

1. **AIM:** To investigate voltage in an RC a.c. circuit.

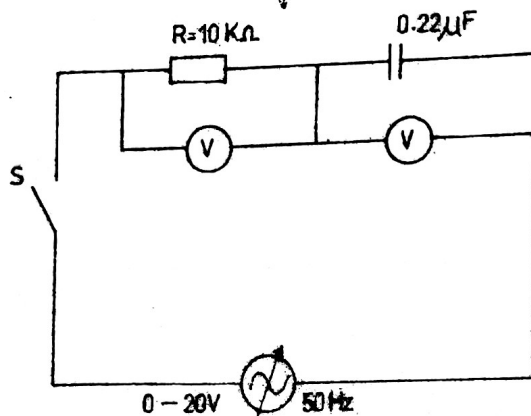


Figure 1

- Connect the circuit as shown in Figure 1.
- Ask the supervisor to check the circuit connection.
- You are provided with **Table 1**.

Table 1

V_S (v)	V_R (v)	V_C (v)	$V_T = \sqrt{V_R^2 + V_C^2}$	$I = \frac{V_S}{Z}$
2				
4				
6				
8				
10				
12				

- Set the a.c. supply to 0 V.
- Close switch (S).
- Adjust the a.c. supply to 2 V.
- Measure and record in **Table 1**, the voltmeter readings V_R and V_C respectively.
- Open switch (S).
- Repeat steps (e) to (h) for the other values of V_S in **Table 1**.
- Complete **Table 1** taking the value of impedance Z as $17.57 \text{ k}\Omega$.
- Comment on the values of V_S and V_T as in **Table 1**.