

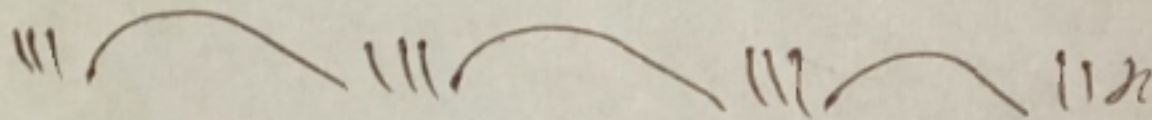
ID 7837

Name Tanveer Abbas Khan

Assignment Geo-tech lab

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Pg No :-  
Question No 01 :-

### Standard Penetration test

- ① It is simple and expensive method.
- ② It's carried out in beehol
- ③ It is useful to determine the relative density and the angle of shearing resistance of cohesionless soil
- ④ It is common in situ method to determine different geotechnical properties of soil.
- ⑤ It can be also used to determine the unconfined or unconfined compressive strength of cohesive soil

### Standard Proctor test

- ① It is used to determine the compaction of different type of soil
- ② Its graph is parabolic in shape
- ③ It also give relation b/w the moisture content and density of soil.
- ④ Its initial test which is done to determine the optimal moisture content
- ⑤ The max optimum moisture content is achieved for the highest value of dry density.

Question No 02:-Classification of Soil based on free swell index:-

Free Swell index	Degree of Expensiveness	Plastic limit
< 20	low	0-35%
20-35	moderate	25-50%
35-50	high	35-65%
>50	very high	>45%

Question No 03:-

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

- 1:- To know whether plant root are being nourished by water.
- 2:- In engineering it is important to know whether consolidation occurs so it is observed.
- 3:- To check if there is seepage of water into ground.