



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_1 EXAMINATION

COURSE CODE: ESM 421

COURSE TITLE: ELEMENTS OF LAND SURVEYING

CREDIT: 2 Units

TIME ALLOWED: 2 Hours

Instruction: Attempt question number ONE (1) and any other TWO (2) questions. *Question number one (1) carries 30 marks, while the other questions carry (20) marks each.*

1a. What is surveying? **(4marks)**

b. State the main objective of surveying **(4mark)**

c. Discuss the forms of survey we have based on the curative surface of the earth **(6marks)**

d. Outline the surveying classification based on the surface and the area **(7marks)**

e. Discuss any three types of errors in a survey **(6marks)**

f. State the various types of obstacles encountered in surveying as listed by Agor (1993) **(3marks)**

2a. What is Plane Tabling? **(2mark)**

b. Give a comprehensive classification of surveying based on;

- Purpose **(4marks)**
- Instrument need **(5marks)**
- Method used **(4marks)**

2c. What is the suitability and unsuitability of the chain survey **(5marks)**

3a. What are the main concerns of chain survey? **(3marks)**

3b. Discuss the purpose, suitability and unsuitability of chain survey as one of the earliest survey methods. **(9marks)**

3c. Distinguish between the following:

- i. Ranging and chaining **(4marks)**
- ii. Offset and Booking **(4marks)**

4a. Name the 2 major primary types of survey compass **(4mark)**

4b. Explain the concept of Leveling **(5marks)**

4c. Describe the instruments used in levelling **(8marks)**

4d. According to Agor (1993), the three different classifications of obstacles encountered in the course of chaining are? **(3marks)**

5a. Explain the scope of bearing **(3marks)**

5b. State the differences between the Prismatic and Surveyors Compass **(12marks)**

5c. Define Fore bearing and Back bearing and state the difference between the both. **(5marks)**