

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

SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BTECH (GEOLOGY), 2016/2017 SESSION
COURSE: GEL121 (INTRODUCTION TO GEOLOGY II: LABORATORY & FIELD PRACTICE) **UNIT:** 2
DATE: 18TH OCTOBER, 2017 **TIME ALLOWED:** 2 Hours

INSTRUCTIONS: Answer **ONE** question **ONLY** from **EACH** section

SECTION A

1. (a) Define geological mapping and list any three of its applications.
(b) List three sources of data employed in subsurface geological mapping.
(c) List any three features displayed on a topographical map.
(d) What are contour lines?
(e) Explain the principle of horizontality in relation to geological mapping.
2. (a) Give an illustrated discussion of strike and dip.
(b) (i) A 120 m thick shale bed outcrops at an elevation of 700 m. It is underlain by a 50 m thick coal bed, which is in turn underlain by a 100 m thick sandstone bed. Complete the outcrops of the beds on given topographical map (Fig. 1).
(ii) Determine the distance AB (shown on Fig. 1) on the ground surface.

SECTION B

3. List and explain the uses of any five tools and machines used in geological laboratories.
4. Write brief notes on the following:
 - (i) Geological maps.
 - (ii) Thin section machines.
 - (iii) Geological microscope.
 - (iv) Geological compass.
 - (v) Paleontological microscope.

SECTION C

5. Explain the reason why the mineral quartz exhibits different colours.
6. Using Table 1, identify the following specimens.

Table 1

S/No	Colour	Cleavage	Streak	Observation when in contact acid	Hardness	Name