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Section: B

paper: Geology.

C. Figure 3, Shows the structure of a volcano and the layers beneath.

(I) What Type of volcano is shown in the figure by shape & if eruption is more often, which category it fits?

Ans. Composite volcano is shown in figure by shape. And if the eruption is more often, than the volcano fit in Active volcano category.

(II) The eruption show in figure 3 is producing an "Ash Column" that rises thousands of meters above the volcano summit.

(a) Explain How gases trapped in the magma help produce the ash column.

Ans The sudden release of

(2)

pressure causes the gases in the magma to suddenly froth & create volcanic ash column & pumice, which is then ejected through the volcanic vent to create the signature eruption column commonly associated with explosive eruption.

(b) Many people around the world live close to volcanoes so, when a volcano erupts, thousands of lives may be at risk.

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

Ans The area or place which release hot gases as well the temperature of that area is relatively high than it means that volcano is about to erupt. this is the sign of volcano

(3)

which show volcano is about to erupt.

Q.6 (ii)

Suggest two dangers that might result from Ash Fall near a volcano.

Ans

(i) The ash fall of volcano ~~is~~ is effect the health of human being. Such as respiratory problems, eye problems & skin irritation.

(ii) The long time effect of ash fall is silicosis. Silicosis is a disease that damage lungs and also the volcano ash fall is discolor the human being. from exposure to particulates of free Crystalline silica.

(4)

(A)

Figure 1, Shows part of the earth's Crust and the locations where some Rock cycle processes take place  
[a] Rock is broken down by frost, rain and Sun at A. What name is given to this process?

Ans If the Rock is broken down by frost, rain and Sun at A. then this process is called weathering.

[b] How do sediment grains in a river change during transport from A to B? State two differences in the likely appearance of the grains.

Ans When a sediment grain in a river moves from one place to another place, the smaller particles of the grain settle first during transportation. And then they make their own layer. The smaller particles of grains settle first B/c of low velocity. And after that the larger

P.T.O

(5)

Larger sediment grain settle  
down secondary. & Transported from A to B.

(c) How loose sediment at C become  
changed into solid rock?

Ans Due to temperature variation  
of the rock change their own  
composition. And all the layers  
of the sedimentary rock are  
attached with each other then  
it make a solid rock.

(d) Rock that are deeply buried in  
the earth's crust may undergo  
metamorphisms. Describe two changes that  
happen in rock during metamorphism.

Ans ⇒ Changes that happen in rocks during  
metamorphism

(i) Contact metamorphism → this is the  
type of metamorphic rock which  
is formed due to high Temp under

P. T. 0

(6)

under the earth crust.

(ii) Regional metamorphism →

This is the type of metamorphic rock which is formed due to high pressure under the earth crust is called Regional metamorphism.

|| || || || ||  
D Answer the following question?

D (i) in the table below are statements that refer to either weathering or erosion. Complete the table below by writing weathering or erosion in the space provided.

Ans

Statement

weathering or erosion

(i) Breakdown of rock without it being moved weathering

(ii) wearing away of rock during Erosion  
Transport of rock particles ||

P.T.O

(7)

Statement

weathering or  
erosion

III

A process caused by wind,  
running water and moving ice

Erosion.

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IV

An effect of plant roots  
growing in rock joints and  
fracture

weathering

//

//

D (iii)

Why igneous rocks never contain  
fossils?

Ans

If the magma cools slowly,  
large crystals form in the rock.  
they are intrusive igneous rock  
because they form from magma  
under the earth. Unlike sedimentary  
rocks & igneous rock do not  
contain fossils. This is because  
any fossils in the igneous rock  
will have melted when the  
magma formed. B/c of these  
reason igneous rock never contains  
fossils.

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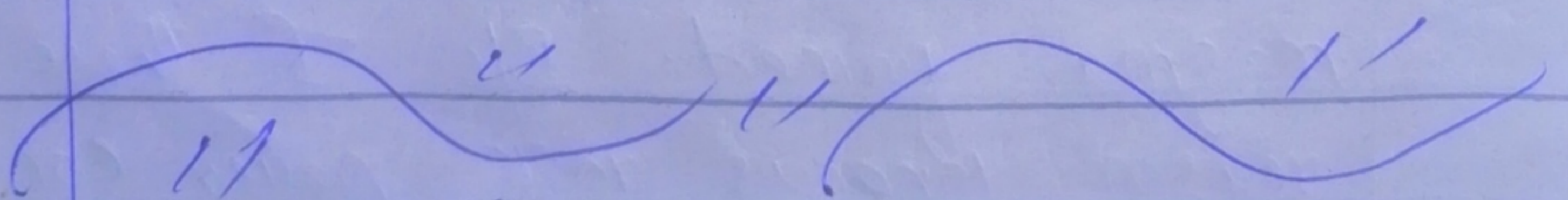
(8)

D(ii)

A Statue was made from limestone. Rain makes limestone weather more quickly than sandstone. What is the substance in the rain water that causes this?

Ans

Limestones are predominantly affected by chemical weathering as compared to sandstone. The rainwater which contains weak carbonic acid reacts with limestone. This carbonic acid causes weathering in limestone. And because of this reason, limestone is weathered more quickly than sandstone. Also, carbonic acid in rainwater causes weathering in limestone & sandstone.





