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Sec - A

Subject - Geotechnical Engineering

Assignment - Final

Submitted to:- Engr. Liaquat Ali

Q 1)

Ans:-

Physico-Chemical properties of soils in Kohat districts of ~~North West~~ KPK, Pakistan were determined for better management. Soil samples were collected from two depths i.e. 0-15 and 15-45 cm. respectively from 86 locations in Kohat and 73 in Bannu. during 2004. Soil samples were analyzed for various soil properties. Results showed that soil of Kohat district varied from clay to sandy loam at both depths with saturation percentage from 25.15 to 71.76 and 16.60 to 82.647. In upper and subsurface, respectively. Bulk density of the surface soil ranged from 1.10 to 1.75 g cm⁻³. Soil pH was found to be alkaline in both the depths. Electrical conductivity of these soils showed 14% area as saline. Soils were found to be slightly strongly calcareous in both the depths. organic matter content of the surface soil showed that 25% samples were medium, whereas 75% were low. In Bannu district, soil texture in both the depths ranged from clay to loamy sand. Twenty-six percent of the surface soils were low and 74% medium in organic matter.

Q2:-

Ans:-

3D Deep:-

This software is fully integrated with a design software package for automatic model generation.

It is a virtual reality software for deep excavations.

ACECALC:-

This program analyses the behavior of the rock slopes under seismic conditions. It evaluates the displacements of a rock block subject to dynamic forces, on the basis of a given accelerogram.

ADONIS:-

It is Free Finite Element software for Geo-Engineers. The goal of the ADONIS development is to improve the modeling and computational simulation in geotechnical engineering.

ANPILE:-

It is a window-based analysis program that handles virtually all types of piles, including steel pipes, H-piles, pre-cast concrete piles, auger-cast piles, drilled shafts.

ALPR-

The easy way to analyse soil structure interaction of a laterally-loaded pile when it comes to laterally-loaded pile design software.

ALP99:-

Axially loaded pile: Elastic pile supported by elasto-plastic springs.

AMRETAIN

AMRetain is a software for checking single or double retaining walls made of ArcelorMittal, sheet piles. It has been developed by Terrasol for ArcelorMittal.

Analysis of Rocky elements RockPlaner

It is software tool for the evaluation of localized instability rocky elements affected by seismic movements and/or by presence of water pressures.

APILE:-

APILE is used to compute the axial capacity, as a function of depth, of a driven pile in clay, sand or mixed-soil profiles.

AXILTR-

Program AXILTR, Axial Load Transfer, consists of a main routine and two subroutines. The main routine feeds in the input data, calculates the effective overburden stress, and determines whether the load is axial down-directed, pullout, or if uplift/down drag.