

NAME:- Hamza Ejaz

ID 7835

SECTION:- B

SUBJECT:- GEOTECHNICAL ENGINEERING  
(LAB)

INSTRUCTOR:- ENGR MUNEEB

MODULE:- 6th

1 DIFFERENCE BETWEEN  
PROCTOR TEST:-

STANDARD PROCTOR  
TEST

It is used to determine  
the compaction of different  
type of soil.

Its graph is parabolic  
in shape

PROCTOR AND STANDARD  
PENETRATION  
TEST:-

- It is ~~carried~~ simple and inexpensive method.
- It is carried out in borehole.

- It also gives relation between the moisture content and density of soils

- This is the test which is done to determine the optimal moisture content

- The maximum moisture content is achieved for highest value of dry density

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

- This is the common method to determine geotechnical properties of soil.

- It can be also used to determine the uncontrolled or unconfined compressive strength of cohesive soil

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

Free Swell index

$< 20$   
 $20 - 35$   
 $35 - 50$   
 $> 50$

Degree of Expansion

low  
 moderate  
 High  
 very high

Plastic limit

$0 - 35\%$   
 $25 - 50\%$   
 $35 - 65\%$   
 $> 45\%$

Why is permeability test for soil 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's important to know when consolidation occurs so it's observed.