

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

FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BTech GEOLOGY
2017/2018 SESSION

COURSE CODE: GEL 411

UNIT: 3

COURSE TITLE: ECONOMIC GEOLOGY

INSTRUCTIONS: ANSWER QUESTION 1 AND ANY OTHER THREE

TIME ALLOWED: 2 HOURS

DATE: 24 APRIL 2018

1. (a) Draw a map of Nigeria showing five minerals of economic importance in each of the three lithological units.

(b) If the crustal abundance of a mineral is 18ppm and the economic value of the mineral in the deposit is 900ppm, determine the concentration factor of the mineral.
2. (a) Define Economic Geology.
(b) State and explain three reasons for studying economic geology.
2. Distinguish between the following pair of terms used in economic geology:

(a) Metallic and Industrial minerals,

(b) Mineral deposit and Ore deposit,

(c) Grade and Cut-off grade.
3. Explain the following processes of formation of mineral deposits:

(a) Magmatic concentration,

(b) Sedimentation,

(c) Hydrothermal processes.
4. Assuming your local government area is blessed with gold deposit; give four reasons why you will encourage an investor to invest in the deposit.
5. (a) Summarise the classification of industrial minerals.

(b) What is the problem associated with the definition and classification of industrial minerals?