



W1-2-60-1-6

**JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY  
UNIVERSITY EXAMINATIONS 2017/2018**

**EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN LAND  
RESOURCES PLANNING AND MANAGEMENT**

**ALP 2303: PRINCIPLES OF GIS**

**DATE: JANUARY 2018**

**TIME: 2 HOURS**

**INSTRUCTIONS: ANSWER QUESTION ONE (COMPULSORY) IN SECTION A  
AND ANY OTHER TWO QUESTIONS IN SECTION B**

**SECTION A: 30 MARKS**

1. Explain four sources of information for development of GIS applications. (10 marks)
2. a. What is a database? (2 marks)  
b. Differentiate between Hierarchical Databases and Relational Databases. (8 marks)
3. Expound four factors you have to consider when developing databases for use in GIS. (10 marks)

**SECTION B: 40 MARKS**

4. a. What are the factors to consider in preparing and executing field visits/ground truthing? (15 marks)  
b. List five tools that are required for proper execution of field visit/ground truthing and explain their uses? (5 marks)
5. Mosotup County Government wishes to collect data on existing resources such as boreholes, schools, hospitals, water points, markets, towns etc. Additionally they wish to have information on available natural resources as well as livestock migratory routes and conflict corridors. Outline a plan on how this project can be carried out. (20 marks)
6. In addressing 'Errors and Error Propagation' describe four potential sources in data capture, data manipulation, data analysis and data presentation while using medium resolution as a data source. (20 marks)