

National Institute of Technology, Durgapur
Department of Electrical Engineering

Experiment No. 3

MEASUREMENT OF EARTH RESISTANCE

Objective: Measurement of Earth Resistance by **three electrode method**

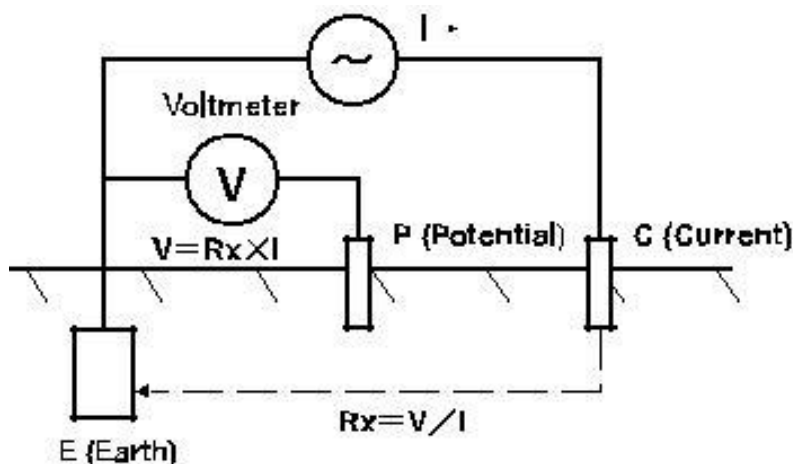
Apparatus Required:

Sr No	Instrument Name	Specification	Quantity	Makers Name

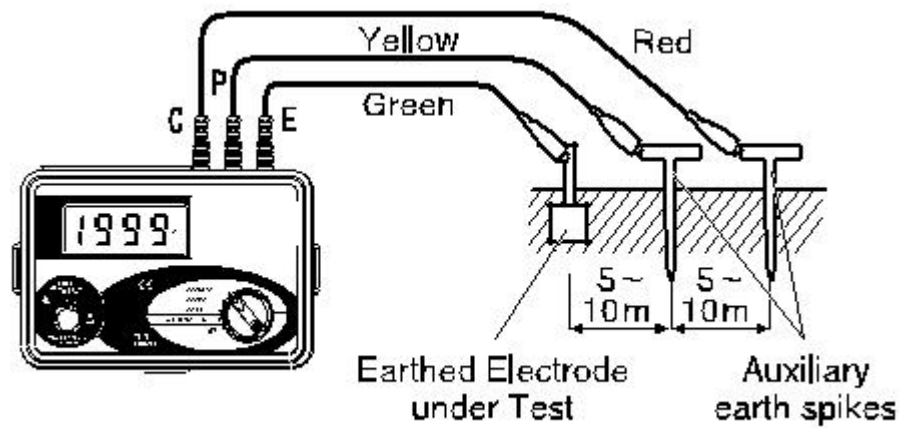
Theory:

This instrument makes earth resistance measurement with **fall-of-potential method**, which is a method to obtain earth resistance value R_x by applying AC constant current I between the measurement object E (earth electrode) and C (current electrode), and finding out the potential difference V between E and P (potential electrode).

$$R_x = V / I$$



Original Circuit



Observation Table:

Sl No	Distance from earth Electrodes	Earth Resistance

Remarks:

Draw graph: Earth Resistance Vs Distance from earth Electrodes

Suggested Reading:

1. Electrical Measurement & Measuring Instrument by E.W.Golding