



ANNA UNIVERSITY CHENNAI



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PROBLEM 1
A circuit is shown in Fig. 1.1. Find the current i through the 10 ohm resistor.

Fig. 1.1: A circuit diagram showing a 10 ohm resistor in series with a 20 ohm resistor, connected to a 100V DC source.

Solution: The circuit is a simple series circuit. The total resistance is the sum of the two resistors: $R_{total} = 10\ \Omega + 20\ \Omega = 30\ \Omega$. The current i is given by Ohm's law: $i = \frac{V}{R} = \frac{100\text{V}}{30\ \Omega} = 3.33\text{A}$.

Therefore, the current i through the 10 ohm resistor is 3.33A.

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