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Section :: B

Subject :: Geotechnical Engineering (Lab)

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Module :: 6th

1/ What is the difference b/w Standard Proctor test and Standard Penetration test?

Standard ~~Penetration~~^{Proctor} test

Standard Penetration test

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| <ul style="list-style-type: none">• It is used to determine the compaction of different type of soil.• Its graph is parabolic in slope.• It also give relation between the moisture content and density of soil. | <ul style="list-style-type: none">• It is simple and in extensive method• Its carried out in borehole.• It is usefull to determine the relative density and the angle of shearing resistance of cohesionless soil. |
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At is a standard test which is done to determine the optimal moisture content.

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

(2)

At is a common in situ method to determine different geotechnical properties of soil.

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

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

Ans:

Free swell index

< 20
20-38
35-50
> 50

Degree of Expansion

Low
Moderate
High
Very high

Plastic Limit

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

(3)

3) Why is Permeability test for soil important?

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

- 1) To know whether plant roots 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 culture.
- 4) To check if there is seepage of water into ground.