

Engineering Geology – Mid Term Exam, Date: Tuesday 8th Nov. 2015

Name of the Student (please in Arabic): No:

Instructors : Eng. Saheem Murshid

Dr. Taleb Al-Harithi

Section : (1 , 2 , 3 , (4))

Question #1 / Fill the spaces:

(30 Marks)

✓6

1- are circular holes in the floor of the stream channel formed by abrasion effect.

2- Environmental Geology is a branch of geological sciences that studies valuable earth geo-resources.

3- is the most upper & elastic layer of the Earths' mantle that is located at the depths between 100-700kms.

4- Example of constructional Earth activities that lead to the creation/addition of new matter to the Earths' crust is:

5- Gradual cooling of magma deep under Earths' surface gives rise to the formation of rocks known as igneous rocks with texture.

6- is an example of a mineral composed of 1 (one) element.

7- Orthoclase is the mineral which hardness equals 6.

8- Talc is the mineral which has a soapy touch and used abundantly in many cosmetic industries.

9- is the type of soil rich in Aluminum oxides and considered as ore for Al.

- 1- Talc
- 2- Gypsum
- 3- Calcite
- 4- Halite
- 5- Adnite 1
- 6- ...

Orthoclase
Corundum
Diamond

10- The last to crystallize from the Earth's melt (magma/lava) is

Metamorphic Rock

11- Accumulation of fines in the soil horizon (B) forming a dense impermeable layer called clay

266
u-6

12- The size of the pebble is (1-64) mm

13- This rock notification  refers to the rock called limestone

7 E64

14- Most of the houses in Palestine are made up of local rock named limestone

15- Bed load of rocks and minerals fragments is carried by the stream current in 3 ways; they are, a: rolling b: sliding

c: salination

16- The upper limit (surface) of the saturated zone is known as water table

17- Impermeable rocky layer is known as clay; one example is the rock type Sedimentary

18- Environmental problems associated with groundwater are many, name 3 of them:

- a. Groundwater is non renewable resource
- b. subse. water draw down
- c. Salt water pollution

19- The most important Earth's wearing agent is water

20- The abbreviation (ppm) to measure water quality means part of dissolve materials per million of water

21- When water table cuts topography we have Basin Topography

22- The river discharge is measured as follows:

velocity x Area

23- When the water table is higher than the water level in the stream, the stream is called Effluent stream

24- The rise in the groundwater level in a dug well is called artesian

Rock or Mineral	MINERAL STRUCTURE				IGNEOUS TEXTURE			METAMORPHIC TEXTURE		SEDIMENTARY		
	Single Chain	Single Tetrahedron	3-D	Sheet	Phaneritic	Aphanitic	Porphyritic	Foliated	Non-foliated	Detritus	Organic	Inorganic
1. Gneiss								✓				
2. Biotite				✓								
3. Stalactite (طالط)												✓
4. Breccia										✓		
5. Schist								✓				
6. Gabbro					✓							
7. Graywack										✓		
8. Quartz			✓									
9. Halite = Rock salt beds												
10. Coquina												✓
11. Andesite										✓		
12. Basalt						✓						
13. Olivine				✓								
14. Quartzite												✓
15. Granite				✓								

25

3

12

Question (3)

(30 Marks)

Match between those in column (1) with those in column (2) in the table below:

COLUMN (1)	COLUMN (2)
1- Finest detrital rock	(15) Corundum
2. Weathered rock and mineral fragments	(14) Gypsum ✓
3. Found hanged in 'underground caves' ceilings	(15) Gneiss
4. Evaporate mineral	(11) -Pyroclastic ✓
5. Gives granite its rose color	(6) Quartz
6. Made up totally of SiO ₂	(8) Gold
7. Metamorphism around the volcano neck	(4) Fossil
8. Found as placer deposit	(15) Stalactite ✓
9. Any indicator for prehistoric life	(5) Orthoclase ✓
10. Light coarse sandstone	(5) Regolith ✓
11. Lava mixed with rock fragments	(10) Arkose
12. Inclination of strata in sedimentary rock	(11) Diorite ✓
13. Rock formed due to high grade metamorphism.	(5) Clay ✗
14. Coarse grained igneous rock	(7) Contact ✗
15. Has a hardness "9"	(11) Dip ✗

Question #4

(20 Marks)

a) Explain how dolomite is formed?

اما عن طريق الترسيب المباشر من الماء او عن طريق الامتزاز حيث يتفاعل $CaCO_3$ مع Mg في مكان ما في $CaCO_3$ لimestone وتكون بنفس الطريقة (الامتزاز)

5

b) Explain how piles can be used to control mass wasting?

عبارة عن أطول من حديد ويثبت في الجوانب بها لكي تمنع حركة التربة والصخور وتحمي انقائها وهي من طرق معالجة slope.

c) Explain how the alluvial fans are formed in nature?

X

d) Explain in brief how sorting is affected by the current velocity?

عندما يتحرك النهر من وادنا فتمت سرعة فانه ينزل حجرات من الرواسب لانه لم يكن قادرا على حملها ولها تقف سرعة ينزل حجرات وبالكافي يعمل sorted اما اذا كان النهر من سرعة وفتت سرعة ففتاة واضح بطيئا فانه ينزل الرواسب بالحجم مختلفة و ينتج poorly sorted حيث انه اذا كان النهر عموما في منطقة فتقة ثم انتقل الى منطقة واحدة فانه سرعة فتفت تتأخر وتفتت وبالكافي ينتج 5 poorly sorted