GIS 221
Introductory GIS
SECOND SEMESTER TEST

17 September 2009 **Time 50 min**

1 Data Acquisition

1.1 Explain what is meant by the data stream of a data set

(1)

1.2 Name 5 possible sources of data for the use in a GIS.

(5)

1.3 Name the different encoding methods that can be used to capture data for the use in a GIS. Also refer to the quality of the data sets.

(8)

1.4 Name the data editing method that you will use to correct the following errors:

1.4.1 A study area extends over more than one map sheet and digitising was done for all the individual map sheets. The separate layers must now be joined to create one layer.

1.4.2 An image needs to be georeferenced to fit on the study area

1.4.3 The data layers need to be converted to the same projection and coordinate system file.

1.4.4 The data sets are available in a vector GIS but you are working in a raster GIS.

1.4.5 The data needs to be changed to a less detailed scale

(5)

2 Data Analysis

2.1 Define the following analysis methods and give a practical example of when you will use each method:

a. Buffer
b. Classification
c. Attribute selection
d. On Screen query
e. Dissolve

(10)

2.2 Illustrate the results of the following boolean expressions by means of Venn diagrams.

2.2.1 (A and B and C)
2.2.2 (A and C) or B
2.2.3 A (not B or C)

(3)

2.3 Name the Classification method that will be used if:

2.3.1 Objects need to be placed in two classes – 0 or 1

2.3.2 The area is not well known and you want to look for groupings inherit in the data sets.

2.3.3 You want to assign equal width classes

(3)

2.4 Discuss the working of overlays in a raster and vector GIS. Refer to the problems with overlays in the two systems and also the Boolean operators used.

(15)

Total 50