

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**FOURTH YEAR EXAMINATION FOR THE AWARD OF DEGREE OF
BACHELOR OF SCIENCE IN ENVIRONMENTAL SCIENCE**

ENSC 434: GEOGRAPHICAL INFORMATION SYSTEM

STREAMS: BSC (ENSC) Y4S2

TIME: 2 HOURS

DAY/DATE: THURSDAY 20/4/2023

8.30 A.M. – 10.30 A.M.

Instructions:

Answer all Questions in Section A and any Two questions in Section B

Do not write anything on the question paper

SECTION A (30 MARKS)

Q1. Write short notes on the following terms as used in Geographical Information System:

- a) Ground truthing (2 marks)
- b) GIS modeling (2 marks)
- c) Spatial Database management (2 marks)

Q2. Identify and briefly discuss the three types of “raster” data. (4 marks)

Q3. Briefly explain the role of ArcMap and ArcCatalog application in GIS. (4 marks)

Q4. Using various examples explain application of GIS to environmental planning. (6 marks)

Q5. Describe functional elements of a GIS (6 marks)

Q6. Briefly highlight steps of site map preparation. (4 marks)

SECTION B (40 MARKS)

Q7. a) Discuss the principles of GIS. (10 marks)

b) Briefly discuss various operations performed by GIS softwares. (10 marks)

- Q8. a) Discuss briefly the resources of GIS data. (10 marks)
- b) Discuss various spatial relationships that exist on features of maps. (10 marks)
- Q9. Discuss the advantages and disadvantages of vector and raster data. (20 marks)
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