Name :- M. Muqaddas Khan

ID :- 7787

Section :- A

Subject :- Geotechnical Engineering

Submitted To :- Engr. Liaqat Khan

Data :- 05/07/2020

# Assignment

Q: Write a Geotechnical Report on any Engineering of Civil Project near to your home town.

Ans.

## Project of Soil Investigation

Results Showed that the Soil of Bannu District varied from clay to Sandy loan at both depth with Saturation percentage from 29.15 to 78.76 & 19.60 to 86.64% in upper & Subsurface, respectively. Bulk Density of the Surface Soil ranged from 2.10 to 1.87 g cm-3. Soil PH was found to be alkaline in both depth. Electrical Conductivity of these Soil

Showed 15% area as Saline. Soil were found to be Slightly Strongly Calcares in both the Depths. Organic metal Content of the Surface Soil Showed 29% Samplers were medium. whereas 71% were low. Soil of both Depth were Moderately Strongly Calcareous.

↳ Test performed on Soil:—

Following test are used which Shows the result.

1→ Sieve Analysis of Soil
2→ Determination of moisture content of Soil.
3→ Analysis of Specific Gravity of Soil
4→ Determination of plastic & liquid limit test.

5→ Determination of Free Swell Index of Soil

6→ California Bearing Ratio Test (CBR)

7→ Unconfined compression Strength

# Quiz

## Different Software Used in Geotechnical Engineering

A high variety of Geotechnical Software can be found in this category. Geotechnical Software is defined as Software designed especially in order to deal with geotechnical issues such as slope Stability, Seismic analysis foundation etc. Some of these famous Softwares are used in Geotechnical Engineering which is mentioned below:

1 - GEOS :→

The most common Software which is used for Excavation design, Shallow foundation and deep foundation design, stability analysis, Settlement analysis and for various other field.

2→ FLAC 3D :-

It is used in advanced Geotechnical analysis of Soil, rock, & Structural Support in Three dimension.

3→ 3DEEP :-

This Software is fully integrated with design Software package for automatic model generation. It is virtual reality Software for deep excavation.

4→ PLAXIS :→

PLAXIS 2D, Plaxis 3D is a finite element package intended for the two dimensional & Three dimensional analysis of deformation & Stability of Soil Structure.

5→ EDUSHAKE :-

It is normally used for earthquake & Geotechnical analysis.

6→ MATLAB :- It is uses mathmathical Simulation for

Analysing Structural & Foundation Problems using Series of arrays.

7→ PARTISLAB:-

Partislab is a geotechnical Software for easily Processing lab test Data.

8→ ALLPILE:-

Allpile is a window-based analysis Program that handle virtually all types of piles, including Steel Pipes, H-piles, pre Cast Concrete piles etc

9→ DEEPEND:→

DEEP END is a powerful interactive Software for Deep foundation and pipl design.

10→ Deepx:-

Deepxcav is a Software Program for the design of embedded earth retaining walls with limit-equilibrium & advanced non linear elastoplastic

analysis method. Deep excav often a one-step complete geotechnical of structure solution for deep excavation.

4 → Qult :-

Used for bearing capacity analysis for shallow foundation.

*