Scale. (1 mark)
- ii). Given a thematic map of Kenya, discuss and apply the map scale representation methods. (6 marks)
- iii). What factors are considered in selecting the scale of a map? (10 marks)

- iv). Calculate the scale of the map given that the distance between Kenyatta University and Mangu boys high school is 20Km on the ground and 4cm on the map. (2 marks)
- v). Given the map scale of a rural electrification map is 1:50,000 and the distance between two substations is 30cm. What is their corresponding ground distance apart? (1 marks)

QUESTION THREE (20 MARKS)

- i). Map production process involves designing a map layout. Using an illustration, discuss the significance of these map elements. (4 marks)
- ii). The problem with map projection is that it distorts one or several of the properties of a surface. Discuss four these properties. (6 marks)
- iii). Different map projections result in different spatial relationships between regions. Map projections fall into four categories. Discuss (10 marks)

QUESTION FOUR (20 MARKS)

- i). Map generation is a systematic process, which considers many factors before beginning the actual process. Using illustrations, discuss the factors that affect map design? (20 marks)

QUESTION FIVE (20 MARKS)

- i). Using illustrations, discuss the graphical and visual variables in the classifications 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. (10 marks)
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