



ZIMBABWE EZEKIEL GUTI UNIVERSITY

COLLEGE FOR LIFELONG EDUCATION

FACULTY OF SCIENCE, TECHNOLOGY, AGRICULTURE AND FOOD SYSTEMS

EXAMINATION PAPER

MODULE CODE : DSMS124

MODULE TITLE : Geographic Information Systems and Remote Sensing

DURATION : 2 Hours

LEVEL : 1:2

DATE : 28 NOV 2024

INSTRUCTIONS TO CANDIDATES:

1. Question **Number 1** in **Section A** is **compulsory**.
2. Answer any other **one (1)** question from section B.
3. Each question carries twenty-five (25) marks
4. Number of marks for part questions are shown in brackets
5. Start each question on a new page
6. This paper consists of two (2) pages

Section A: Compulsory

Question 1

- a) Discuss the relationship between GIS and Remote Sensing. Include definitions, key components of each, and how they complement each other in real-world applications (20 marks)
- b) Compare and contrast proprietary GIS software with open-source GIS software. What are the main advantages and disadvantages of each type? (5 marks)

Section B: Answer any one (1) question from this section

Question 2

- a) Discuss the role of spatial analysis within the GIS process. (10 marks)
- b) Explain the different types of spatial data (Vector and Raster) and provide examples of each. How do these data types influence the analysis in GIS? (15 marks)

Question 3

- a) Define passive remote sensing and provide examples of its applications. How does passive remote sensing rely on natural energy sources, and what are the implications for data collection? (15 marks)
- b) Discuss the applications of Radar in remote sensing. How does Radar technology complement LiDAR in environmental monitoring and mapping? (10 marks)

Question 4

- a) Outline the key steps involved in constructing a map using QGIS. What are the essential tools and features within QGIS that facilitate the map-making process? (12 marks)
- b) Describe the typical steps involved in the GIS process flow. How do these steps contribute to effective spatial analysis and decision-making? (13 marks)

THE END

1/0AM