St. Andrews Scots Sr. Sec. School

9th Avenue, I.P. Extension, Patparganj, Delhi – 110092

Session: 2023-2024

Class : VII **Subject : Social Science** **Topic : Geography** **Chapter 1**

Introduction

- The physical and biological conditions in which an organism lives make up its environment.
- The Earth can be divided into three zones , or spheres—the lithosphere (sphere of rock), the hydrosphere (sphere of water) and the atmosphere (sphere of air).
- The parts of different spheres in which life exists together form the biosphere, or sphere of life.
- The earth consists of three concentric layers— the crust, the mantle, and the core.
- Crust is the uppermost layer of the earth, with a thickness of about 35 km. This upper part of layer is rich in sial (silica, aluminium) while the lower part is rich in sima (silica, magnesium).
- Below the crust lies the mantle, with a depth of 2,900 km . Its chief constituents are silicates of iron and magnesium. This layer has two parts – upper and lower mantle.
- Upper mantle is solid while below this layer lies a soft layer.
- The innermost layer of the earth is called the core ,with a thickness of 3,500 km. This layer is rich in nife (nickel , ferrum). Outer part of the core is molten, while its innermost part is solid.
- Rocks are made up of minerals. Based on how they are formed , rocks may be of three types—igneous, sedimentary and metamorphic.
- A type of rock formed by the cooling and hardening of lava or magma is known as igneous rocks. Example- Basalt, andesite etc.
- A type of rock formed by the deposition and hardening of layers of sediments is known as sedimentary rocks. Example- sandstone, limestone etc.
- A type of rock changed from its original form due to hear or pressure is known as metamorphic rocks. Example- marble, slate etc.
- A volcano is a vent, or an opening, at a weak spot in the earth’s crust, through which magma erupts onto the surface as lava.

- The landform- building processes like folding, faulting, etc., caused by the movement of the lithospheric plates are termed as tectonic processes.
- An earthquake is a sudden and violenr shaking of the earth's surface. Most earthquakes are caused by the movement of the plates of the lithosphere.
- The instrument used for recording and measuring the vibrations of an earthquake is called a seismograph.

Questions and Answers

B. Answer the following questions in not more than 20 words.

1. Define environment.

Ans. Each organism is made in such a way that it can live under a particular set of conditions. The physical and biological conditions in which an organism lives make up its environment.

2. What are rocks made of ? Name the three main types of rocks.

Ans. (i) Rocks are made up of minerals. Minerals are naturally occurring chemical compounds. The minerals feldspar and quartz (silica) are common constituents of rocks.

(ii) Three main types of rocks are :-

a. Igneous rocks

b. Sedimentary rocks

c. Metamorphic rocks .

3. Define magma and lava.

Ans. Magma is molten rock found below the earth's surface.

Lava is magma which has come out onto the earth's surface.

4. What are fossils ?

Ans. The remains of plants and animals trapped within layers of rocks are called fossils. Hence petroleum and coal are called fossil fuels.

5. What are tectonic processes ?

Ans. Tectonic processes are landform- building processes like folding, etc., caused by the movement of the lithospheric plates.

C. Answer the following questions in not more than 40 words.

1. How does the upper mantle differ from the lower mantle.

Ans. (i) The mantle has two parts- The upper mantle and the lower mantle. The upper mantle is about670 km thick, while the lower mantle is nearly 2,200 km thick.

(ii) The top layer of the upper mantle is solid. Below this layer lies a soft layer.

(iii) The rocks of the upper mantle become harder with depth. The lower mantle is composed of rocks of uniform hardness.

2. What is a volcanic cone?

Ans. (i) During a volcanic eruptions, gases, ash, steam and even pieces of rocks are spewed out alone with lava.

(ii) Gradually, ash, rocks and solidified lava pile up around the vent, forming a conical hill known as a volcanic cone.

(iii) The word 'volcano' is also sometimes used to refer to a volcanic cone.

(iv) Mount Etna in Sicily, Kilimanjaro in Tanzania, and Kilauea and Mauna Kea in Hawaii are example of volcanoes.

4. What are the effects of earthquakes on landforms ?

Ans. (i) An earthquake is a sudden and violent shaking of the earth's surface.

(ii) Most earthquakes are caused by the movement of the plates of the lithosphere.

(iii) Volcanic eruptions also cause earthquakes.

(iv) An earthquake usually lasts for only a few seconds, but may be violent enough to cause extensive damage to life and property.

(v) Earthquakes do not create major landforms. They can, however, cause changes in the existing landforms. For example, they may cause cracks to open up in the ground. They may also lead to landslides or cause giant waves in the oceans.

5. Which region suffered the maximum damage due to the earthquake that hit Gujarat in 2001 ? Why ?

Ans. (i) The region around Bhuj, suffered the maximum damage.

(ii) This is because the earthquake had its epicenter near Bhuj in Kachchh.

(iii) The collapse of building, is the main cause of deaths in any earthquake. Also, the Bhuj region is fairly densely populated, was another reasons for the large number of deaths.

D. Answer the following questions in not more than 100 words.

1. Briefly describe the earth's crust.

Ans. (i) The uppermost layer of the earth is known as the crust. The crust is very thin, with an average thickness of about 35 km.

(ii) The crust is not uniformly places. It is thinner under the oceans and thicker under the continents.

(iii) The upper part of the continental crust, which is rich in silica and aluminium, is called sial (si is for silica and al is for aluminium).

(iv) The lower part of the continental crust and the whole of the oceanic crust are composed mainly of denser materials rich in silica and magnesium. They are together called sima (si is for silica and ma is for magnesium).

(v) The surface of the crust is also quite uneven . For example, Mount Everest, the highest mountain peak in the world.

2. What are igneous rocks ? How are they formed ?

Ans. (i) Deep below the earth's surface , rocks are in a molten state called magma.

(ii) When magma cools and solidifies. It forms a very hard rocks known as igneous rock (igneous means 'of fire').

(iii) Igneous rocks are called primary rocks, as these were the first rocks formed when the earth's crust solidified.

(iv) Extrusive igneous rocks are formed when magma cools and solidifies on reaching the surface (the magma that reaches the surface) is known as lava. As the lava cools and solidifies rapidly on the surface, the minerals present in it form very small crystals.

(v) Basalt, andesite and rhyolite are examples of extrusive igneous rocks.

(vi) Below the earth's surface, the process of cooling of magma is much slower. The slow cooling allows large crystals of minerals to form. Igneous rocks formed in this way are, therefore, coarse grained. They are known as intrusive igneous rocks. Granite and gabbro are few examples of this type of rock.

3. What are sedimentary rocks ? Explain how they are formed ?

Ans. (i) Running water , wind and moving ice carry small particles of rocks. When these rocks particles are deposited on land or on the beds of oceans or rivers, they are called sediments.

(ii) Sediments are deposited in layers. They harden over the years.

(iii) Rocks formed by the deposition and hardening of layers of sediments are called sedimentary rocks.

(iv) These rocks are usually made up of layers of different composition. Example , Sandstone, limestone.

(v) Coal, too, is a sedimentary rock formed by the remains of organisms, mainly plants, which got buried with other sediments millions of years ago.
