

Name

IKRAM ULLAH

ID

7868

Semister

6<sup>TH</sup>

Sec # B

Subject

Geo-Technical Engineering

Quiz

01 + Assignment

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## Quiz # 01

### Question no: 1

Write a note on software which are used in Geotechnical Engineering?

⇒ There are some of the important softwares related to Geotechnical engineering and their significance detail:

#### 1: Plaxis 3D:-

It is a 3D software which uses finite element method of analysis to calculate deformations, stability and settlements.

It is widely used in geotechnical engineering in various applications such as tunneling, mining, embankments and excavations and rock mechanics.

#### 2: Geo Studio:-

There are two softwares.

##### Slope-W:-

It is used to analyse the slope stability of different types of soils and rocks under different loading and pore water pressure conditions.

##### Seep-W:-

It is a finite element tool for analysing ground water flow conditions.

through porous through porous media. It can be applied to simple saturated flow problem as well as for unsaturated flow problems.

3: Deep soil :-

- It is a 1D site response analysis which can perform both
- \* Linear and nonlinear analysis
  - \* Equivalent linear analysis.

## ASSIGNMENT # 01

Write a geotechnical report of any civil engineering project which close to your home town?

### TransPeshawar:

(Peshawar bus rapid transit) (BRT) is a bus rapid transit system currently under construction by the Peshawar Development Authority (PDA) in Peshawar, capital of Pakistan's Khyber Pakhtunkhwa (KP) province. Divided into two separate phases, the first phase of the TransPeshawar BRT system will encompass an east-west corridor to be served by 30 stations with an east-west corridor to be served by 30 stations with an initial 220 buses out of which 155 are 12-meter-long buses while 65 are 18-meter-long buses. 88% of funding is being provided by the Asian Development Bank.

Bus rapid transit (BRT), also called a busyway or transitway, is a bus-based public transport system designed to improve capacity and reliability relative to a conventional bus system. Typically, a BRT system includes roadways that are dedicated to buses, and gives priority to buses at intersections where buses may

interact with other traffic alongside design features to reduce delays caused by passenger boarding or leaving buses, or purchasing fares. BRT aims to combine the capacity and speed of a metro with the flexibility, lower cost and simplicity of a bus system.

The first BRT system in the world was the transitway system in Ottawa, Canada, which entered service in 1983.

As of March 2018 a total of 166 cities in six continents have implemented BRT systems accounting for 4906 km (3,048 mi) of BRT lanes and about 32.2 million passengers ride daily in Latin America, which has the most cities with BRT systems with 54 led by Brazil with 21 cities. The Latin American countries with the most daily ridership are Brazil (10.7M), Colombia (3.06M), and Mexico (2.5M). In the other regions, China (4.3M) and Iran (2.1M) also stand out. Currently TransJakarta is considered as the largest BRT network in the world with approximately 251.2 kilometres (156.1 mi) of corridors connecting the Indonesian capital city.