



ZIMBABWE EZEKIEL GUTI UNIVERSITY

FACULTY OF SCIENCE, TECHNOLOGY, AGRICULTURE AND FOOD SYSTEMS DEVELOPMENT

DEPARTMENT OF INFORMATION SYSTEMS

EXAMINATION PAPER

DIPLOMA IN GEOGRAPHICAL INFORMATION SYSTEM

COURSE CODE : GISRS 112
COURSE TITLE :: REPRESENTING GEOGRAPHIC PHENOMENA
SPECIAL REQUIREMENTS : None
DURATION : 2 Hours
LEVEL : 1.1
DATE : 2024 26 NOV 2024

INSTRUCTIONS TO CANDIDATES:

Answer ALL questions

Question 1

(a) Distinguish between continuous and discrete geographic phenomena, providing examples of each. **[8 Marks]**

(b) Describe the strengths and weaknesses of using raster and vector data models in GIS. **[8 Marks]**

(c) Provide two examples of geographic features best represented using the raster data model and two features best represented using the vector data model. **[4 Marks]**

Question 2

(a) What is a coordinate system, and why is it essential in GIS applications? **[8 Marks]**

(b) Explain the difference between geographic coordinate systems and projected coordinate systems, giving an example of each. **[8 Marks]**

(c) List two common map projections used in GIS and briefly describe when each would be appropriate. **[4 Marks]**

Question 3

(a) Explain the concept of cartographic design and the importance of its principles in map creation.

[10 Marks]

(b) Discuss the key elements of a well-designed map, highlighting their role in effectively communicating geographic information. **[10 Marks]**

Question 4

(a) Describe the use of symbology in GIS and how it enhances data visualization. [10 Marks]

(b) What are the main considerations when choosing symbols for different geographic features on a map (points, lines, and polygons)? [10 Marks]

Question 5

(a) Discuss the process of visualizing and analyzing continuous phenomena such as elevation using Digital Elevation Models (DEM) in GIS. [10 Marks]

(b) Explain the role of interpolation in creating surface models and its significance in representing continuous geographic phenomena. [10 Marks]

****END OF EXAMINATION****