

**DEPARTMENT OF GEOGRAPHY, GEOINFORMATICS & METEOROLOGY**  
**FACULTY OF SCIENCE**  
**GGY 283 INTRODUCTORY GIS**  
**FIRST SEMESTER TEST**

10 March 2008

TIME: 50 min

**1. BASIC CONCEPTS AND TERMINOLOGY**

- 1.1 Define a GIS. (3)
- 1.2 Explain the difference between spatial and attribute data. (2)
- 1.3 Name the five main steps in the GIS process (5)

**2. BUILDING A GIS MODEL**

- 2.1 The population of Benoni is growing very fast. This leads to traffic congestion on the highways leading into the city. A new road that leads into the city is planned for the near future. Finances are a constraint and there is also a conservation area that should not be disturbed. The residents support the development of a new road but are worried about the influence of noise pollution on the value of their properties.

Based on the above scenario formulate a research question and 4 criteria for the use in a GIS project (4)

**3. DESIGNING THE GIS MODEL OF REALITY**

- 3.1 Discuss the difference between latitudes and longitudes. (8)
- 3.2 Name the three **basic and two advanced** spatial feature types that can be used to represent real world entities on computer. (5)
- 3.3 Name the problems that can arise when representing real world entities on computer using the abovementioned feature types. (4)
- 3.4 Is the table below a database of a spreadsheet? Motivate your answer. (6)

GIS key	Tree	Park	Indigenous
100	Fever Tree	Zita Park	Y
200	Blue gum	UP sports Grounds	N
300	Yellow Tree	Zita Park	Y
400	Black Wattle	Magnolia Dell	N

- 3.5 Define the following terminology: (6)
- Accuracy
  - Compatibility
  - Consistency
- 3.6 Name the different data sources of spatial and attribute data for the use in a GIS. (3)
- 3.7 Name the different methods that can be used to encode data in a GIS. (6)

**TOTAL [50]**