

NATIONAL UNIVERSITY OF LESOTHO
B.A & B.Sc. SUPPLEMENTARY EXAMINATIONS
ES 4413: DATABASE SYSTEMS

AUGUST 2023

MARKS: 100

TIME: 3 HOURS

Instruction: Answer any four questions. Where appropriate illustrate your answers with sketches or diagrams.

Question 1

- a) Discuss the importance of tables in GIS (10)
- b) Write short notes on all types of fields available in GIS tables (15)

Question 2

- a) Differentiate between a dataset and a Database Management System (DBMS) (5)
- b) Discuss the capabilities that are offered by a database Management System (DBMS) (20)

Question 3

Discuss all the advantages and disadvantages of using Database Management Systems (DBMS) in GIS (25)

Question 4

- c) Outline the characteristics of hierarchical database structures in GIS (15)
- d) Discuss why hierarchical database structures are seldomly used in GIS (10)

Question 5

Discuss the characteristics of the relational database management systems (25)

Question 5

Outline the benefits that are offered by object oriented database structures in GIS (25)