



**UNIVERSITY OF COLOMBO, SRI LANKA**

**FACULTY OF TECHNOLOGY**

**LEVEL II EXAMINATION IN TECHNOLOGY - SEMESTER II - 2019**

**ET 2016 – INTRODUCTION TO GIS**

**One (01) hour**

**Answer all the questions.**

No. of pages: 09

**Important Instructions to Candidates**

- If a page or part of this question paper is not printed, please inform the supervisor immediately
- Enter your index number on all pages of the answer script
- Write the answers to the questions in the space provided in the question paper.
- Electronic devices capable of storing and retrieving text, including electronic dictionaries and mobile phones are not allowed.

**Index No: .....**

Please use this space for any additional information provided by the setter

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The paper consists of **Part A** and **Part B**.

Answer three questions from **Part A**. Answering all the MCQ questions in **Part B** is **compulsory**.

**Part A**

Answer **all (03)** questions

1. i. Explain the various sources of data and the techniques used in a GIS

[Marks 30]

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ii. Give a brief explanation on the history of GIS

[Marks 30]

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iii. What are the requirements to prepare a map [Marks 40]

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2. i. Describe the term geographical features

[Marks 25]

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ii. Digitally, how are the geographical features represented in a GIS?

[Marks 25]

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iii. What are the raster data structures that represents, geography, via grid cells? [Marks 25]

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iv. What are the vector data structures that represents, geography, via coordinates? [Marks 25]

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3. i. Explain the concept of Buffering in GIS and describe the two primary types of buffers that are available for the GIS users.

[Marks 30]

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i. Explain the concept of Geoprocessing in GIS and explain the Single Layer Geoprocessing Functions using illustrations

[Marks 30]

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ii.Explain the three basic methods used to create interpolated surfaces.

[Marks 40]

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## Part B

Answer all MCQ questions

[Marks =100]

1. Select the **wrong** answer. GIS is built upon knowledge from
  - i. Geography
  - ii. Cartography
  - iii. Computer science
  - iv. **Political science**
  
2. Select the **wrong** answer. A GIS is designed to
  - i. Efficiently Capture
  - ii. Store and Update
  - iii. Manipulate and Analyze
  - iv. **Display and rotate all forms of geographically referenced data**
  
3. Select the **wrong** answer. The standard feature model divides a mapped landscape up into features, that can be
  - i. Points
  - ii. **Land use**
  - iii. Lines
  - iv. Areas
  
4. Which of the below given is **not a** function of Database management in GIS
  - i. Store Data
  - ii. Retrieve Data
  - iii. **Detect Data**
  - iv. Organize Data
  
5. Which of the following is **not a** benefit of GIS
  - i. Make Better Business Decisions
  - ii. Enhance Customer Service and Increase Sales
  - iii. Improve data production & Reduce Cost
  - iv. **Better & More Cost-effective Plan Citizens**
  
6. The term "Map" is used loosely to refer to
  - i. Any visual display of information, particularly if it is abstract, generalized or schematic
  - ii. **Any spatial display of data, particularly if it is transferring information, generalized or map**
  - iii. Any horizontal display of information, particularly if it is analyzed, generalized or schematic
  - iv. Any visual display of Map, particularly if it is abstract, categorized or schematic



7. Which of the following is **correct**
- i. A line map shows features by conventional symbols or by boundaries
  - ii. A photo map is derived from a photographic image taken from the air
  - iii. Photomaps are relatively cheap to make but are rarely completely free of distortions
  - iv. **All of the above**
8. Select the **correct** answer.
- i. The size of a map is the distance between locations on the map and corresponding distances in the real world
  - ii. **The scale of a map is the ratio between distances on the map and corresponding distances in the real world**
  - iii. The scale of a map is the distance between areas on the map and relative distances in the real world
  - iv. The scale of the map is the ratio between distances on the map and distance in meters in the real world
9. Select the **correct** statement in relation to map projection
- i. A projection is a method by which the flat surface of the earth is recalculated on a flat surface
  - ii. A projection is a method by which the curved and flat surfaces of the earth is represented on a curved surface
  - iii. A projection is a method by which the curved surface of the earth is represented on a curved surface
  - iv. **A projection is a method by which the curved surface of the earth is represented on a flat surface**
10. Which of the statement is **wrong** in relation to map display tools
- i. Ability to browse across an area without interruption by map sheet boundaries
  - ii. Ability to zoom and change scale freely
  - iii. **Potential for the animation of time dependent data**
  - iv. Display in "two dimensions", with "real-time" rotation of viewing angle

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