



THE TECHNICAL UNIVERSITY OF KENYA

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SCHOOL OF ARCHITECTURE AND BUILT ENVIRONMENT

Department of Spatial Planning and Design

Bachelor of Built Environment in Urban and Regional Planning  
Bachelor of Built Environment in Urban Design and Development

Year III Semester I MAIN EXAMINATION

EAPQ3123: GIS LAB

EAPR1231: GIS LAB

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Time: 2hours

INSTRUCTIONS TO CANDIDATES

Answer All Questions from Section A and any other Two Questions of Your Choice from Section B in the Answer Booklet Provided. Start each Question in a Fresh Page.

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Answer 3 Questions. Question One from Section A and any other Two Questions of your choice from Section B.

Section A: compulsory (30 marks)

**Question ONE (COMPULSORY QUESTION)**

a. Using illustrations define the following terms as used in ArcMap GIS

I. Geodatabase (3 Marks)

II. Registration (3 Marks)

III. Clip tool (3 Marks)

IV. Buffering tool (3 Marks)

V. Attribute data (3 Marks)

VI. Digitization (3 Marks)

b. Below are some of the buttons found in the ArcMap-GIS interface software, give the

name of each button and its use. (8 marks)



I.



II.



III.



IV.

c. List **FOUR** elements of map layout

(4 Marks)

**SECTION B: Answer two questions from this section**

**Question TWO**

You have been given a topo-sheet for Nairobi CBD as a hard copy map. Using illustrations explain the **FOUR** major steps you will follow to extract GIS data from it. (20 Marks)

**Question THREE**

GIS is an important tool in understanding urban growth and dynamics. By use of examples, discuss how you can use GIS to study the impacts of urban sprawl and propose measures to deal with it. (20 Marks)

**Question FOUR**

- a. Differentiate between raster and vector data sets (4 Marks)
- b. List Fouradvantages of using raster data sets (4 Marks)
- c. Explain Fourtools you can use when analysing vector data. (12 Marks)

**QuestionFIVE**

- a) What is spatial decision support system? (2 Marks)
- b) ~~Simon divides decision-making process into three important steps. Using examples~~  
explain the three steps in relation to SDSS (9 Marks)
- c) Discuss the various Components of SDSS (9 Marks)