



NATIONAL OPEN UNIVERSITY OF NIGERIA
Plot 91, Cadastral Zone, Nnamdi Azikwe Expressway, Jabi, Abuja
FACULTY OF SCIENCES
DEPARTMENT OF ENVIRONMENTAL SCIENCE AND RESOURCE MANAGEMENT
2025_2 EXAMINATIONS

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.

- 1a). Discuss how GIS technology utilizes the characteristics of geographical features to manipulate and analyze geographical data. (15marks)
- 1b). Define data editing(3mark)
- 1c). What are the characteristics of fields in an attribute database? (7marks)
- 2). Discuss the following hardware components of a Geographic Information System (GIS) (15 marks):
 - i. Output Devices (3 marks)
 - ii. Computer (5 marks)
 - iii. Input Devices (7 marks)
3. Discuss the processes of spatial data capture, data digitization, and the use of aerial photography in inputting spatial data (15 marks).
- 4a. Discuss the importance of geo-referencing in GIS (13 marks).
- 4b. Define Storage devices(2mark)
5. Discuss the role of people, referred to as the human ware or liveware, in a GIS environment (10 marks).
- 6a. Explain the concept of a Modern Geographic Information System (5 marks).
- 6b. List five geographical features. (5 marks)
- 6c. Describe how GIS can be utilized for facilities mapping and management. (5 marks)