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SIGNATURE: 

Q no 1: what is the difference b/w Standard penetration test and Standard Proctor test?

Ans: ① The Standard penetration test is done on the site, while Standard Proctor test is done in LABS.

② The Standard penetration test uses a Split Spoon Sampler for obtaining samples. While the soil is already collected for S.P.T.

③. The weight of the hammer is 63.5 kg is St. penetration test, the height of drop is 0.76 meter ~~of~~ or 760mm, and ~~the~~ blow rate is 30 blows/min.



②

While in St. Proctor test, the number of blow are 56 for every layer and the weight of hammer is 5.5 lb, height of drop is 12 inches

③ in St. Penetration test, the sampler is driven in 9 ft. depth, the first three ft penetration is to be neglected and that is also called Seated Settlement.

While

in the St. Proctor test, the soil is compacted in the mould and then tested.

Q: What is the Classification of Soil based on free Swell index.

Ans: The Soil, whose Volume Changes by the free Swell index experiment, is known as expansive Soil.

The Soil is classified as expansive Soil ~~but~~ because they are regard as problematic Soil, as they affect the Stability of Structure Founded on them.

They are Classified as expansive because;

① Very weak Van der Waal's force b/w unit Cells of minerals

② Very high Cation exchange Capacity.

③ Large Specific Surface.

Q: Why is Permeability test important for Soil?

Ans: The Permeability test is important for Soil because, to determine the permeability of Soil. The Soil which are suitable for this test are Sand and gravel.

The Soil with silt content cannot be tested with this method.

→ This Test can be used for granular Soil either reconstituted or disturbed.