

# Chapter-4

## (The Measurement of Resistance)

Presented by

Hasan Murad Munna

Lecture-1

# Introduction:

- Resistance is one of the most basic elements encountered in electrical and electronics engineering. The value of resistance in engineering varies from very small value like, resistance of a transformer winding, to very high values like, insulation resistance of that same transformer winding. Although a multimeter works quite well if we need a rough value of resistance, but for accurate values and that too at very low and very high values we need specific methods.

# Type of Resistance:

- In this article we will discuss various methods of resistance measurement. For this purpose we categories the resistance into three classes-



# Resistance Measurement

∞ The resistances are classified as ;

➤ **1. Low Resistance :**

**All resistances of the order of 1 ohm and below.**

**example: Machine armature, series field winding shunt etc.**

➤ **2. Medium Resistance :**

**All resistances of the order of 1 ohm to 100,000 ohms.**

**example: Winding resistance, multiplier resistance.**

➤ **3. High Resistance :**

**All resistances of the order of 100,000 ohm and above.**

**example: Insulation resistance of machines, cables, porcelain insulator etc.**