

451/2

COMPUTER STUDIES
(Practical)

Mar. 2022 – 2½ hours

Paper 2



Instructions to candidates

- (a) Write your name and index number at the top right hand corner of each of the papers provided for printing.
- (b) Write your name and index number on the CD/Removable storage medium provided.
- (c) Write the name and version of the software used for each question attempted in the printouts used.
- (d) Answer **all** the questions.
- (e) All questions carry equal marks.
- (f) Passwords **should not be used** when saving files.
- (g) All files must be transferred to the CD/Removable storage medium.
- (h) Make printouts of your answers on the papers provided for printing.
- (i) Arrange your printouts and tie/staple them together.
- (j) Hand in all the printouts and the CD/Removable storage medium used.
- (k) **This paper consists of 6 printed pages.**
- (l) **Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.**
- (m) **Candidates should answer the questions in English.**

047

A013



1. (a) Open a word processing program and type the following passage as it appears. Save the document as **GIS1**. (20 marks)

PURPOSE OF GEOGRAPHICAL INFORMATION SYSTEMS

People want to understand their own individual environment. By environment, we mean the geographical space of their study area and the events that take place.

For example:

- (a) an urban planner may want to know about city population, traffic etc.
- (b) a biologist may want to understand the population of animal species.
- (c) a geologist may want to study about building site areas, minerals deposits etc.
- (d) a hydrologist may be interested in water quality, land physiographic features, runoff generation etc.

All these professionals require data that relates to space and typically involving positional data. Positional data determines where things are, where they were or will be in future.

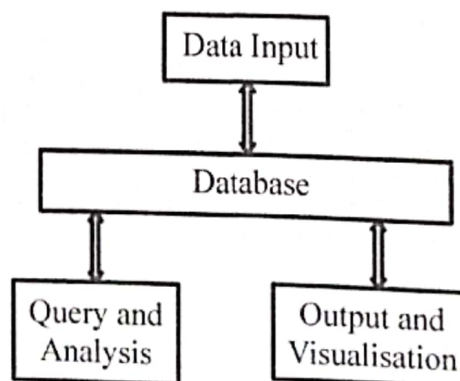
QUESTIONS A GIS CAN ANSWER		
A	Location	What is at a given location?
B	Condition	What are the locations where certain conditions are met?
C	Trends	What are the differences within an area over time?

A location may be described using place name, postcode, or geographic reference such as latitude/longitude, or x and y coordinates and may include:

- Location where certain conditions are satisfied are such as:
 - Un-forested section measured in square units of area.
 - Distance from the roads.
- With soils suitable for supporting buildings.

Trends seek to find the differences for example in land use or elevations within an area over a period of time.

Functional components of GIS



- (b) Create a copy of the passage into a new blank document and save it as **GIS2**. (2 marks)
- (c) Perform each of the following on the document:
- (i) Format the passage title as follows:
 - I. Font size 20 (½ mark)
 - II. Apply an outline effect (½ mark)
 - (ii) Apply a two lines drop cap to the first two characters of the first paragraph. (2 marks)
 - (iii) Apply indent format to the listed numbered and bulleted lists of size 3 cm from the left and 1.5 cm from the right. (4 marks)
 - (iv) Apply each of the following to the bulleted and numbered lists:
 - I. Line spacing of 1.5 (2 marks)
 - II. Justified alignment (2 marks)
 - (v) Apply two columns layout with line between. The first column should contain the information between the table structure and the sub-heading "Functional components of GIS". The second column should contain the rest of the information from the "Functional Component of a GIS". (3 marks)
- (d) (i) Convert the table structure to text separated by tab characters. (2 marks)
- (ii) Apply each of the following to the structure chart drawn:
 - I. Group to all the objects of the drawing. (1 mark)
 - II. Shadow effect to the grouped object. (1 mark)
 - III. An automatically numbered caption with text "Components of GIS". (2 marks)

- (e) (i) Enter your name and your index number at the page footer aligned to the right. (2 marks)
- (ii) Apply a page border line of width 3pt. (2 marks)
- (iii) Apply automatic upper case roman page numbering at the top centre of the page (2 marks)
- (f) Save the changes and print out later each of the following documents:
- (i) **GIS1**
- (ii) **GIS2** (2 marks)

2. A group of youths decided to invest together. They intend to use a database management system to manage their shares.

- (a) Open a database program and create a database named **Pamoja**. (1 mark)
- (b) (i) Create a table named **Membership** in the database created in 2(a). The table should have the following fields and respective specifications. (8 marks)

Field Name	Data Type	Properties
MemNum	Text	Size 4 (primary key)
FirstName	Text	Size 10
LastName	Text	Size 10
DateofBirth	Date/Time	Short date
Gender	Text	Look up from a listbox with values "Male", "Female"

- (ii) Create a second table named **Contributions** having the following fields and respective specifications. (10 marks)

Field Name	Data Type	Properties
RefNumber	Text	Size 4 (primary key)
MemNum	Text	Lookup from membership table
AmountPaid	Currency	
DatePaid	Date/Time	Short date
PaymentMode	Text	Lookup from a list box with values "Cash", "Cheque", "Mobile Money"

- (iii) Create a relationship between the tables and enforce referential integrity constraints to the relationship. (2 marks)
- (c) (i) Create a form for each of the table created. Save the forms as **MForm** and **ContriForm** respectively. (2 marks)
- (ii) Enter the following data into their respective tables. (8 marks)

Membership Table

MemNum	FirstName	LastName	DateofBirth	Gender
SH1	Maureen	Antonio	31/12/2001	Female
SH2	Jacob	Andela	24/09/2001	Male
SH3	Charles	Zablon	01/09/2001	Male
SH4	Judy	Alexander	14/02/2002	Female
SH5	Isaac	Marion	04/08/2001	Male

Contributions Table

RefNumber	MemNum	AmountPaid	DatePaid	PaymentMode
1	SH1	10,000	27/04/2018	CASH
2	SH2	8,000	28/04/2018	MOBILE
3	SH3	9,000	30/04/2018	CASH
4	SH4	12,000	27/04/2018	CASH
5	SH5	11,000	28/04/2018	MOBILE
6	SH1	15,000	28/05/2018	CHEQUE
7	SH2	11,000	29/05/2018	MOBILE
8	SH3	9,500	30/05/2018	CHEQUE
9	SH4	7,500	28/05/2018	CASH
10	SH5	11,000	27/05/2018	CHEQUE
11	SH1	7,000	29/06/2018	CASH

- (d) Create a query that would display the following fields:
- (i) *MemNum, FirstName, LastName, Gender* and a calculated field named *Umri* to display the age of each member. Save the query as **AgeQ**. (4 marks)
 - (ii) *MemNum, LastName, AmountPaid* and a calculated field named *Dividends* which would display 14% for each *AmountPaid*. Save the query as **DividendsQ**. (4 marks)
- (e) (i) Create a report based on the query **DividendsQ** showing all the fields in the query and the following:
- I. Total *AmountPaid* by each member.
 - II. Total *Dividends* payable to each member.
 - III. Grand Totals of *AmountPaid* and *dividends* payable. (6½ marks)
- (ii) Modify the report to appear as follows:
- I. To have a report title “**DIVIDENDS FOR THE YEAR ENDED 31 DECEMBER 2018**”. (1 mark)
 - II. Underline the report title. (½ mark)
 - III. Save the report as “**YearEndRPT**” (½ mark)
- (f) Print out later each of the following:
- (i) The two tables (1 mark)
 - (ii) The two queries (1 mark)
 - (iii) The report. (½ mark)

THIS IS THE LAST PRINTED PAGE.