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Name : Qazi Ameer Hamza

ID : 16085

Dept : civil Enginnering

Section : A

Assignment : Geology Mid Term Exam

A Figure 1 :

Show part of the Earth crust and the location where some Rock cycle processes take place

a Rock is broken down by ~~frost~~ rain and sun at A. What name is given to the process?

Ans The name of the process is Geological weathering. The process which tends to break and decompose rock in place including or Breaking down the rock surface

into smaller pieces.

For example:
Water and wind cause small pieces of rock to break off at the side of a mountain, ice wedging and plant root etc.

b How is sediment grains in a river changed during transport from A to B? state two differences in the likely apperance of the grains.

Ans It is change due to the flow of waters it is called sediment load. Bed load particles travel with flow by sliding or bouncing along the bottom. It the flows of water is strong enough to ~~make~~ take the particles, it become part of suspend load.

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c How do loose sediments of c become changed into solid rocks?

Ans Sedimentary rock are formed when sediment is deposited out of water flows carrying the particles in suspension. This sediment is often formed when weathering and erosion break down a rock into loose material in a source area.

As the chemicals that come from the minerals or biological precipitation mix with sediments on the floor of the ocean or Lake they crystalize and grow in the spaces around the sediment. When these crystals grow large enough to fill the spaces they harden and form a solid rock. This process is called cementation. These processes eventually make a types of rock of called sedimentary rock.

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d Rock that are deeply buried in the Earth's crust may undergo metamorphism.
Describe two changes that happen in rocks during metamorphism and explain point D?

Ans Although metamorphic rock typically form deep in the planet's crust, Metamorphism occurs because rock undergo changes in temperature and pressure and may be subjected to differential stress and hydrothermal fluids. Temperature increases with depth in the Earth along the Geothermal Gradient. Thus higher temperature can occure by burial of rock. Metamorphic rock start off as igneous, sedimentry, or othere metamorphic rocks. These rock are changed when heat or pressure after the existing rock's physical or chemical make up.

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from point D metmorphic rock can change into igneous or sedimentary rock. When hot Liquid magma is cooled their minerals can form crystals. At the surface metamorphic rock will be exposed to weathering process and may break down in to sedimentary rock, which would starts the entire cycle a new.

B Figure 2, below show the size and shape of typical sediment particles from the deposit produced.

1 clay mud
2 rounded pebbles and sand
3 sloping sand layers
4 Angular boulders

i In each box, write down the most likely number from the Deposit produced column in the table.

1st box - clay mud, sloping sand layers, Angular boulder
2nd box - rounded pebble and sand, sloping sand layer

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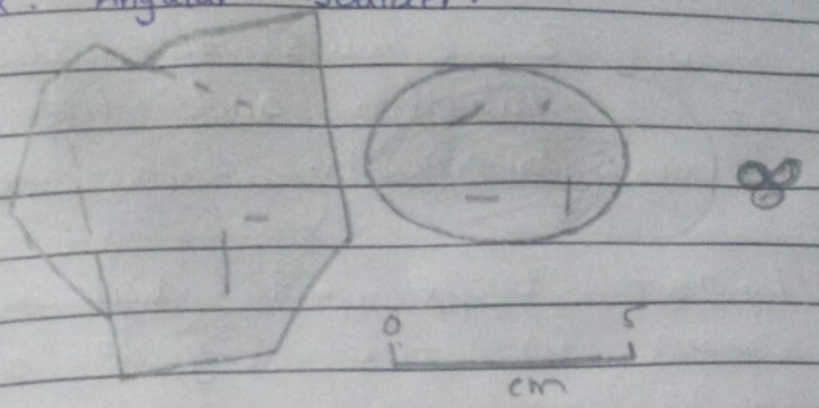
3rd box: Angular boulder.



4	2	1

ii In your own words, explain how sediment particles change as they are transported downstream by a river.

Ans ~~These are~~ transported because due to the flow of water which transported particles by appling force on it. The sediment particle slides or bounces along the bottom some of these are very small like 0.00195 mm in diameter. So these molecules stay effect and when the water flow is fast so it create a upward current that makes these particles move faster and add faster.

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C Figure 3, shows the structures of a volcano and the rock layers beneath.

i What type of volcano is shown in the figure by shape and if eruption is more often, which category it fits?

Ans It is a composite volcano and if eruption is more often, it will convert to stratovolcano these both are same but it has a smoother, lower profile then composite volcano.

ii The eruption shown in Figure 3 is producing an "Ash column" that rises thousand of meters above the volcano summit.

a Explain how gases trapped in the magma help produce the ash column.

Ans. It is produced due to.

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valcanics eruption when dissolved gases in magma expand and escape violently in the atmosphere. The force of gases shatters the magma and propels it into the atmosphere.

b Many people around the World live close to volcanos so, when a volcano erupts, thousands of lives may be at risk

i Suggest ONE sign that might indicate if a volcano is about to erupt.

Ans Rise of magma towards the surface, which generates earth quakes.

ii Suggest TWO ~~sign~~ dangers that might result from Ash Fall near a volcano.

Ans Threat to life of human etc.

It can also damage telecommunication, machanery and electronics efs.

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D Answer the following questions

i In the table below are statement that refer to either Weathering or Erosion. Comple the table by writing Weathering or Erosion in the spaces provided.

	Statement	Weathering OR Erosion
1	Breakdown of rock without it being moved	Weathering
2	Wearing away of rock during transport of rock particles	Erosion
3	A process caused by wind, running water and moving ice	Erosion
4	An effect of plant roots growing in rock joints and fractures	Weathering

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ii A statue was made from limestone. Rain makes limestone weather more quickly than sandstone. What substance in the rainwater causes this?

Ans The CO_2 is dissolved in rainwater which causes limestone to be dissolved quickly then sandstone.

iii Why igneous rocks never contain fossils?

Ans The igneous rocks never contain fossils because igneous rock are formed at high temperature and pressure which destroy the fossils if present in the surrounding rocks or in its parental materials.

iv Granite takes much longer to cool deep underground than basalt lava at the Earth's surface. How and why is the size of the crystals in granite different from the size of the crystals in basalt?

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Ans Granite has large size crystals than Basalt because granite takes larger time to cool due to low temperature difference at greater depth.

v Describe one process that might be responsible for producing the large, angular, poorly sorted fragments in the scree sediment collecting at the bottom of the cliff?

Ans Scree sediment at the bottom of a cliff are large, angular and poorly sorted because of the process of glacial transport.