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ID # **6954**

ASSIGNMENT # **01**

SUBMITTED TO **Engr. KHURSHID ALAM**

SUBJECT **EARTHQUAKE**

DATE **10-05-2020**

QUESTION # 01:

Classification of the Earthquake:

Earthquake are usually classified on the following bases:

- (a) Cause of origin
- (b) Depth of focus; and
- (c) Intensity and magnitude of earthquake

(a) Cause of origin :

I. Tectonic:

Earthquake occurs when the plates move against one another this movement can create stress that causes the earth's exterior shell, the lithosphere, to shift or break.

II. Non-tectonic earthquake:

The non-tectonic earthquakes are mainly of three types due to surface causes, volcanic causes and collapse of cavity roofs.

(b) Depth of focus

I. Surface-earthquakes:

Surface-earthquakes are those in which the depth of focus is less than 10,000 metres.

II. Shallow-earthquakes:

The earthquakes with the hypocenter at a depth of 10 to 50.

III. Intermediate-focus earthquakes:

When the earthquake is originated at a depth of 50 to 300 kms.

IV. Deep-focus earthquakes:

The deep-focus earthquakes or the plutonic earthquakes are those with the hypocenters located at a depth more than 300 kms. Majority of the deep-focus earthquakes originated between 500 and 700 kms.

(c) Magnitude And Intensity Of Earthquake:

- Rossi-Forel's Scale
- Mercalli Scale
- Richter Scale

1. ROSSI-FORREL'S SCALE :

The 1873 version of the Rossi–Forel scale had 10 intensity levels:

1. Micro seismic tremor
2. Extremely feeble tremor.
3. Feeble tremor.
4. Slight tremor
5. Moderate tremor
6. Strong tremor
7. Very strong tremor.
8. Damaging tremor.
9. Devastating tremor.
10. Extremely high intensity tremor.

2. MERCALLI SCALE:

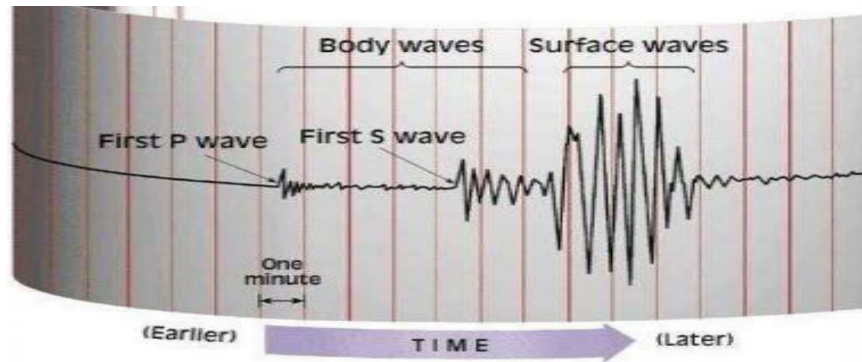
Level of Earthquake	Instrumental	Detected only by seismographs
I	Instrumental	Detected only by seismographs
II.	Feeble	Noticed only by sensitive people.
III	Slight	Resembling vibrations caused by heavy traffic
IV	Moderate	Felt by people walking; rocking of free standing objects
V	Rather strong	Sleepers awakened and bells ring
VI	Strong	Trees sway, some damage from overturning and falling objects.
VII	Very strong	General alarm, cracking of walls
VIII	Destructive	Chimneys fall and there is some damage to buildings
IX	Ruinous	Ground begins to crack, houses begin to collapse and pipes reak.
X.	Disastrous	Ground badly cracked and many buildings are destroyed. There are some landslides
XI.	Very Disastrous	Few buildings remain standing; bridges and railways destroyed. water, gas, electricity and telephones out of action
XII	Catastrophic	Total destruction; objects are thrown into the air, much heaving, shaking and distortion of the ground.

3. RICHTER SCALE:

MAGNITUDE

- Richter scale measures total amount of energy released by an earthquake; independent of intensity.
- Amplitude of the largest wave produced by an event is corrected for distance and assigned a value on an open-ended logarithmic scale.

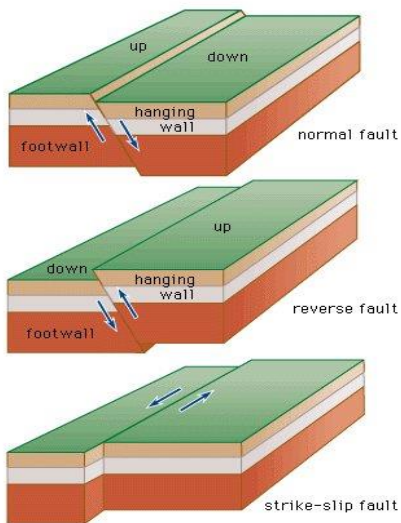
RICHTER SCALE CONTD.



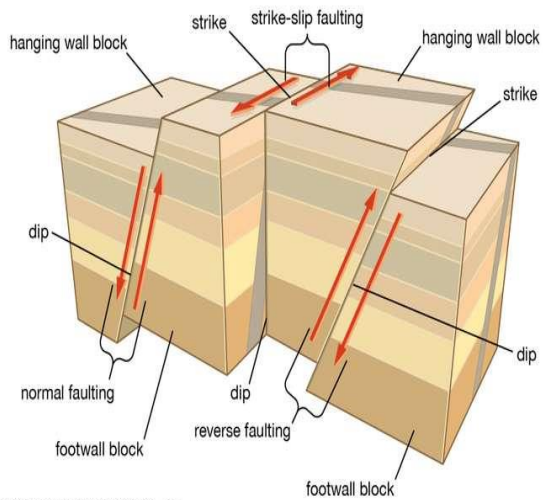
QUESTION # 02:

Draw a labeled diagram showing the following terminologies

- Dip.
- Strike.
- Normal, Reverse and Strike-Slip Faulting



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