

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

FIRST SEMESTER EXAMINATION FOR THE DEGREE OF B.TECH GEOLOGY 2015/2016 SESSION
COURSE: GEL414 (GEOLOGY OF NIGERIA 1) UNIT: 3
DATE: 5th April, 2016. TIME: 2HRS. 30 MIN.

INSTRUCTIONS: ANSWER ONE QUESTION FROM EACH SECTION.

SECTION A

- 1(a) Within which orogenic event were the Older Granites of Nigeria emplaced?
 - (b) Discuss the older granites of Nigeria using the following headings:
 - (i) Types
 - (ii) Age
 - (iii) Texture
 - (iv) Structure
 - (v) Mineralization
 - (c) What is a mylonite?
 - (d) Discuss the Zungeru mylonite.
-
- 2(a) Mention the three major Schist formations in Minna and its environs and describe the lithology of each formation.
 - (b) What is metamorphism?
 - (c) Index minerals indicate the grade of metamorphism in a metamorphic terrane. Attempt the sketch of pressure-temperature (°C) showing locations of various facies (adapted from Gillen, 1982).

SECTION B

1. Give a detailed account of the anorogenic rocks of north-central Nigeria.
2. Give a detailed account of how cauldron subsidence affects the emplacement mechanism of Younger Granites of north-central Nigeria.

SECTION C

- 1(a) Give a table of stratigraphic succession in the Middle Benue Trough.
 - (b) Discuss the economic geology of the Sokoto basin.
-
- 2(a) Give a table of stratigraphic succession of the Bida basin.
 - (b) Explain the following:
 - (i) Growth faults.
 - (ii) Rollover anticlines.