MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2016/2017

SECOND YEAR SECOND SEMESTER EXAMINATION FOR DEGREE OF BACHELOR OF SCIENCE IN GEOSPARTIAL INFORMATION SCIENCE WITH INFORMATION TECHNOLOGY

CITY CAMPUS

PGS 228: GIS AND MODELLING

Date: 30th November, 2016

Time: 9.00 – 12.00pm

INSTRUCTIONS:

- Answer Questions ONE (Compulsory) and any other TWO.

1. a. Examine common errors that occur during data input in GIS. (6 marks)

   b. Without a topologic data structure in a vector based GIS, most data manipulation and analysis functions would not be practical. Discuss.

   (10 marks)

   c. Examine the benefits of using vector data model over raster data model to store spatial data. (8 marks)

   d. Examine the limitation of using GIS models. (6marks)

2. a. Examine steps necessary in data editing and verification process of spatial data in GIS. (12marks)

   b. Examine viability of field data validation and verification of models in GIS. (8 marks)

3. Spatial analysis functions are the power of GIS. Discuss. (20 marks)

4. a. Discuss the significance of using a database management system for data storage and processing in GIS. (10 marks)

   b. Examine the relevance of integrating GIS and simulation models in urban planning. (10 marks)

5. a. Write short notes on the following:

   i) Spatial models (7 marks)

   ii) Conceptual models (8 marks)

   b. Examine the sources of data in GIS. (5 marks)

6. a. Examine key consideration requisite for the successful design of a database. (10 marks)

   b. Explain the benefits derived from implementation of GIS. (10 marks)