



UNIVERSITY OF MINES AND TECHNOLOGY, TARKWA

SECOND SEMESTER EXAMINATIONS, MAY 2015

COURSE NO : PE 280

COURSE NAME: **Geological Methods of Petroleum Exploration**

CLASS : **PE II**

TIME: 2.5 HOURS

Name: _____ Index Number: _____

ATTEMPT ALL QUESTIONS

- Q1a. What is a sedimentary basin? **2 Marks**
- Q1b. Describe the formation of basins by Tectonic activities. Sketch to support your descriptions. **10 Marks**
- Q1c. How does Plate Tectonics contribute to the generation of sediments for the formation of sedimentary rocks? **8 Marks**
- Q2a. Define the following terms.
- i Facies
 - ii Lithofacies
 - iii Petroleum
 - iv Sedimentary texture
 - v Sedimentary structure
 - vi Isomer series
 - vii Porosity
 - viii Geophysics
 - ix Formation
 - x Permeability
- 20 Marks**
- Q3a. Describe how seismic imaging works in the exploration of oil and gas. **20 Marks**
- Q3b. In what phase does oil migrate from a tight impermeable rock such as shale into porous and permeable rock as sandstone? How does this phenomenon occurs? **5 Marks**
- Q3c. Briefly describe the formation of oil traps by the geological mechanisms below. Sketch to support your descriptions.
- Fault Trap
- Salt dome
- 10 Marks**

Mrs E.B. Fiadonu / D. N. Asamoah