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Sec # A

Subject # Geotechnical Engineering Lab

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Qno 1,

What is the difference between proctor test and standard penetration test?

Standard Penetration test

Proctor test

- | Standard Penetration test | Proctor test |
|---|--|
| <ul style="list-style-type: none">• It is a cheap and easy to use method.• It is very useful to detect the relative density and angle of shearing.• It is also used to determine the unconfined compressive strength of cohesive soils.• It is carried out in bore hole. | <ul style="list-style-type: none">• It is used to detect the compaction of soil.• The relation between moisture content and density of soil is also determined.• The maximum optimum moisture content is achieved for the highest value of dry density.• Its graph is parabolic in shape. |

Qn2) What is the classification of soil based on free swell index?

Free swell index	Degree of expansion	Plastic limit.
< 20	low	0-35%
20-35	Moderate	25-50%
35-50	High	35-65%
> 50	very high	$> 45\%$

Qn3)

Why permeability test for soil is important?

- The design of earth dams is very much based upon the permeability of the soils used.
- Filters made of soils are designed based upon their permeability.
- Permeability influences the rate of settlement of a saturated soil under load.
- The stability of slopes and retaining structures can be greatly affected by the permeability of soils involved.