

**THE UNIVERSITY OF BAMENDA**  
**COMMON ENTRANCE EXAMINATION JULY 2011 SESSION**  
**FIRST CYCLE – GENERAL EDUCATION**

**PAPER: GEOLOGY (Major)****SERIES: GEOLOGY****DURATION: 3hrs – COEF 4**

Instructions: Give a concise answer to each of the following questions

1. What is the major observable difference between quartz – feldspar and ferromagnesian on mineral fields? (0.5mrk)
2. Classify the following rocks according to the density: granite, sandstones, basalt, basanite, microgranite. (0.5mrk).
3. What is the main difference between amphibole and pyroxene under a microscope? (0.5mrk).
4. Classify the following rocks into fine – grained and coarse – grained: rhyolite, diorite, granite, andesite, peridotite, basalt, and gabbro. Which of these rocks are silicic? Mafic? and Intermediate? (1.75mrks).
5. Calculate the temperature of a rock at 35km beneath the Earth Surface. The geothermal gradient in this region is  $3.5^{\circ}\text{C}/100\text{m}$  (1mrk).
6. Pyroclasts are fragments formed by volcanic eruption. They can have many sizes. Give the size of the following Pyroclasts: dust, ash, cinder, blocks and bombs. (1.5mrks).
7. What is a tuff? Volcanic breccias? (1mrk)
8. Give the synonym to mechanical weathering. What are the major agents of chemical weathering? (1mrk).
9. What are the major concentric zones of the Earth's Interior? Which of these zones is analogous to the skin organ? Which of this zones supports the human activities? (1.5mrks).

10. Give two major differences between an oceanic crust and an continental crust. (0.5mrk).
11. The lower part of the crust and the entire mantle are relatively rigid: give a synonym of words “relatively rigid” in this case. (0.5mrk).
12. What are the major minerals observable on a sample of granite during field geology? (1mrk).
13. What is the chemical formula of quartz? and that of halite? (0.5mrk).
14. Does the mechanical weathering change the composition of the rock? why? (1mrk).
15. What is the main product of chemical weathering of feldspars? How is the silica produced by the chemical weathering of feldspar? (1.5mrks)
16. What is the environment of decomposition of sediments? Give four examples of the environments of decomposition of sediments (1.5mrks).
17. What are the major features of each environment of decomposition?(1mrk)
18. What is the main difference between quartz sandstone, arkose and greywacke regarding quartz feldspars and fine – grained matrix? (1mrk).
19. Illustrate the vertical section of the following geological structures showing the displacement of three strata: a normal fault, a reverse fault and a contact metamorphism between a granite pluton and a sedimentary country – rock (2mrks).
20. Which region in Cameroon is prone for occurrence of earthquakes? Explain your answer. (1mrk)