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COLLEGE OF ENGINEERING & TECHNOLOGY

CHAPTER – DC CIRCUITS

1. Define the following terns: (a) Current (b) Electric Potential (c) Potential Difference (e) Energy (f) Power (g) temperature coefficient of resistance.

2. What is Resistance and specific Resistance? Explain the factors affecting the Resistance.

3. Derive the expression for the equivalent resistance of a number of resistance connected in series and parallel. What are the advantages and disadvantages of series and parallel circuit?

4. Write a short note on Ohm's law ? State and Explain Kirchhoff's laws.

5. Explain the method of transforming a delta connected network in a star network and vice versa.

6. Derive the expression for the voltage across the capacitors at any instant the application of dc voltage V to a circuit having a capacitance C in series with resistance R.

7. With reference to electrostatics and capacitance: (1) State Coulomb"s law (2) Define: (a) Electric filed intensity, (b) electric potential, (c) potential gradient, (d) Permittivity, (e) capacitance.

8. Obtain the values of Norton Equivalent current and Norton's equivalent resistance for the following network:

Values of all resistors are in Ohms
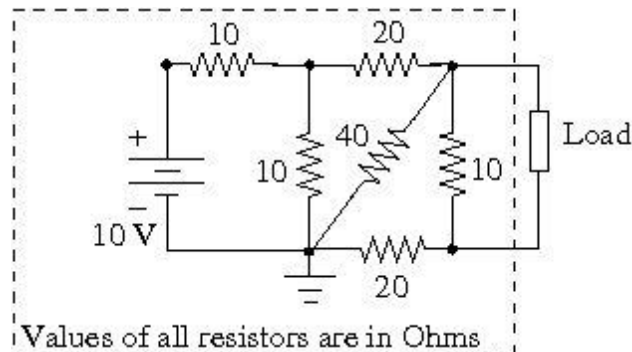
9. Find the current flowing through 5Ω resistor of the following figure using Mesh analysis.