BONDO UNIVERSITY COLLEGE

UNIVERSITY EXAMINATION 2012/2013

1ST YEAR 1ST SEMESTER EXAMINATION FOR DIPLOMA IN LINUX ENGINEERING

(KISUMU LEARNING CENTRE)

COURSE CODE: ICT 2219

TITLE: GEOGRAPHICAL INFORMATION SYSTEMS

DATE: 15 /12/2012   TIME: 14.00-15.30PM

DURATION: 1.30 HOURS

INSTRUCTIONS

1. **This paper contains TWO sections**
2. **Answer ALL questions in section A (Compulsory) and ANY other 2 Questions in section B**
3. **Write all answers in the booklet provided**

QUESTION 1 (COMPULSORY) 30 MARKS

a) Define data analysis as used in geographical information systems.   (2 MARKS)

b) Define GIS from the perspectives of i) applications, ii) functions, iii) system structure.
                                                                        (4 MARKS)

c) Differentiate between explicit geographic references and implicit geographic references.
                                                                        (4 MARKS)

d)Using illustrations, give the three types of geographic data.   (6 MARKS)

e) Outline and explain the seven tasks that a GIS can perform.   (14 MARKS)

QUESTION 2

Discuss the major challenges that we face in the world today that all have a critical
geographic dimension.   (10 MARKS)

With the aid of an illustration, discuss the various components of a geographical information
system.   (10 MARKS)

QUESTION 3

A geographical information system is sort of a 'technical offspring' that has had an influence
from many different specialities. Discuss.   (20 MARKS)

QUESTION 4

a) Discuss the **TWO** types of data structures used to order data in Geographical Information
    systems.   (10 MARKS)
b) Describe the difference between raster and vector data models used to represent maps in a
    GIS.   (10 MARKS)

QUESTION 5

As a recently employed GIS manager of a research company in town, you are required to
identify the relevant software and hardware relevant for GIS set up:

a) Give and explain the use of the various hardware and software.   (10 MARKS)

b) Explain the factors you would consider when acquiring such.   (10 MARKS)