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Subject Geotechnical and
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Section A

Semester 6th.

Date 15 / May / 2020

Q 180

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

Answer

Standard Proctor test

- (+) Standard proctor test is a test of soil to understand its compaction characteristics with change in moisture content.
- (+) Compaction is a process of densification of soil by reducing air voids. Compaction of soil is the optimal moisture content at which given soil type becomes most dense and achieve its maximum dry density by removal of air voids.
- (+) The degree of compaction of a given soil is measured in terms of its dry density.

Standard penetration Test.

- ① The standard penetration test is an in-situ test that comes under the category of penetrometer tests.
- ② The test is extremely useful for determining the relative density and angle of shear resistance of cohesion-less soil. It can be used to determine the unconfined compressive strength of cohesive soil.
- ③ The standard penetration test are ~~carre~~ carried out in a bore hole. The test will measure the resistance of the soil strata emp to the penetration undergone.
- ④ A penetration empirical correlation is derived between the soil properties and the penetration resistance

Q No# 2^o what is the classification of soil based on free swell index.

Free swell index	Degree of Expensiveness	Liquid Limit	plastic limit	shrinkage limit	Degree of severity
< 20	low	0.50	0-35%	< 17%	Non critical
20-35	Moderate	40-60%	25-50%	8-18%	Marginal
35-50	High	50-75%	35-65%	6-12%	critical
> 50	very High	> 60%	> 45%	< 7%	severe.

Q No# 3 : why is permeability test of soil important?

IMPORTANCE OF SOIL PERMEABILITY

TEST

Soil permeability test is a test which is used to determine the permeability of soil.

- ① Permeability influence the rate of settlement of saturated soil under load.
- ② The design of earth dam is very much based upon the permeability of the soil used.
- ③ The stability of slope and retaining structures can be greatly affected by the permeability of the soil involved.
- ④ Filters made of soil designed based upon their permeability.