

(1)

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Section 1- B

Subject 1- Geotechnical Engineering (Lab)

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Module 1- 6th

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

Standard proctor
Test

⇒ It is used to determine the compaction of different types of soil.

⇒ Its graph is parabolic in shape

⇒ It also gives relation b/w the moisture content and density of soils

⇒ It is indirect test which is done to determine the optimal moisture content.

Standard penetration
Test

⇒ It is simple and inexpensive method.

⇒ It is carried out in bore hole.

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

⇒ It is common in situ method to determine different geotechnical properties of soil.

(2)

⇒ 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~~ unconfined compressive strength of cohesive soils.

Q No 2 What is the classification of soil based on free swell index?

<u>Free swell Index</u>	<u>Degree of Expansion</u>	<u>Plastic limit</u>
⇒ < 20	Low	0-35%
⇒ 20-35	Moderate	25-50%
⇒ 35-50	High	35-65%
⇒ > 50	very high	>45%

Q No 3 Why is permeability test for soil important?

Ans Permeability test for soil is important below the following-

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