

TIME: 60 minutes.

DATE: 18.12.2023

1 Choose the most appropriate answer. State the answer in the answer booklet: [4 marks]

- i. By 'spatial data' we mean data that has
- A. Complex values
 - B. Positional values ✓
 - C. Graphic values
 - D. Decimal values
- ii. Which one can be used as a best example to explain the raster data.
- A. Air temperature
 - B. Soil salinity
 - C. Elevation ✓
 - D. All of the above
- iii. A process where a survey plan or hard copy is a map and is represented digital medium using geo-referencing capabilities and CARD tool is called.
- A. Modulation
 - B. Demodulation
 - C. Digitization ✓
 - D. Projection
- iv. What is 'Metadata'?
- A. It is 'meteorological data'
 - B. It is 'oceanic data'
 - C. A detail descriptions of the data itself ✓
 - D. It is 'contour data'

Vector (field)

- Store data in form of table
- Has boundaries
- Uncountable
- Countable

Raster (point)

- Store data in form of table
- Countable eg temp, pressure
- Has no boundaries

- v. Key components of 'spatial data' quality include
- A. Positional accuracy
 - B. Lineage and completeness
 - C. Logical consistency
 - D. All of the above ✓
- vi. Successful spatial analysis needs
- A. Appropriate software
 - B. Appropriate hardware
 - C. Competent user
 - D. All of the above ✓
- vii. Which is NOT characteristic of discrete objects?
- A. They may include points, lines, and areas
 - B. They completely cover the space ✓
 - C. They can overlap
 - D. They can be counted
- viii. Components of Geographic data are
- A. Raster and Vector data
 - B. Attribute and Meta data
 - C. Spatial and attribute data ✓
 - D. Hardware, software, people and procedure

2 a) Write two (2) fundamental differences between?

[4 marks]

- i. Attribute and Spatial data, give examples.
- ii. Raster and Vector data model.

b) List four (3) advantages that Geographic information Systems have over traditional paper maps. [3 marks]

3 What is the metadata? Explain how the metadata is used to reduce the uncertainty, and the impact that may have with respect to the legal implications of GIS-based decisions the government is making. [4 marks]