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Section B

Semester 5th

Subject "Geotechnical Engineering"

Submitted To,

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"Assignment and Quiz"

"Geotechnical Report"General :-

In this project we are intended to take line project and carry out necessary soil investigation in timergara (Dir) Pakistan - [Shahid Chowk]

Site Investigation :-

Site investigation or sub-surface exploration are done for obtaining the information about subsurface condition at the site of proposed construction. Site investigation in one form or other is generally required for every big engineering project. Information about the surface and subsurface features is essential for

The design of structures.

Laboratory Investigation:-

Following tests are conducted on soil samples.

- ⊙ Determination of Specific gravity.
- ⊙ Determination of Shrinkage limit.
- ⊙ Determination of Shrinkage index.
- ⊙ Determination of plastic index.

➤ Plastic limit and Liquid limit is also considered.

Conclusion:-

In the end, Average Specific gravity of soil at high temperature $[G_s = 2.432]$ of Timergara (Shahid Chowk) which also conclude that soil is more saturated and organic to wet of it.

Ans:- The famous Softwares used in the field of geotechnical Engineering are mentioned below.

(1) GEOS :- It can be used for Excavation design, Shallow foundation and deep foundation design, Stability analysis, Settlement analysis and various other field tests.

(2) GEO STUDIO :- The geo.studio Suite includes eight products which can be used for analysing Slope stability, ground water Seepage, Stress deformation and various other geotechnical problems.

(3) PLAXIS :- It is used for 2-Dimension and 3-Dimension geotechnical analysis of deformation and stability of soil structures as well as ground water and heat flow in geotechnical engineering application such as excavation, foundation, embankments and tunnels.

(4) PLAC3D:- It is used in advanced geotechnical Analysis of Soil, rock and structural Support in three dimension. PLAC3D is used in Analysis testing and design by geotechnical, civil and mining engineering. Some other Simple Software are SEEP2D, STABL, SVFlux, SUSTOPE, UTEXAS. These are Simple programmes and are not much versatile as compared to the above mentioned Softwares.

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