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**COUSRE: SOIL MECHANICS (CVE306)**

**MATRIC NUMBER: 17/ENG03/050**

**CIVIL ENGINEERING**

1. **MENTION 7 TYPES OF SOILS AND THEIR PERMEABILITY VALUES**

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| **TYPE OF SOIL** | **PERMEABILITY VALUE** |
| Clean gravel | 100 to 1.0 |
| Coarse sand | 1.0 to 0.01 |
| Fine sand | 0.01 to 0.001 |
| Silt | 0.001 to 0.00001 |
| Clay | Less than 0.000001 |
| Delhi silt | 0.0000006 |
| Boston blue clay | 0.000000007 |

1. **EXPLAIN THE RELEVANCE OF SOIL PERMEABILITY IN SOIL ENGINEERING**

**Permeability** is the measurement of the soil’s ability to allow water to flow through its pores or voids. The relevance of soil permeability in soil engineering includes:

* Soil permeability is applicable in the determination of the rate of settlement of a saturated compressible soil layer.
* Soil permeability helps in the calculation of seepage through the body of earth dams and stability of slopes for highways.
* Soil permeability is necessary in the calculation of uplift pressure under hydraulic structure and their safety against piping.
* Soil permeability is necessary in the design of filters made of soils.
* Soil permeability plays a key role in the design of retaining walls.