



14

UNIVERSITY OF KABIANGA

UNIVERSITY EXAMINATIONS 2016/2017 ACADEMIC YEAR THIRD YEAR SECOND SEMESTER EXAMINATION

FOR THE DEGREE OF BACHELOR OF SCIENCE IN ENVIRONMENTAL STUDIES

COURSE CODE: EPM 311

COURSE TITLE: GEOGRAPHICAL INFORMATION SYSTEM

DATE: 21ST JUNE, 2017

TIME: 9.00 A.M. - 12.00 NOON

INSTRUCTIONS TO CANDIDATES

- SEE INSIDE

THIS PAPER CONSISTS OF (3) PRINTED PAGES

PLEASE TURN OVER

MAIN CAMPUS

37214e

UNIVERSITY OF KABIANGA

University Examinations 2016/2017

THIRD YEAR SECOND SEMESTER EXAMINATIONS FOR THE DEGREE OF

BACHELOR OF ENVIRONMENTAL STUDIES

EPM 311: GEOGRAPHICAL INFORMATION SYSTEM

MAIN EXAMINATIONS

INSTRUCTIONS: Time allowed: 3 hrs

Total marks: 70

Answer ALL Questions in Section A and ANY TWO in Section B

SECTION A: (30 MARKS)

1. Define the following term.
 - i. Geographical Information System. (2mks)
 - ii. Cartography (2mks)
 - iii. Remote Sensing (2mks)
 - iv. Spatial data (2mks)
2. State the three kinds of information a map portrays about geographic features. (3mks)
3. Briefly state the most common sources for spatial data in GIS. (5mks)
4. Discuss the three basic feature types all geographic features on the earth's surface can be characterized and defined by. (6mks)
5. Outline the pitfalls that most often contribute to the failure of a GIS implementation strategy in an organization. (5mks)
6. By using an illustration show the different types of scale as used in mapping. (3mks)

SECTION B: (40 MARKS)

7.
 - i. An operational GIS has a series of components that combine to make the system work. Using a diagram, discuss these components critical to a successful GIS (10mks)
 - ii. Discuss the types of map projection. Give the characteristics of each projection. (10mks)
8.
 - i. State the advantages and disadvantages for using raster data model to store spatial data. (10mks)
 - ii. Discussing giving relevant illustration the how GIS and remote sensing is applied in Environmental resources conservation. (10mks)
9.
 - i. The Quality of Data can simply be defined as the fitness for use for a specific data set. Discuss the five components of data quality. (10mks)

- ii. A variety of different data models exist for the storage and management of attribute data. Briefly explain the most common data model used to store and maintain attribute data for GIS software. **(10mks)**
- 10. i. State the **four main** functional subsystems of a GIS. **(4mks)**
- ii. Generally, a GIS implementation plan must address the following technical, financial, and institutional considerations: Explain **(10mks)**
- iii. Define operational errors in GIS data capture and highlight the possible sources of these errors. **(6mks)**