Department of Surveying and Geoinformatics
School of Environmental Technology
Federal University of Technology, Minna-Nigeria
Semester: First Semester Examination **Session**: 2019/2020
Course title: Principle of GIS **Couse code**: SVG 315 **Time**: $2^{hrs}15^{mins}$
Instruction: Answer all questions in Part A and Attempt any four (4) questions in Part B

Part A: Answer all questions

1) What is GIS and its applications?
2) Explain the series of components that combine to make the system work in GIS.
3) List a few Nigeria environmental issues that could be addressed using GIS and how?

Part B: Attempts any four (4) questions of your choice

1a) Explain the spatial data models used in GIS?
1b) What are the various sources of data for GIS?
1c) What are the various ways information can be stored in GIS?

2c) Why is GIS important and what are the functionality?
2b) Explain the GIS Subsystems and its functions.
2c) Write short note on the following (i) Accuracy (ii) Precision (iii) Positional accuracy (iv) Attribute accuracy (v) Logical consistency (iv) Completeness and (v) Lineage

3a) What are the merits and demerits of vector data and raster data?
3b) Explain and give examples on how raster data different from vector data.
3c) Explain digitization in GIS? What is required to digitize a vector data set?

4a) Write short note on relational database and Object-oriented database
4b) What are the advantages of using relational database?
4c) What is an object-oriented data model?

5a) Write short answer on the following: (i) Field-based models (ii) Object-based models
5b) Explain the elements to be considered in Entity-relation model approach.
5c) What are the basic procedures for inputting spatial data into a GIS?

6a) What is a database management systems (DBMS)?
6b) What are the requirements for a database management systems (DBMS)?
6c) Explain and state the characteristics of the following data models (i) Hierarchical data model (ii) Network data model (iii) Relational data model