MAASAI MARA UNIVERSITY

REGULAR UNIVERSITY EXAMINATIONS
2017/2018 ACADEMIC YEAR
SECOND YEAR SECOND SEMESTER

SCHOOL OF TOURISM AND NATURAL
RESOURCE MANAGEMENT
BSC EARTH SCIENCES

COURSE CODE: EES 2223/FEM 2203
COURSE TITLE: GIS APPLICATIONS IN EARTH
SCIENCES/INTRODUCTION TO GIS

DATE : 30TH APRIL 2018   TIME:1430 – 1630 HRS

INSTRUCTIONS TO CANDIDATES

Answer **ALL** questions in section **A** and any other **THREE** in section **B.**

This paper consists of 2 printed pages. Please turn over.

SECTION A; ANSWER ALL QUESTIONS (25 MARKS)

1. Distinguish between primary and secondary data and give the sources of each in GIS **(4 marks)**
2. What is geo-processing? Name any five geo-analysis tools in ArcGIS and state their uses **(6 marks)**
3. Explain how topology is implemented in ArcGIS **(3 marks)**
4. Discuss with examples the three types of GIS software that are available today **(6 marks)**
5. What do you understand by an Open Source Software? Explain three of its disadvantages **(6 marks)**

SECTION B: ANSWER ANY THREE (45 MARKS)

6. (i) Describe three (3) methods in which GIS data is captured **(9 marks)**
   (ii) Describe three raster and vector data capture methods. You should clearly distinguish the two methods of data capture with examples
   (6 marks)
7. (i) Explain three (3) advantages of using a database approach in GIS
   (6 marks)

   (ii) Explain the data model that might be needed in a system to monitor oil spills and potential environmental damage to coastlines? Give examples of appropriate spatial objects and associated attributes
   (9 marks)

8. Discuss the necessary steps for data preparation and integration into a GIS. Differentiate clearly between the two steps **(15 marks)**
9. Discuss in detail five application areas of GIS in Earth Sciences/wildlife management. **(15 marks)**

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