



NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF SCIENCES
DEPARTMENT OF ENVIRONMENTAL SCIENCE AND RESOURCE MANAGEMENT
Plot 91, Cadastral Zone, Nnamdi Azikwe Expressway, Jabi, Abuja
2024 1 EXAMINATION

COURSE CODE: ESM 407
COURSE TITLE: GEOGRAPHIC INFORMATION SYSTEM
CREDIT: 3 Units
TIME ALLOWED: 3 Hours

Instruction: Attempt question number ONE (1) and any other THREE (3) questions. Question number one (1) carries 25 marks, while the other questions carry 15 marks each.

1.
 - a. List the threats that low awareness poses to effective and efficient GIS implementation in Nigeria. (7 marks)
 - b. Discuss the requirements for GIS implementation (6 marks)
 - c. What is situational analysis? (2 marks)
 - d. How can three dimensional models be used within a GIS in analysing the effect of the earth's terrain? (7 marks).
 - e. What are the sources of non-spatial (attribute) data? (3 marks)

2.
 - a. How can GIS be used for visualization? (5 marks)
 - b. Compare and contrast GIS with other information systems. (2 marks)
 - c. What is line feature? (3 marks)
 - d. Explain GIS utilization in street network-based application. (5 marks)

3.
 - a. How can GIS be used in natural resource management and environmental impact analysis? (5 marks)
 - b. What is polygonal geographical feature? (5 marks)
 - c. Briefly explain the fact that the true power of GIS lies in its ability to integrate information and to help in making decisions. (5 marks)

4.
 - a. Explain Modern Geographic Information System (5 marks)
 - b. Mention five geographical features. (5 marks)

c. How can GIS be used in facilities mapping and management? **(5 marks)**

5

- a. What do you understand by volumetric features? **(3 marks)**
- b. Distinguish between location-based services (LBS) and Global Positioning System (GPS). **(4 marks)**
- c. How can GIS be used to contain cholera outbreak in an area? **(8 marks)**

6

- a. Explain areas of intersection between GIS and CAD **(6 marks)**
- b. Expatiate on how GIS can be used in trends and patterns of events management. **(4 marks)**
- c. What have determined the rise of GIS usage especially in environmental science? **(5 marks)**

NOUNTrade.com