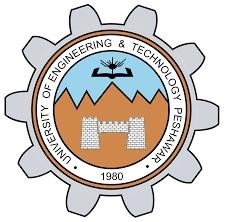
**Lab Report 1: Conversion of Galvanometer**

**into Ammeter**



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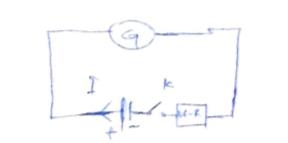
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**Conversion into Ammeter:**

**Working Principle;**

By connecting a shunt resistance of suitable value in parallel with a galvanometer, it is converted into ammeter, ammeter is always connected in series with the circuit.

**Diagram;**

**Calculation;**

Rs = Rg Ig/I-Ig

**Apparatus:**

1. Galvanometer
2. 2 x resistance boxes
3. DC EMF source
4. 2x key switches
5. Connecting Wires

**Procedure:**

1. Make connections for galvanometer to ammeter according to circuit.
2. Keep both the switches K1 and K2 open.
3. S.R.B. should be connected in parallel with the galvanometer.
4. Hence the circuit is complete and could be veriﬁed by measuring voltages

with actual voltmeter and also to adjust the scale.

1. H.R.B. will be connected with battery in series.
2. K1 is closed at initial so that we can apply resistance from H.R.B. for having the full scale deﬂection of galvanometer
3. Now we can apply resistance from S.R.B. to show half scale deﬂection of galvanometer.
4. Note both the resistance from H.R.B. and S.R.B.
5. Repeat the process for veri ﬁcation

**Calculations:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| S.No. | R | ፀ | ፀ/2 | Rs | S=Rg |
| 1 | 7200 | 20 | 10 | 1.080 | 100 |
| 2 | 7000 | 18 | 9 | 1.080 | 100 |
| 3 | 9000 | 15 | 7.5 | 1.080 | 100 |

**2nd Step:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S.NO | R | Ɵ/2 | Ɵ | Rg |
| 1 | 9000 | 15 | 7.5 | 100 |

**3rd Step:**

V = Vn + Vg

V=In R +Ig Rg

V= Ig Rg + Ig Rg

Ig= V/R + Rg

Ig= V/R + Rg

Ig= 3/9000 + 1000

Ig= 0.32mA