2. Lithosphere

Exercises

1 A. Question

Fill in the blanks with suitable words:

The continental crust is also called ____.

Answer

The continental crust is also called SIAL.

The continental crust is composed of the minerals silica and magnesium (SI – silica, and AL -aluminum).

1 B. Question

Fill in the blanks with suitable words:

Vast basin shaped volcanic mouth is called _____.

Answer

Vast basin shaped volcanic mouth is called Coldera.

A large basin-shaped crater – the funnel-shaped hollow at the top of the cone of the volcano - bounded by steep sides is known as Caldera.

1 C. Question

Fill in the blanks with suitable words:

The most destructive earthquake waves are _____.

Answer

The most destructive earthquake waves are surface waves.

Surface waves or long waves are the slowest waves, but are highly destructive. Since these waves have larger amplitude they cause maximum destruction.

1 D. Question

Fill in the blanks with suitable words:

Stalactites and Stalagmites are most common in _____ .

Answer

Stalactite and Stalagmite are most common in underground caves.

Stalactite and Stalagmite are relief features created by the action of underground water on limestone caves.

1 E. Question

Fill in the blanks with suitable words:

The Beaches are formed by _____ work.

Answer

The beaches are formed by sea waves work.

Beaches are created by the denudation work carried out by sea waves, along with many other relief features.

2 A. Question

Answer the following questions:

Mention the three major layers of the interior of the Earth.

Answer

The three major layers of the interior of the earth are:

• The crust

Is the uppermost layer of the Earth, rich in Silica, Aluminum and Magnesium. This layer is about 60 kms from the surface. Is further divided into upper continental crust (SIAL) and lower oceanic crust (SIMA).

• The mantle

Is the middle layer of the Earth. Is composed of dense and rigid rocks which have a predominance of minerals like magnesium and iron. This layer is 2900 kms deep. The materials are in semi-liquid or molten state called the magma. The layer is further divided into two: (a) Upper mantle or Asthenosphere in a partially molten condition and (b) Lower mantle or Mesosphere in solid condition.

• The core

Is the innermost layer of the Earth. The important minerals are Nickel and Ferrous (iron). This layer has a maximum depth of 6371 kms from the surface. The core is divided into two sub layers: (a) the outer core is known as molten core, where the materials are in liquid and in molten form, and (b) the inner core known as solid core.

The core is the innermost layer, mantle is the middle layer and the crust is the outermost layer.

2 B. Question

Answer the following questions:

Name the types of volcanoes on the basis of frequency of eruption.

Answer

The three types of volcanoes on the basis of eruption are:

• Active volcanoes: these are volcanoes that are active and hence, constantly eject lava, gases, ashes, etc. There are about 600 active volcanoes in the world.

Example: Mt. Stromboli and Mt. Etna in Italy, St. Helens in USA, Mauna Loa in Hawaiian Islands, Pinatubo in Philippines, etc.

• Dormant volcanoes: there are volcanoes that have erupted in the past and are likely to erupt again but have remained inactive for fairly long periods.

Example: Mt. Vesuvius in Italy, Mt. Fujiyama in Japan, Mt. Kilimanjaro in Tanzania, Mt. Krakatoa in Indonesia, etc.

• Extinct volcanoes: these are volcanoes that were active in remote geological periods, and are not likely to be active once again.

Example: Gorongoro in Tanzania, Arthur's Seat in Scotland.

2 C. Question

Answer the following questions:

Mention the important earthquake zones of the world.

Answer

The important earthquake zones of the world are:

• The ring of fire

• Mid- Atlantic ridge

• The Alpide Belt

2 D. Question

Answer the following questions:

What is weathering? Name the three main types of weathering.

Answer

The process of breaking down of rocks and other minerals on the surface of the earth is known as weathering. The different agents of the weathering are water, air, acids, plants, animals, etc.

The three different types of weathering are:

- Physical weathering or Mechanical weathering
- Chemical weathering
- Biological weathering

2 E. Question

Answer the following questions:

Name the landforms associated with the work of river.

Answer

Denudation is the action of changing the surface of the Earth by various natural agents such as River, Glaciers, Underground water, Wind, Sea Waves, etc. Among these natural agents, river is the most prominent agent of denudation, and rivers do create various relief features over its course. The different type of landforms associated with the work of the river are:

Erosional landforms:

- Gorges and canyons
- Waterfalls
- Potholes
- Structural benches
- Meanders
- Ox bow lakes.

3. Question

Match the following:

A	B
1. SIMA	a) Earthquake
2. Sandstone	b) Yellow soil
3. Epicentre	c) Oceanic crust
4. Geyser	d) Sedimentary rock
5. Loess	e) Underground water

Answer

1. SIMA – (c) Oceanic crust

Silica and Magnesium are the minerals that are commonly found in the Oceanic Crust, hence this layer is also known as SIMA.

