



**ELIZADE UNIVERSITY**

**FACULTY OF BASIC AND APPLIED SCIENCES**

**DEPARTMENT: PHYSICAL AND CHEMICAL SCIENCES**

**PROGRAMME: APPLIED GEOPHYSICS EXAM TITLE: DEGREE EXAMINATION**

**COURSE CODE & TITLE: AGY 401 - PETROLEUM GEOLOGY**

**TIME ALLOWED: 2 hrs 30 mins**

**SEMESTER/SESSION: FIRST / 2020/2021**

**INSTRUCTIONS:** Write your matriculation number on the cover page of the exam booklet.

**Answer four (4) QUESTIONS in all**

**HOD's SIGNATURE**

- 1a. Mention the properties of a reservoir rock
- b. What are Petroleum traps?
- c. Outline six well logs, measured rock properties and two geological interpretation each.
  
2. Write short notes on the following forms of Crude oil:
  - a. Naphthenic Base
  - b. Paraffinic Base
  - c. Aromatic Base
  - d. Asphaltic Base
  
- 3 a. What is a basin in geological terms?
- b. Identify what class of basin is the Niger Delta?
- c. Discuss the geology and petroleum geology with respect to petroleum reservoir, source rock and trap of the Niger Delta, Nigeria.
  
- 4a. With a well labelled diagram, describe the different stages involved in the transformation of Organic matter to hydrocarbon.
- b. State the evidence and limitations in support of organic and inorganic origin of hydrocarbons.
  
- 5a. What is petroleum system?
- b. Differentiate between
  - i. Primary and secondary migration
  - ii. Hydrocarbon prospect and reserves
  - iii. Reservoir and aquifer
- c. Outline the six (6) factors for migration of hydrocarbon from source to reservoir rocks.