Answer No: 1

# What causes earthquakes?

An earthquake is brought about by an unexpected slip on a shortcoming. The structural plates are in every case gradually moving, yet they stall out at their edges because of contact. At the point when the weight on the edge defeats the rubbing, there is an earthquake that discharges vitality in waves that move through the world's hull and cause the shaking that we feel.

# If the Richter magnitude reaches at 8 or above what will be the consequences?

**On the off chance that the Richter magnitude arrives at 8 or over the biggest recorded earthquake occurred in Chile on May 22, 1960, and estimated 9.5 on the Richter scale**. In the event that it will beneath the extent of 8, like (4.0-4.9 just harms will occur) if (5.0-5.9 It is distracting) so on thus fourth. Every year researchers record the extent of more than 1 million earthquakes, a large portion of which is too little to even think about feeling

# Differentiate primary and secondary waves

Primary waves travel quicker, move in a push-pull pattern, travel through solids, fluids and gases, and cause less harm because of their littler size. Secondary waves travel more slowly, move in an up and down pattern, travel just through solids, and cause more harm because of their more noteworthy size

Answer No: 2

Geological examination for choosing and finding dam destinations is one of the most critical investigations which ought to be completed in various scales and stages before choosing the best area for a dam and reservoirs. Along these lines, a sufficient appraisal of site geologic and geotechnical conditions is one of the hugest parts of a dam security assessment. Assessment of the security of another dam requires, in addition to other things, that its site, projections, establishment and supply have been satisfactorily analyzed, investigated, and researched so the geological conditions are completely comprehended however much as could reasonably be expected.

The geological examinations ought to incorporate four fundamental themes; these are (Woodward 2005):

1. The geography of the dam site including the establishment for the dam itself and the locales for different structures, for example, spillway, preoccupation passage and outlet works. To check whether the dam establishment has adequate quality and solidness to help the sort of dam proposed, regardless of whether the establishment is watertight, particularly, when certified rocks happen in the site and in more profound skylines cry the establishments.
2. The topography of the zone to be involved by the supply once the dam is finished. Regardless of whether the capacity territory is watertight or are there zones of huge limestone and additionally gypsum which may prompt the dam not holding water.
3. Soundness of the inclines in the dam site and repository region whether avalanches into the supply are conceivable which may make an influx of water be pushed over the highest point of the dam.
4. Discovering wellsprings of the development materials which will be expected to assemble the dam in close by territories of the dam site including every single required sort like: totals of various kinds and sizes, filling materials in the center and the two surfaces (if the dam is of earth-fill type).

Answer No: 3

# Types of Mass

Sorts of mass wasting incorporate

* creep
* slides
* flows
* topples

And falls, each with its own trademark highlights, and occurring over timescales from seconds to many years. Mass wasting happens on both earthbound and submarine inclines and has been seen on Earth, Mars, Venus, and Jupiter's moon

# Protective Measure of Land sliding

These are the protective measures of land sliding

## Individual measures

Support of floor sections and outer dividers in existing structures. Establishment of waste channels for water, slant seepage. Planting of slants that are powerless against landslides with profound established trees and bushes.

## Specialized/organic measures

Waste and/or reviewing of incline profiles increment the shear obstruction Supporting structures, for example, grapples and heaps (sticking of the slip plane) can control landslides Evacuation of material in the 'driving' area, or material affidavit in the 'slowing down' segment, can forestall further plummet of the sliding body

## Defensive woodland

Arranging measures and neighborhood assurance The utilization of inclines inclined to landslides must be stayed away from, or utilizes reasonably adjusted Pressure driven and electrical associations must be adaptable.

## Hierarchical measures

The generally long guidance ahead of time period allows convenient departure.

Geogrids are materials for disintegration control that guarantee the dirt ability to develop plants, lessening the harm brought about by substantial rains and wind in slants and dykes. They are two-dimensional structures made by polymers to enhance soil pressure. The best application is in delicate soils, for example, sand or mud.

Answer No: 4

# Differentiate fault, joint and fold

* **FOLD:**Permanent wavelike deformation in layered rock or sediment.
* **JOINT:**A fracture on a rock without noticeable movement
* **FAULT:**A fracture in bedrock along which rocks on one side have moved relative to the other side.

# Part “A”

Because of the slopes idea of the shortcoming plane and descending relocation of a piece of the layers, typical faults cause an expansion in the crust any place they happen.

# Part “B”

a fold occurs when one or a pile of initially level and planar surfaces, for example, sedimentary layers, are bowed or bended because of perpetual misshaping. Sedimentary folds are those due to drooping of sedimentary material before it is lithified. Folds in rocks fluctuate in size from infinitesimal creases to mountain-sized folds. They happen as single confined folds or in sets

# Part “C”

Explanation: In dip faults which occur parallel to the dip of the outcrop, the most prominent effect observed after faulting and erosion of the up thrown block is a horizontal shift between the two parts of the outcrop.

# Part “D”

Where should a site for a civil engineering project be located?

1. On faulted zone
2. on folded strata
3. On a joint
4. **Must be avoided to possible extent to be built on all three**.

Answer No: 5

# Description of tunneling

A tunnel is an underground passageway, dug through the surrounding soil/earth/rock and enclosed except for entrance and exit, commonly at each end. A pipeline is not a tunnel, though some recent tunnels have used immersed tube construction techniques rather than traditional tunnel boring methods.

# Geological Investigation

The errand and character of geological investigations vary contingent upon the phase of the advancement of a designing venture, on the significance of the planned designing work, on the geological structure and on the condition of fundamental geological examination of the task region. On this premise we recognize:

(1) The observation examination completed for the underlying venture study.

(2) The definite for plausibility) examination, which should deliver a solid reason for the improvement of the undertaking, the plans, spending plan and working calendar for development.

(3) The examination during development, especially during the removal of establishments, so as to check the ends from the observation and nitty gritty investigations, and to give the development engineer the ideal data.