

Tenden Heart High School

Section 33 B, Chandigarh

NAME: VARUN SALHOTRA

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SUBJECT: GEOGRAPHY

CLASS: IX

Chapter 8

Earthquakes

Introduction

- Earthquake is the series of vibration that is caused due to series of sudden movement of rocks at seismic focus beneath the Earth's crust or in mantle.
- The magnitude of Earthquake is measured in Richter Scale from 0 to 9.
- The place of origin of Earthquake is known as Focus. It is always below the Earth's surface and its depth varies from place to place.
- The place on the ground surface which is perpendicular to Focus is called Epicentre. It records the Earthquake waves first.
- The waves generated by an Earthquake is known as seismic waves.
- Seismograph records the seismic waves.
- The science that deals with Earthquake waves is known as seismology.

Causes of Earthquakes

(1) Volcanicity:

- When violent gases try to escape upwards during the process of Volcanicity, they push the crustal surface from below with great force that generates severe Earthquakes.
- eg: earthquake caused due to explosion of Krakatau Volcano.

(2) Faulting:

- When faults cause isostatic disequilibrium in the crustal rocks, then the earthquakes of different ^{magnitude depending} upon the nature and magnitude of dislocation of rocks by faulting activities is caused.
- eg: 1950 earthquake of Assam.

(3) Elastic Rebound Theory:

- According to this theory, the underground rocks are elastic like rubber and they expand when it is stretched. They continue to stretch as long as the tensile force does not exceed the elasticity of rocks. When rocks are broken in this process they try to occupy the original position. This results in occurrence of Earthquakes.

→ eg: The earthquake of 1882 in Owen Valley California.

(4) Plate Tectonics:

- The Tectonic plate of the earth keeps on moving and sliding over each other. This weakens the edge of the tectonic plates that ultimately leads to occurrence of Earthquakes.
- eg: 2001 Earthquake of Bhuj (India)

Measurement of Earthquakes

- The magnitude of Earthquake is assessed by Richter Scale. It was devised by Charles F. Richter.
- This scale can be related to the energy released at the earthquake centre.
- This scale doesn't have any fixed maximum or minimum. So far up to 8.4 Richter Scale earthquake have been measured.