



FACULTY OF SCIENCE

DEPARTMENT OF GEOGRAPHY, ENVIRONMENTAL MANAGEMENT & ENERGY STUDIES

MODULE **GGR3A10/GGR03A3**
GEO-INFORMATICS

CAMPUS **APK**

EXAM **MAY 2017**

DATE **2017.05.27**

SESSION **08:30 – 11:30**

ASSESSOR(S)

MRS D.C. SCHOEMAN
ME T. MUGWENA

EXTERNAL MODERATOR

DR E. ADAM
(WITS)

DURATION **3 HOURS**

MARKS **100**

NUMBER OF PAGES: 3 PAGES

INSTRUCTIONS:

- 1. Answer ALL OF THE QUESTIONS**
- 2. Number your answers clearly.**
- 3. Answer Section A and Section B in separate books.**

SECTION A (Mrs Schoeman)**QUESTION 1**

You were asked to explain to a new employee in your company what GIS is. In your explanation include a definition, as well as the different components of GIS. **(10)**

QUESTION 2

Distinguish between the different spatial referencing techniques. Also indicate the advantages/disadvantages of each technique. **(10)**

QUESTION 3

Distinguish between the raster and vector data models. Indicate in your answer which one is most suitable for satellite imagery and motivate your answer. Use sketches to illustrate your answer. **(15)**

QUESTION 4

The data sources and methods of entering data for a comprehensive GIS are probably more numerous and of greater variety than in most other information systems. Evaluate this statement and indicate how data are stored in a GIS. **(15)**

QUESTION 5

- 5.1 An environmental consultant asked you to assist with a GIS project that assesses the impact of mining in Gauteng. Identify and explain THREE GIS analyses that can be used. Motivate your choices. **(15)**
- 5.2 The ability to integrate data from two sources using map overlay is perhaps the key GIS analysis function. Do you agree with this statement? Motivate your answer. **(10)**

SUB TOTAL [75]

SECTION B (Me Mugwena)**QUESTION 1**

Write a brief explanation of the following terms: applicability, bias, compatibility, completeness, consistency. **(10)**

QUESTION 2

Discuss the key problems when using GIS to model spatial processes. **(10)**

QUESTION 3

Define operational errors that are introduced during data encoding. **(5)**

SUB TOTAL [25]

TOTAL [100]