2. Sandstone- yellow soil

• Sandstone – Sedimentary Rock

Sandstone are a type of mechanically formed sedimentary rocks, built up by fragments of pre-existing rocks that have been produced by the processes of weathering and erosion.

3. Epicentre- earthquake

Epicentre is a term associated with the Earthquake. The point on the Earth's surface vertically above the origin point of the Earthquake is called the Epicentre.

4. Geyser- Underground water

Geysers are a type of spring, where the underground water surfaces, or comes out naturally. Geysers throw a jet of hot water and stream into the air at regular or irregular intervals.

5. Loess- Sedimentary rock

• Loess – Yellow Soil

Loess are a kind of depositional landform formed with the action of wind in arid and dry regions. These are the sand particles found beyond the borders of deserts. A major example is the yellow soil in China.

4. Question

Define the following:

1. Aqueous rocks

2. 'Pacific ring of fire'

3. Mechanical weathering

4. Carbonaceous rocks

5. Tsunami

6. Continental glacier

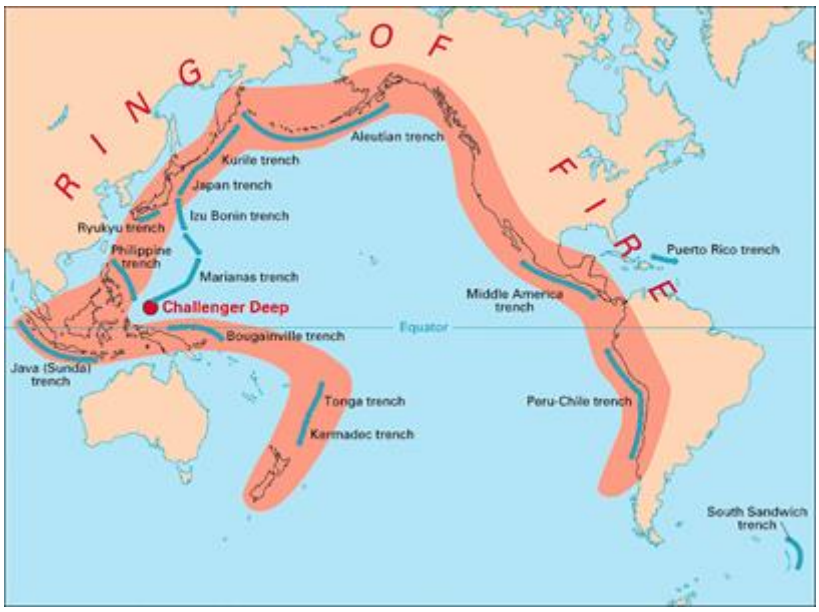
7. Hot spring

Answer

1. Aqueous rocks – The rocks that are formed because of water action, like the rocks, which contains sediments, are called aqueous rocks.

The deposit of sedimentary rocks when formed in water bodies like lake, sea and ocean beds, are known as aqueous rocks.

2. 'Pacific ring of fire'- The area in the Pacific Ocean basin where frequent earthquake and volcanoes occurs is known as the 'Pacific ring of fire'.



The Pacific Ring of Fire is an arc around the Pacific Ocean, where earthquakes and volcanoes are commonly found to occur.

3. Mechanical weathering- The type of weathering in which large rocks are broken in the smaller pieces is known as mechanical weathering. This form of weathering do not change the chemical nature for the rock.

The type of weathering where the rocks are broken and disintegrated without any chemical alteration is called physical or mechanical weathering. The weathering processes included in this type are Granular disintegration, Block disintegration, and Exfoliation. The agents of mechanical weathering are temperature, wind, frost, etc.

4. Carbonaceous rocks- The types of rocks, which are formed by the deposition of sea plants, which were buried long time ago, are known as carbonaceous rocks. The carbon is the main ingredient of the carbonaceous rocks.

Carbonaceous rocks are those that are formed by the accumulation of remains of organisms. Pressure exerted by overlaying deposits, as well as the large geological time have transformed these organic material into such rocks.

5. Tsunami- The fast moving waves in the ocean bed, which are the result of the severe earthquake or volcanic eruptions, are known as Tsunamis.

Tsunami, a Japanese term for 'harbor wave', is a seismic sea wave, or rather a series of waves caused by the displacement of a large volume of water in an ocean, sea or lake, due to seismic activities (earthquake) in the seabed.

6. Continental glacier- The glacier that covers the significant part of the continent are known as continental glacier. These glaciers are much larger than the alpine glaciers.

Glaciers - slow moving, compacted mass of ice and snow – are divided into two based on location factors. Among them continental glaciers comprise the extensive ice sheets found in polar regions.

7. Hot Spring- The place where the ground water gets heated by the energy released from the earth is known as the hot spring. This spring also grabs the tourist attraction to the larger extent.

Hot spring are natural fountains of warm or hot water that are usually found near the volcanic regions. It is also called as thermal spring. They make for great tourist destinations.