

Name : M. Muqaddas Khan

ID : 7787

Section : A

Programme : BE (Civil)

Assignment : Geotechnical And Foundations
Engineering (Lab)

Submitted to : Engr. Mubneeb Khan

Q 1 :-> What is the difference between Proctor test & Standard Penetration Test?

Ans :->

Standard Proctor test

- 1 -> It is used to determine the compaction of different types of soil
- 2 -> Its graph is parabolic in shape
- 3 -> It also gives relation between moisture content and density of soil
- 4 -> It is a lab test which is to determine to the optimal moisture content
- 5 -> The max optimum moisture content is achieved for the highest value of dry density.

Standard Penetration test

- 1 -> It is used Simple & Inexpensive method.
- 2 -> It is carried out in borehole.
- 3 -> It is useful to determine the relative density and the angle of shearing resistance of cohesionless soil.
- 4 -> It is common in situ method to determine different geotechnical properties of soil.
- 5 -> It can be also used to determine the uncontrolled or unconfined compressive strength of single cohesive soil

(2)

Q2 → what is the classification of Soil based on fine Swell Index?

Ans: →

Free Swell Index	Degree of Expansives	Plastic limit.
< 20	Low	0 - 35%
20 - 35	Moderate	25 - 50%
35 - 50	High	35 - 65%
> 50	very high	> 45%

Q3 → why is Permeability test for Soil Important?

Ans: → Permeability test for Soil is important because of following.

- 1 → To know whether plant root are being nourished by water.
- 2 → In Engineering it is important to know whether consolidation occurs so it is observed.
- 3 → It is also helpful in Fisheries to know about the fish.
- 4 → To check if there is seepage of water.