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SECTION : B

SUBJECT : GEOTECHNICAL ENGINEERING (LAB)

INSTRUCTOR : ENGR. MUNEEB

MODULE : 6th

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

STANDARD PROCTOR TEST

STANDARD PENETRATION TEST

- It is insitu test which is done to determine the optimal moisture content.
- It is used to determine the compaction of different types of soil.
- It also gives us relationship between the moisture content and density of soils.
- It's graph is parabolic in shape.
- The max optimum moisture content is achieved for the highest value of dry density.

- It is a common in situ method to determine different geotechnical properties of soil.
- It is simple and inexpensive method.
- These are carried out in borehole.
- It is usefull for determining the relative density and the angle of shearing resistance of cohesionless soils.
- It can be also used to determine the uncontrolled or unconfined compressive strength of cohesive soils.

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

FREE SWELL INDEX	DEGREE OF EXPANSIVENESS	PLASTIC LIMIT
L 20	Low	0 - 35%
20 - 35	Moderate	25 - 50%
35 - 50	High	35 - 65%
> 50	Very High	> 45%

3. Why is Permeability ^{test} for soil important?

Permeability test for soil is important because of the following reasons:

1. To check if there is seepage of water into ground.
2. To know whether plants roots are being nourished by water.
3. In engineering it is important to know whether consolidation (compaction) occurs so it is observed.
4. It is also helpful in fisheries ; to know about the fish culture.