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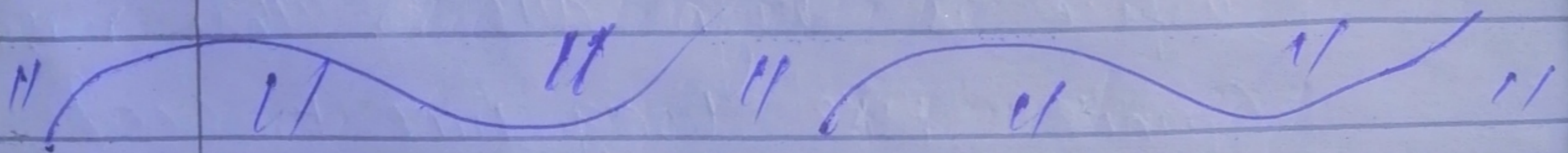
D (iv) Granite takes much longer to cool deep underground than basalt lava at the Earth's surface. How and why is the size of crystals in granite different from the size of the crystals in basalt?

Ans Due to temperature difference Granite take much longer time to cool deep underground than the basalt lava at the earth surface. The ~~Temperature under~~ temperature under the earth surface is high due to this reason Granite take long time to cool while temperature at the earth surface is relatively cooled as compared to temperature under the earth surface B/c of the temperature difference below & at the surface Granite is take longer time to cool than Basalt

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Lava at the earth surface.

Igneous rock contains randomly arranged interlocking crystals. The size of the crystal depends upon how quickly the molten magma solidifies. The magma that cool slowly will form large crystal while the lava that cools quickly will form small crystals. B/c of this reason the size of the crystals in granite different from the size of the crystal in Basalt.

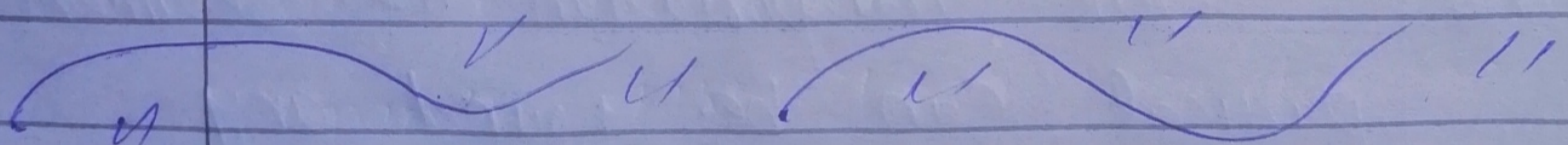


Q (V) Describe one process that might be responsible for producing the large, angular, poorly sorted fragment in the scree sediment collecting at the bottom of the cliff?

Ans Gravity is the process that might be responsible for producing

(11)

the large, angular, poorly sorted fragment in the scree sediment collecting at the bottom of the cliff. If the rock is weathered into large pieces than the gravity of earth is attracted the broken rock into its centre. than the broken rock is fall down on the bottom of the rock & produce large, angular, poorly sorted fragment in the scree sediment collecting at the bottom of the cliff.



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

- 1 clay mud
- 2 rounded pebble & sand
- 3 sloping sand layer
- 4 angular boulders

B(i)

in each box, write down the most likely ~~with~~ number from the deposit produced column in the table above.

Ans

likely Number from the deposit produced in the table are: →

(i) ~~Angular~~ → ~~rounded~~

Deposition order

Angular boulder → rounded pebbles & sand → stoping sand layer → clay mud.

B(ii)

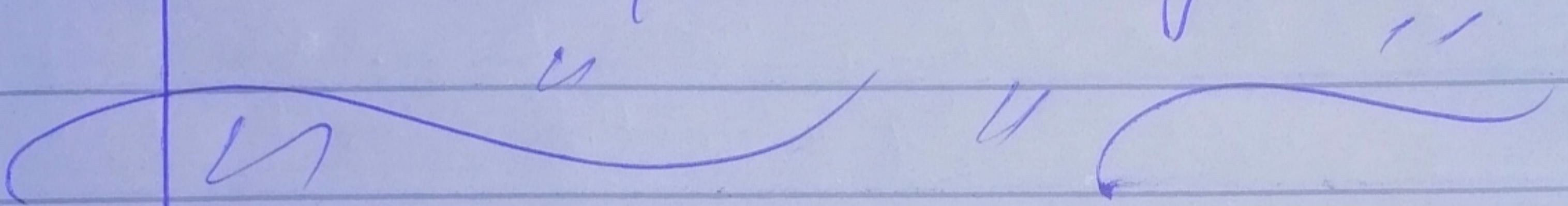
in your own word, explain sediment particles changes as they are transported downstream by a river.

Ans

The Transportation of sediment particles can be found any where in the water system from high ~~at~~ water stream of the river to low stream of the water. The water which flow in the river it exerted force on the sediment particles in the same direction in which water of river

(13)

river can flow. B/c of these  
season the sediment particles  
are transported & changed downstream  
by the river. And then the  
sediment particles changed.



The end