

IQRA NATIONAL UNIVERSITY

DEPARTMENT: CIVIL ENGINEERING

PAPER: ENGINEERING GEOLOGY

EXAM: MID TERM

SEMESTER: 2ND

STUDENT:16595

NAME: NIAMAT ULLAH

QUASTION:-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?

(b) How is sediment grains in a river changed during transport from **A** to **B**? State **two** differences in the likely appearance of the grains.

(c) How do loose sediments at **C** become changed into solid rock?

(d) Rocks that are deeply buried in the Earth's crust may undergo metamorphism. Describe **two** changes that happen in rocks during metamorphism & explain point **D**?

Answer:-

a) Ans

Weathering is the breaking down of rocks, soil, and minerals as well as wood and artificial ... Two important classifications of weathering processes exist – physical and ... Physical weathering can occur due to temperature, pressure, frost etc.

b) Ans

Sediment moves from one place to another through the process of erosion. Erosion is the removal and transportation of rock or soil. Erosion can move sediment through water, ice, or wind. Water can wash sediment, such as gravel or pebbles, down from a creek, into a river, and eventually to that river's delta.

c) Ans

Once particles have been transported to a new area, they must be transformed from a collection of loose sediment into new, solid rock. This process is called lithification ("lith" means stone). Lithification is a combination of two processes: compaction and cementation.

d) Ans

During metamorphism the protolith undergoes changes in texture of ... These changes take place mostly in the solid state and are caused by ... rocks undergo changes in temperature and pressure and may be ... Thus higher temperature can occur by burial of rock. ... There are two kinds of differential stress.

 END

QUESTION:-B, Below Shows The Size And Shape Of Typical Sediment Particles From The Deposit Produced

B. Figure 2.

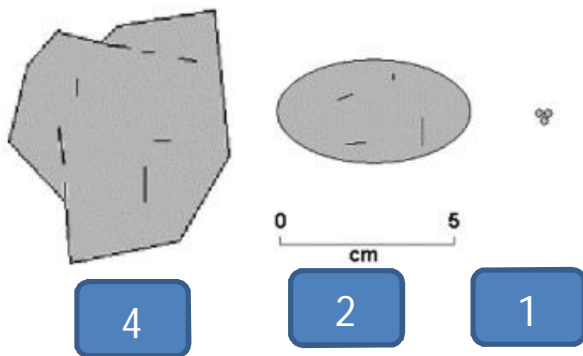
1. Clay mud
2. rounded pebbles and sand
3. Sloping sand layers
4. Angular boulders

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

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

Answer:-

I) Ans



II)Ans

These particulates are typically small, with clay defined as particles less than 0.00195 mm ...
If the water flow is strong enough to pick up sediment particles, they will ... is the amount of sediment carried downstream within the water column by the ... Alluvial rivers and streams create their own path by carrying sediment away.

✚ END

QUESTION:- C. Figure 3, the structure 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?

(II) The eruption shown 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.
- ❖ (b) Many people around the World live close to
- ❖ volcanoes 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.
- ❖ (ii) Suggest TWO dangers that might result from Ash Fall near a volcano.

Answer:-

❖ i)

It is composite volcano if and if eruption is more often it will convert to shield volcano these both are same but it has smoother, lower profile than composite volcano

❖ ii)

A)ANS

At depth in the Earth nearly all magmas contain gas dissolved in the liquid, but the gas forms a separate vapor phase when pressure is decreased as magma rises toward the surface of the Earth. ... Gas gives magmas their explosive character, because volume of gas expands as pressure is reduced

B) Two parts

I) These signs may include very small earthquakes beneath the volcano, slight inflation, or swelling, of the volcano and increased emission of heat and gas from vents on the volcano," said U.S. Geological Survey (USGS) Volcano Hazards Program coordinator John Eichelberger.

ii) Health effects include respiratory problems, eye problems, and skin irritation. One long-term effect of volcanic ash is silicosis. Silicosis is a disease resulting in lung impairment and scarring, from exposure to particles of free crystalline silica. ... Volcanic ash can also contaminate the water supply

✚ END

QUASTION:-D Answer the following questions?

i (i) In the table below are statements that refer to either Weathering or Erosion. Complete the table by writing Weathering or Erosion in the spaces provided.

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

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

(iii) Why igneous rocks never contain fossils?

(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?

(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?

Answer:-

i)

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

ii)

Carbonic acid is the substance in the rain water

iii)

because any fossil in the original rock will have matted when the formed merged.

iv)

the difference is between silica contend .

 **END**