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Q 1

Ans 1

Earth quakes

Definition

Any sudden shaking of the ground caused by the passage of seismic wave through earth's rocks is known as earth quakes.

The prospective to reduce the destruction caused by Earth quakes :->

The only thing you can definitely predict about earth quake is .

↳ The further you are from the last one

↳ The nearer you are to the next

- ↳ Calculate the affected population they become homeless in the earthquake.
- ↳ ~~After~~ calculate the time difference between the past earthquake and in present earthquake.
- ↳ First of all clear the area from people where the earthquake are mostly occur.
- ↳
- ↳ The building and dam's are constructed. In construction think about the factor of safety.
- ↳ To update all the device by which record the disaster.
- ↳ To make a department for these disaster.

↳ Also make a doctor team
↳ for these emergency disaster.

↳ Don't construct a multi
storey's building in those
area's where the earthquake
chances are more.

↳ Available the seismic expectancy
map or hazard map's are now
available for planning purposes.

↳ To avoid all the weakness
found in earlier earthquake
hazard map.

↳ Engineer developed the structural
design that are able to resist
the force generated by seismic
wave.

- ↳ Earthquake risks can also be reduced by rapid post earthquake response -
- ↳ Strong motion accelerograph, have been connected in some urban area.
- ↳ Make a research department for this ~~disaster~~ disaster to reduce its destruction

Q 2

ANS 2

History of seismology

Definition

It is the scientific study of earthquakes, when, where how often, how big they occur.

History :->

↳ Thales of Miletos 600 BC

The world on earth quakes first time when the earthquakes are caused by water

↳ Aristotle in 340 BC

Earth quakes cause by air in motion

Galileo 1638 ~~was~~
considered resistance & rock
shear strength to rupture.

↳ Athanasius Wiechert 1660-1664.

He works on laying the
foundation for theory of elasticity
for seismic wave.

*↳ Robert Mallet (1857)

Discover the instrument of
seismology. He carried out
seismological experiment using
explosive and mercury container

↳ Harry Fielding Reid (1910)

Elastic rebound theory
proposed.

↳ Harold Jeffreys (1926)

Found that below the earth crust, the core of earth is liquid.

↳ Inge Lehmann (1937)

within the earth liquid outer core there is a solid inner core.

Father of seismology: →

The first principle of observational seismology

Determined the source depth of earthquake

$h = 10.42$ km for Naples earthquake

* epicenter

* hypocenter

* Earthquake focus

In 1851 first used dynamite explosions in England to measure speed of elastic wave

↳ Earth quake wave are similar to sound wave

↳ Travel with in different velocity through different material. depending on the material physical properties.

"The first seismic map published in '1860'"

Seismoscope

The Instrument by which measure the ground motion but does not record it over time" is known as seismoscope.

Principle = of working :->

Seismoscope is an instrument that give a qualitative measure of oscillatory motion produced by an earthquake or other disturbance of earth surface.

↳ unlike to seismograph its a device to calibrate the time

↳ In this demonstration an oscillating cone filled with sand hangs by a string. The sand fall from a hole over a moving surface and draws the waveform that show the general characteristic of motion

The seismoscope cylindrical in shape with eight dragon head arranged around its upper circumference each with a ball in its mouth.

Below were eight frogs each directly under a dragons heads when earthquake occurred a ball dropped and was caught by a frog mouth the frog generate sound

Q3

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Disaster risk of Pakistan

Pakistan

to exposed to natural hazard of variety.

The most damaging cyclone

- ↳ drought
- ↳ Earth quakes
- ↳ Floods
- ↳ land slide

↳ in 2005 a high magnitude earth quake caused the greatest destruction.

↳ Natural disaster including recurring flooding pose a major financing challenge.

↳ Mostly in hilly area, the land sliding or earthquake mostly occurs

↳ Some places like Punjab mostly floods are occurs

↳ Now a day corona virus is the big issue and disaster in Pakistan.

Q4

ANS4

Disaster Risk

The probability of loss of lives, ~~and~~ health status, economy, ~~the~~ livelihood, assets and service which could occur on a community or society.

Vulnerability add up to disaster risk.

Following vulnerability of disaster risk

- * Physical vulnerability
- * Social vulnerability
- * Environmental vulnerability
- * Economic vulnerability

Physical Vulnerability:->

It is generally involve what in the built environment is physical including structure, transportation routes and population

Social Vulnerability:->

It is the measure certain factor that increase / decrease the propensity of incur harm or damage to a potential hazard including

- ↳ individual
- ↳ society
- ↳ political factor
- ↳ cultural factor.

Environmental Vulnerability :->

It is the measure of health and welfare of the natural environment. Poor environmental practice can turn minor event into major disaster.

It may include:

- ↳ Deforestation
- ↳ Improper land use planning.
- ↳ Improper management of hazardous materials.

Economic Vulnerability :->

It is the measure of financial means of individual, towns, cities, communities or whole country to protect themselves from the effect of disaster.

↳ Poor people more suffer from disaster and poor group may lose the income and may be ruined consequently.