

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA  
SCHOOL OF PHYSICAL SCIENCES  
DEPARTMENT OF GEOLOGY

FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BTech GEOLOGY 2015/2016 SESSION

COURSE: GEL 316 (STRUCTURAL GEOLOGY )

UNITS: 2

DATE: 4<sup>TH</sup> April, 2016

DURATION: 2hrs

INSTRUCTIONS: Answer any TWO questions from each of Sections A and B.

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**SECTION A**

**Q1a)** What is structural geology?

**b)** List and explain the various methods of studying structural geology both in the field and in the laboratory.

**Q2a)** What are primary structures in rocks?

**b)** Mention and describe any 5 primary structures in rocks.

**Q3** Write brief but concise notes on the following:

(i) Fining upward sequence (ii) Coarsening upward sequence (iii) Unconformity (iv) Principle of Uniformitarianism (v) Law of cross-cutting (vi) Importance of primary structures.

**SECTION B**

**Q4 (i)** What are joints?

**(ii)** How would you distinguish between a set of joints and a system of joints?

**(iii)** Discuss the classification of joints.

**(iv)** Mention and describe three (3) ways joints are of importance to man.

**Q5 (i)** Distinguish between a hanging wall and a footwall in a faulted formation.

**(ii)** What is the importance of fault in mineral exploration?

**(iii)** Discuss the types of fault.

**Q6 (i)** What are folds?

**(ii)** Discuss the tectonic forces that are responsible for the formation of folds.

**(iii)** With the aid of good sketch diagrams, distinguish between the following:

**(a)** Isoclinal fold and recumbent fold

**(b)** Upright symmetrical fold and Upright asymmetrical fold.

**(c)** Crest of a fold and Hinge of a fold.

**(d)** Axial plane of a fold and Axial surface of a fold.