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SEC : "B"

SUBJECT : Geotechnical Engineering (LAB)

Instructor : "Eng. Sir Muneeb"

Module : "6th"

Q1. what is difference b/w
Standard Proctor test &
Standard Penetration test ?

Standard Proctor
test

Standard
Penetration test

-> It is used to
determine the
compaction of differ-
ent type of soil

It is simple
and inexpensive
method.

-> Its graph is
Parabolic in shape

Its carried out
in bore hole

→ It is insitu test which is done to determine the optimal moisture content

It is common insitu method to determine different properties of soil.

→ It also give relation b/w the moisture content & density of soil

It is useful to determine relative density and the angle of shearing resistance of cohesional soil.

The max optimum moisture content is achieved for the highest value of dry density.

It can be also used to determine the uncontrolled or unconfined compressive strength of cohesive soils.

Q2. What is the classification of Soil based on free swell index?

Ans:

Free swell Index	Degree of Expansion	Plastic limit
< 20	Low	0 - 35 %
20 - 38	Moderate	25 - 50 %
35 - 50	High	35 - 65 %
> 50	Very high	> 45 %

Q3. Why Permeability test for Soil is important?

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

⇒ To know whether Plant roots are being nourished by water.

⇒ In engineering it is important to know whether consolidation occurs so it is observed

⇒ It is also helpful in fisheries to know about fish culture.

⇒ To check if there is seepage of water in ground.