



Tuesday, November 14, 2016

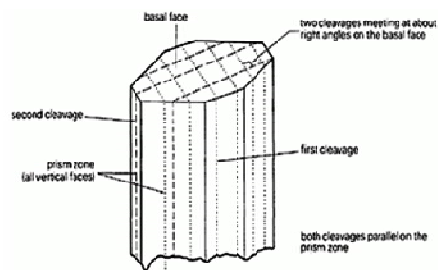
Time allowed: 20 minutes

10: 30 AM

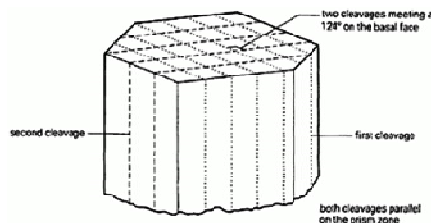
A quiz in Engineering Geology**First question:** Choose the correct word(s) in brackets (5 marks):

a- The four oxygens of the SiO_2 tetrahedron are shared with other tetrahedra in (island silicates – framework silicates – chain silicates)

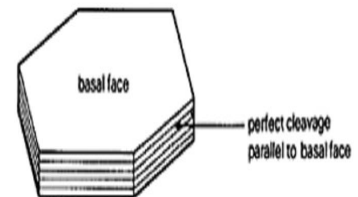
b- Hornblende crystals have got cleavage pattern as in (A - B- C):



(A)



(B)



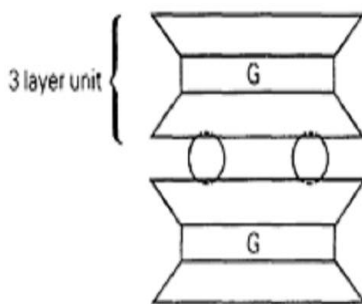
(C)

c- Sharing (none – two – three) oxygens of the leads to the formation of sheet silicates.

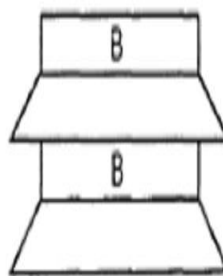
d- The atomic structure of augite consists of single chains of $([\text{SiO}_4]_n - [\text{SiO}_3]_n - [\text{Si}_4\text{O}_{11}]_n)$ tetrahedral units linked laterally by Ca, Mg and Fe cations.

e- The formation of serpentine within a rock involves an (increase – constancy – decrease) in volume from that of the original olivine, causing cracks that radiate out and weaken the rock structurally.

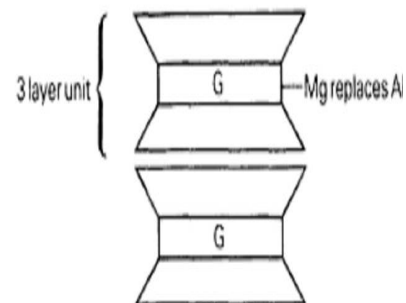
f- Which of the following represents the structure of serpentine (A- B- C):



(A)



(B)



(C)

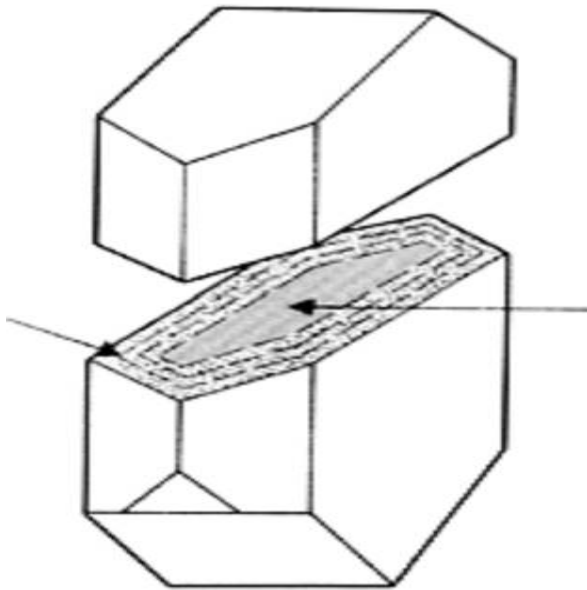
g- Many joint/fault surfaces in basic igneous rocks may be 'coated' with chlorite, causing these joints to be (very strong - very weak – very hard) regions in the rock.

h- Quartz is the main essential mineral in acidic igneous rocks, whereas (k-feldspar – Na-plagioclase feldspar – Ca-plagioclase feldspar) is the main one in basic igneous rocks.

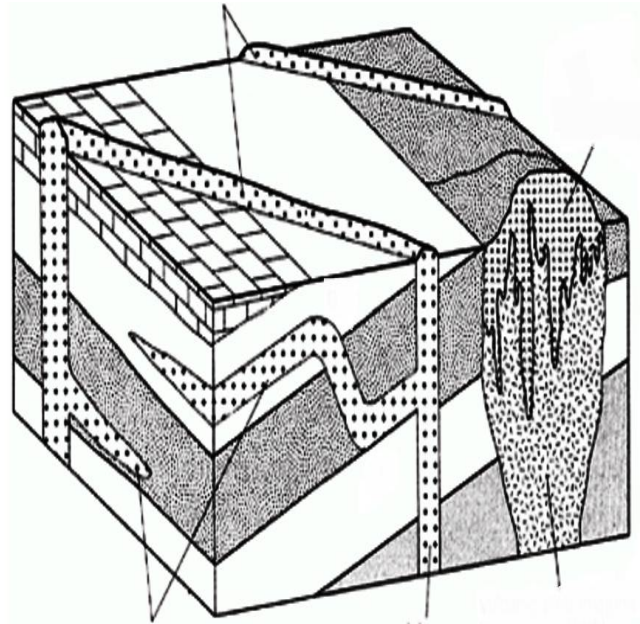
i- (Phaneritic - Porphyritic - Aphanitic) texture exists where larger phenocrysts and smaller matrix crystals are both present in the same rock.

g- (Fissure openings – Pipe-like openings - dyke swarm) may lead to formation of Volcanic Plateau of extrusive rocks.

Second question: Label (only) the following illustrations (2.5 marks):



(A) Zoned Plagioclase



(B) Hypabyssal Intrusions

Student Name (in Arabic):

Good Luck

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