

**National Open University of Nigeria**

**Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja**

**Faculty of Science**

**APRIL, 2019 EXAMINATIONS**

**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 THREE (3) questions. Question number one (1) carries 25 marks, while the other questions carry (15) marks each.

1a. What is surveying? **(2marks)**

b. State the main objective of surveying **(2mark)**

c. Discuss the forms of survey we have based on the curative surface of the earth **(5marks)**

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

e. Enumerate on any three types of errors in survey **(6marks)**

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

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

b. Give a comprehensive classification of surveying on the bases of;

 Purpose **(4marks)**

 Instrument need **(5marks)**

 Method used **(4marks)**

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. **(8marks)**

**3c**) Distinguish between the followings:

i Ranging and chaining **(2marks)**

ii Offset and Booking **(2marks)**

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

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

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

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

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