DEPARTMENT OF GEOGRAPHY, GEOINFORMATICS & METEOROLOGY
FACULTY OF SCIENCE
GGY283 INTRODUCTORY GIS
SECOND SEMESTER TEST

06 MAY 2010   TIME: 50 min

1. **DATA ACQUISITION**
    1.1 Name the steps in the data stream that you will follow under the
        following circumstances. Also indicate how the methods
        followed will influence the quality of the data sets. You need:

        1.1.1   Historical data of property boundaries of the
                Pretoria/Tshwane city centre (but you do not have a
                digitising tablet)(5)
        1.1.2   New boreholes inside a specific study area.(3)
        1.1.3   New archeological sites on farms that you want to
                represent together with a scanned image of the area.
                (Farm boundaries and archeological sites are in different
                projection types and extend over more than one map
                sheet.)(9)
        1.1.4   Difference in vegetation growth over a 10 year period.(4)

                                                                        (20)
    1.2 Name the type of feature generalisation applied in the following
        instances:
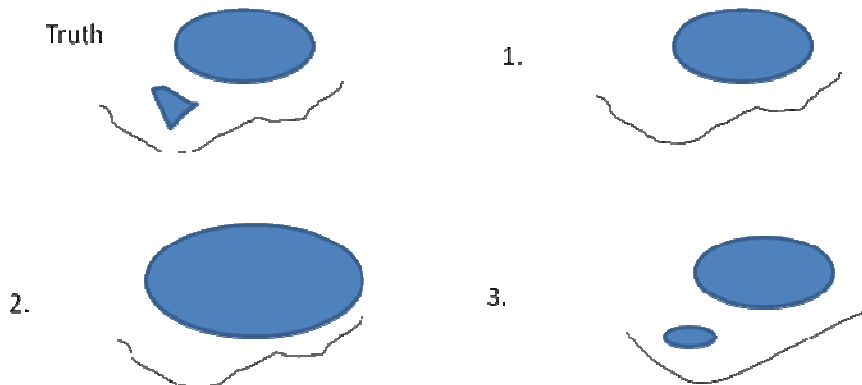
                                                                        (3)
    1.3 Define the following terminology:
            1.3.1 Data standard
            1.3.2 Metadata

                                                                        (2)

2. DATA ANALYSIS

2.1 You are part of a consortium that must establish the boundaries for the proclamation of a new nature reserve. Your specific task is to establish the boundary of the nature reserve.

The following data sets are available:

Spatial Data	Attribute Data
Properties	Land Uses
	Land valuation
Boundaries of suburbs	Names of suburbs
Dams	
Rivers	Names of rivers

The proposed nature reserve must comply with the following conditions:

2.1.1 All properties that have their centre within a distance of 700 m from the dams must be included in the nature reserve. (4)

2.1.2 All properties that have their centre within a distance of 500 m from the Vaal River must be included in the nature reserve. (5)

2.1.3 All industrial properties must be excluded from the nature reserve. (4)

2.1.4 All properties with a value of more than R1,5 million must be excluded from the nature reserve.(4)

Create an analysis model for **EACH** of the criteria.

(16)

2.2 Name and define the three most common types of problems solved using network models. Give a practical example of when you will use one.

(9)

TOTAL [50]