

SULIT



Second Semester Examination
2020/2021 Academic Session

July/August 2021

EAK382 – Geographic Information Systems

Duration : 1 hour

Please ensure that this examination paper contains **FOUR (4)** printed pages before you begin the examination.

Instructions: This paper contains **TWO (2)** questions. Answer **ALL** questions.

All questions **MUST BE** answered on a new page.

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SULIT

1. As a GIS analyst of Mast-Abdul Enterprise, you were given a task to prepare all the data available in a presentable information form before conducting any analysis.

(a). Describe how you would convert data sources available from very large, printed topographic map form into a georeferenced digital format using a typical GIS-based software.

[10 marks]

(b). Briefly explain with examples **FOUR (4)** elements of accuracy that can be found in any certified spatial data.

[20 marks]

(c). From the digital topographic map, identify and describe **FIVE (5)** components of the map which make it a good data source for any GIS project.

[20 marks]

2.



Figure 1

Reality can be represented in a computer by assigning each item or object to a specific dataset. In spatial data, data can be represented in layers or objects and stored in the computer in a simplified manner. The most common way of doing this is to break down all geographic features into a specific entity (dataset). By referring to **Figure 1**:

- (a). Identify the vector dataset that can be collected from **Figure 1**. Describe the vector dataset.

[10 marks]
- (b). Sketch the vector and raster dataset model for the images. Use only 1 part in the figure to assist your sketch, for example, trace near to Padang Kota Lama for vector and raster model.

[10 marks]
- (c). Classify the attribute categories for the vector dataset collected in 2(a).

[5 marks]

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You are appointed as an officer at the Majlis Bandaraya Seberang Perai and were given a task to set up the new website to help manage the facilities and development work at a new district in Seberang Perai Utara. The website shall integrate multi-department information dissemination and database management.

- (i). Explain the level of GIS that is suitable to develop the website and state the organizational environment of the level.

[6 marks]

- (ii). Describe the GIS implementation for the chosen level.

[7 marks]

- (iii). In your opinion, explain the suitable arrangement of data presentation for the website. The arrangement shall include the data collection, suitable analysis and display of the website.

[12 marks]

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