INTRODUCTION

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Program : B.Tech (civil).

Subject : Introduction to Earth Quake.

Semester : 06.

Assignment : 01.

Submitted To : Engr. Khurshid alam.

Question # 01: Explain Classification of earthquakes on the basis of:

- ***Cause of Origin.***
- ***Depth of Focus.***
- ***Intensity & Magnitude of Earthquake.***

Earthquakes are classified on a no. Of basis. Of these the depth of focus, the cause of origin and intensity are important.

a) <u>Cause of origin:</u>

i. Tectonic earthquakes are originated due to relative movements of crystal block on faulting, commonly, earthquakes are of this type.

ii. Non tectonic earthquakes: that owes their origin to causes distinctly different from faulting, such as earth

b) <u>Depth of Focus:</u>

In seismology, the depth of focus or focal depth refers to the depth at which an earthquake occurs. Earthquakes occurring at a depth of less than 70 km (43 mi) are classified as shallow-focus earthquakes, while those with a focal depth between 70 km (43 mi) and 300 km (190 mi) are commonly termed mid-focus or intermediate-depth earthquakes. In subduction zones, where older and colder oceanic crust descends beneath another tectonic plate, deep-focus earthquakes may occur at much greater depths in the mantle, ranging from 300 km (190 mi) up to 700 km (430 mi).

The cause of deep-focus earthquakes is still not entirely understood since subducted lithosphere at that pressure and temperature regime should not exhibit brittle behavior. A possible mechanism for the generation of deep-focus earthquakes is faulting caused by olivine undergoing a phase transition into a spinel structure, with which they are believed to be associated. Earthquakes at this depth of focus typically occur at oceanic-continental convergent boundaries, along Wadati–Benioff zones.

c) <u>Intensity & Magnitude of Earthquake:</u>

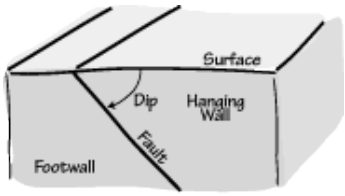
Earthquakes are also classified in categories ranging from minor to great, depending on their magnitude.

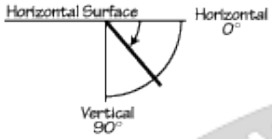
Class	***Magnitude***
Great	*8 or more*
Major	*7 - 7.9*
Strong	*6 - 6.9*
Moderate	*5 - 5.9*
Light	*4 - 4.9*
Minor	*3 -3.9*

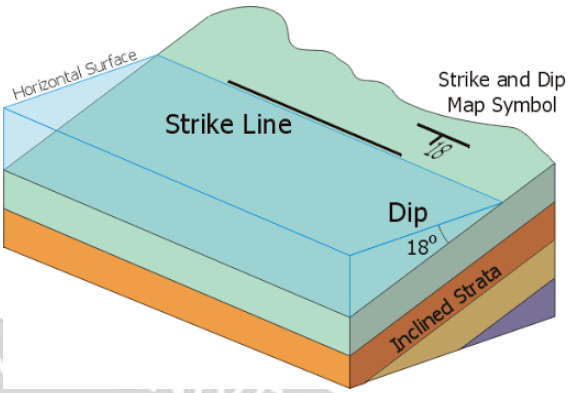
Question # 02: Draw a labeled diagram showing the following terminologies:

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

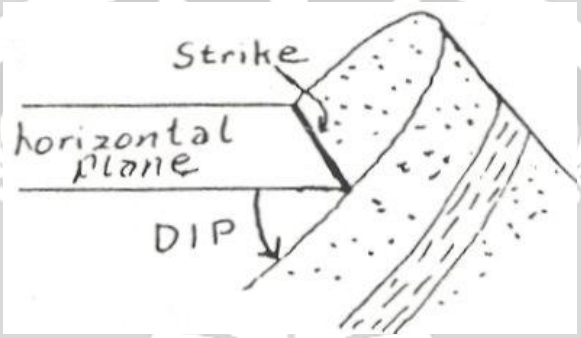
1) ***Dip:***



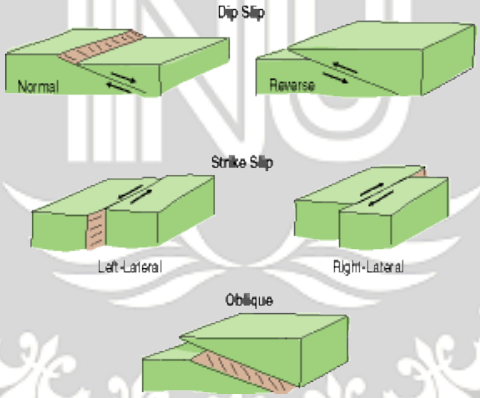




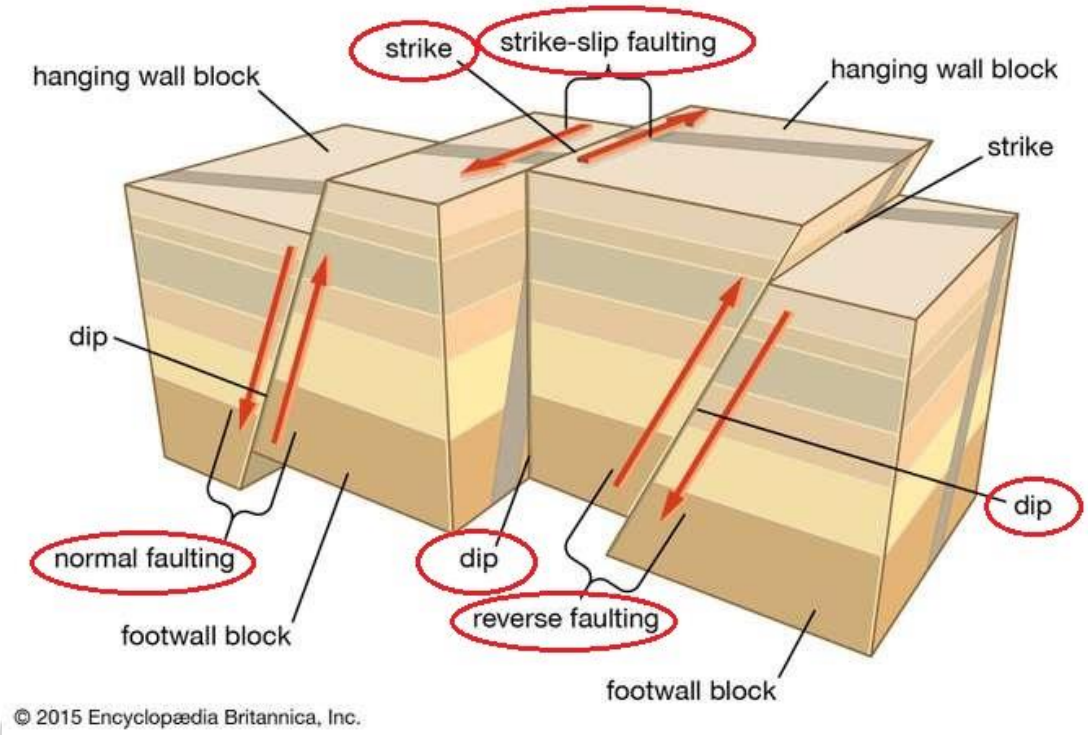
2) ***Strike:***



3) ***Normal, Reverse and Strike-Slip Faulting.***



Dip, strike and normal, reverse and strike-slip Faulting are also shown in the below diagram.



<u>The End</u>