**

**NATIONAL OPEN UNIVERSITY OF NIGERIA**

**FACULTY OF SCIENCES**

**DEPARTMENT OF ENVIRONMENTAL SCIENCE**

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

 **JULY 2018 EXAMINATIONS**

**COURSE CODE: ESM 407 TIME: 2:30MINS**

**COURSE TITLE: GEOGRAPHIC INFORMATION SYSTEM CREDIT UNIT: 3**

**Instruction:** Attempt question number ONE (1) and any other FOUR (4) questions. Question number one (1) is compulsory and carries 22 marks, while the other questions carry equal marks (12) each.

1a. Define GIS **(5marks)**

b. Discuss the essential features of GIS **(5marks)**

c. The growth of GIS is attributed to certain factors. Identify and discuss any three of these factors **(6marks)**

d. Examine the application of GIS in any three areas of socio-economic activities or environmental resource management **(6maks)**

2. a. What is geographic data? **(3marks)**

b. Explain four characteristics of geographic features **(9marks)**

3. Discuss the various GIS hardware components and their functions **(12marks)**

4. Write short notes on any three of these GIS concepts **(12marks)**

1. Geo-referencing **(4marks)**
2. Spatial data capture **(4marks)**
3. Attribute data **(4marks)**
4. Projection **(marks)**

5. Identify and discuss four determinants of a good quality storage device **(12marks)**

6. a. What is data updating? **(3marks)**

 b. Explain any three reasons for data updating **(9 marks)**