**ADEPOJU MARY ABIMBOLA**

**17/ENG03/004**

**CIVIL ENGINEERING**

**CVE306**

**SOIL MECHANICS**

**ASSIGNMENT 3**

**QUESTION ONE**

Types of Soils and Their Permeability Values

|  |  |
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| **Type of Soil** | **Permeability Value ,k (cm/s)** |
| Clean gravel |  1.0 - 100 |
| Clean sand (coarse) | 10-2 – 1.0 |
| Sand gravel (mixture) | 10-2 - 10 |
| Fine sand | 10-3 – 10-1 |
| Silt sand | 10-3 – 10-2 |
| Clay sand | 10-4 – 10-2 |
| Clay | 10-10 – 10-6 |

**QUESTION TWO**

Relevance of Permeability in Soil Engineering

**Permeability** can be defined as the ability of a porous mass to allow passage of water through the medium. Understanding permeability means understanding the structure of soil and how water passes through different layers. Determination of permeability is very important to soil engineers. The relevance of permeability in soil engineering includes:

1. Permeability enables engineers to study fluid flow characteristics through a soil mass and thus helps in improving **workability of soil**.
2. Permeability influences the rate of settlement of a saturated soil under load.
3. The stability of slopes and retaining structures can be greatly affected by the permeability involved.
4. The design of earth dams is very much based upon the permeability of soil used.
5. Filters made of soils are designed based upon their permeability.