

CLASS- IX

SUBJECT- GEOGRAPHY

CHAPTER- EARTHQUAKE {2ND TERM}

❖ Highlights :-

1. **Earthquake**- It is the tremors and vibrations in the crust of the earth produced by internal forces.
2. **Seismology**- It is the branch of science which deals with the study of earthquakes.
3. **Seismograph/seismometer**- It is an instrument used for measuring the intensity of the earthquake.
4. **Seismic focus**- It is the point in the interior of the earth from where the earthquake tremors originates.
5. **Epicentre**- It is the point on the earth surface vertically above the seismic focus.
6. **Tsunami**- It is an extreme large wave caused in the sea by an earthquake.

❖ Causes of Earthquake-

1. **Volcanoes**- Volcanic eruption exert a pressure and earthquake occurs in the adjoining areas
2. **Plate Tectonics**- The crust of the earth is made of a series of moveable plates. These plates move and slide over each other. When such two plates collide with each other, it causes sudden movement which results in earthquake.
3. **Folding and Faulting**- Internal horizontal and vertical movements due to compressional and tensional forces cause folding and faulting in the earth's crust. This causes displacement of rocks in the crust. Such an imbalance causes earthquakes.

❖ Seismic waves/earthquake waves-

3 types of waves-

- a. P waves (primary waves)
- b. S waves (secondary waves)
- c. L waves (long waves)

❖ Measurement -

1. **Seismograph** is used for measuring the direction and intensity of earthquakes
2. **2 Types of scales used for measuring the intensity of earthquakes-**
 - a. *Richter Scale*- It was invented by an American seismologist, Charles Francis Richter in 1935.
 - b. *Mercalli Scale*- It was introduced in the 20th century by Italian Seismologist, Giuseppe Mercalli.

❖ Effects of Earthquakes-

1. Constructive Effects-

- a. Earthquakes help the Earth to release its stored up energy which keeps it in good shape.
- b. It may cause fissure-openings resulting in the formation of hot springs which are useful to mankind.
- c. It helps us to know about the interior of the earth , from the study of tremors
- d. It may also cause the formation of bays and gulfs which are useful as ideals sites for harbours.

2. Destructive Effects-

- a. There is loss of life and property due to violent earthquakes. One such example can be the earthquake of 1923 in Japan, where more than 5 lakh people lost their life.
- b. Fissures and cracks are formed in the earth crust.
- c. Change in the crust structure may lead to landslides, bursting of dams, blocking of the course of rivers and subsequent flooding.
- d. Earthquakes also cause submergence of the coastal parts.

❖ Distribution of Earthquakes-

3 earthquake belts of the World-

- a. *The Circum Pacific Mountain Belt:* This belt is also known as "Ring of Fire". More than 70% of the active volcanoes of the world are found in this belt.
- b. *Mid-World Mountain belt:* It stretches from Eastern Europe covering Alpines-Himalayan ranges in Europe and Asia. About 20% of all earthquakes occur in this zone.
- c. *The Mid-Atlantic Ridge:* This belt comprises areas along the mid-oceanic ridges as well as many islands near the Atlantic Ocean. About 10% of earthquakes occur in this belt.