



NATIONAL OPEN UNIVERSITY OF NIGERIA

FACULTY OF SCIENCES

DEPARTMENT OF ENVIRONMENTAL SCIENCE AND RESOURCE MANAGEMENT

Plot 91, Cadastral Zone, Nnamdi Azikwe Expressway, Jabi, Abuja

2023_1 POP EXAMINATION.

COURSE CODE: ESM 421

COURSE TITLE: Elements of 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.

- QUESTION 1**
- Provide a definition of surveying
 - State the objective of surveying
 - List the division of surveying
 - Explain any one mentioned 1c above
 - Categorized survey based on instrument used
 - Classify survey based on the surface and the area surveyed

- QUESTION 2**
- List the types of Traverse survey
 - Explain triangulation survey
 - Explain any two basic principles of surveying

- QUESTION 3**
- Enumerate the process of surveying
 - Explain any two mentioned 3a above
 - Explain the purpose of chain survey

- QUESTION 4**
- List the instrument used in chain survey
 - Differentiate between optical squares and cross staff
 - Give an insight on the operation of reconnaissance survey

- QUESTION 5**
- Account for the sources of errors in chain survey
 - Explain any two types of error in chain survey
 - Explain the step wise procedure adopted in overcoming obstacles which obstruct chaining but not ranging