ELECTRICAL MEASUREMENT & MEASURING INSTRUMENTS

UNIT 3

Measurement of Parameters

Measurement of Parameters

- Different methods of measuring low, medium and high resistances
- Measurement of inductance & capacitance with the help of AC Bridges
- Q meter

Measurement of resistance

$$R = V/I;$$

- If temperature is not a constant entity, then the resistance, R2 at t2
- degree C is given by;

$$\mathbf{R2 = R1\ [1+ \alpha\ (t2-t1)]}$$

- Where t= t1-t2, the rise in temperature from t1 degree C to t2
- Degree C, α is the temperature coefficient of resistance and R1 is the temperature at t1 degree C.

CLASSIFICATION OF RESISTANCES

- For the purposes of measurements, the resistances are classified into three major groups based on their numerical range of values as under:
- Low resistance (0 to 1 ohm)
- Medium resistance (1 to 100 kilo-ohm) and
- High resistance (>100 kilo-ohm)