

A. Answer the following questions:-

1. Describe the distribution of Earthquakes in the world.

Ans. 1 There are three major belts in the world in which the earthquakes frequently occur. These earthquake belts are:-

- i. The Circum-Pacific Belt (Convergent Plate Boundaries)
- ii. The Mid-Atlantic Belt (Divergent Plate Boundaries)
- iii. The Mid-Continental Belt
- iv. Interplate Seismicity

2. Name the instrument used to measure an earthquake.

Ans.2 The waves generated by an earthquake are recorded by Seismograph.

3. Give some examples of earthquakes of the world.

Ans.3 Some examples of earthquakes of the world occurred on May 31, 1970 in northern Peru, resulting in 66,000 deaths while on July 28, 1976, the casualty in Tangshan (China) earthquake was 2, 50, 000.

4. What is meant by Richter Scale?

Ans.4 A Richter scale is a numerical scale for expressing the magnitude of an earthquake on the basis of seismograph oscillations.

5. What is an Earthquake?

Ans.5 An earthquake is the shaking of the surface of the Earth resulting from a sudden release of energy in the Earth's lithosphere that creates seismic waves.

6. What is meant by epicenter?

Ans.6 The point where the shock waves or seismic waves reach the surface is termed as epicenter. It is directly above the focus point.

7. What is Seismograph used for?

Ans.7 A seismograph, or seismometer, is an instrument used to detect and record earthquakes. Generally, it consists of a mass attached to a fixed base. During an earthquake, the base moves and the mass does not. The motion of the base with respect to the mass is commonly transformed into an electrical voltage.

8. State any two causes of earthquakes.

Ans.8 Two cause of earthquakes are:-

i. Folding and Faulting:-A fracture in a rock along which there has been an observable amount of displacement is known as fault.

(a) Earthquakes occur when movement of the Earth takes place along a line of fracture called a fault.

(b) Such earthquakes are called tectonic earthquakes.

(c) The San Andreas Fault of California is a typical example which led to earthquakes in 1906.

ii. Plate Tectonics:-The crust of the earth is made up of a series of movable plates. These plates move and slide over each other and their edges produce faults along the line of weakness. This movement of plates causes earthquakes. Most earthquakes are caused by tectonic movements. These earthquakes are very powerful and occur in high risk regions of the 'Pacific Ring' of South East Asia (Philippines and Indonesia) and northern India, along plate boundaries.

9. Mention any two destructive effects of earthquakes.

Ans.9 Two destructive effects of earthquakes:-

- i. Landslides:-Buildings can be damaged when the ground gives way beneath them. This can be in the form of a landslide down a hill or liquefaction of soils that can cause severe settling of the ground.

In the young-fold mountains like Andes, Rockies, Alps and the Himalayas, earthquakes result into landslide which damage the human settlements and disturb the transport system.

- ii. Flash Floods:-Many a time, under the impact of severe earthquakes, the dams and embankments develop fissures which become the cause of flash floods.

10. Mention two constructive effects of earthquakes.

Ans.10 Two constructive effects of earthquakes:-

- i. Earthquakes may result in fissure opening causing a Geyser or hot spring which are useful from medicinal point of view to man.
- ii. Sometimes earthquakes result in formation of coastal submergence and changing the coastal forms, forming bays and may prove to be helpful in navigation.

11. What is a Tsunami?

Ans.11 Tsunami:-Long wavelength shallow water wave caused by rapid displacement of water. Its velocity can reach 800 km per hour.

B. Explain the following terms:-

1. **Fault:**-When the crustal rocks are subjected to horizontal compressional pressure, they develop fractures or cracks along the line of weakness. These lines of fracture are known as faults. In faulting, blocks of rocks may move up or down. Block mountains and rift valleys are formed as a result of faulting.
2. **Seismic Focus:**-The place of origin within the Earth of an earthquake; usually some more or less restricted area of a fault surface. If the focus is to be some particular point, it is the central point of the area over which fault movement occurred and caused the earthquake.
3. **Flash Floods:**-Many a time, under the impact of severe earthquakes, the dams and embankments develop fissures which become the cause of flash floods.
4. **Landslide:**-A landslide is defined as the movement of a mass of rock, debris, or earth down a slope. Landslides are a type of "mass wasting," which denotes any down-slope movement of soil and rock under the direct influence of gravity.