**COLLEGE OF TECHNOLOGY** **B-Tech**

**Quick test no.2**

**EEC207: Circuit Analysis / EEC223: Fundamentals of Electrical Engineering**

**Duration: 20mn**

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**NB on MCQ questions:** read the questions carefully and mark an **X** *only* on the letter of the correct answer.

1. An electric heater draws 10 A from a 120-V line. The resistance of the heater is:

(a) 1200 Ω (b) 120 Ω (c) 12 Ω (d) 1.2 Ω

2. The current $I_o$ in the figure 1 is: (a) – 4 A (b) – 2 A (c) 4 A (d) 16 A

3. The current $I$ in the figure 2 is: (a) – 0.8 A (b) – 0.2 A (c) 0.2 A (d) 0.8 A

4. In the circuit in figure 3, V is: (a) 30 V (b) 14 V (c) 10 V (d) 6 V

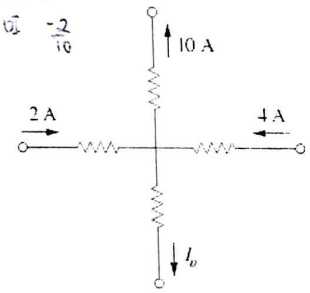



Figure 1

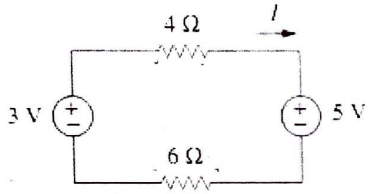



Figure 2

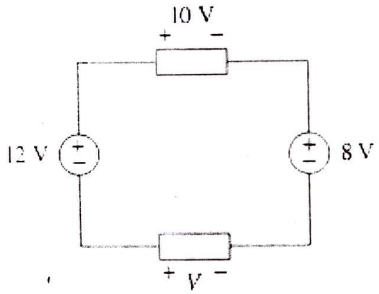
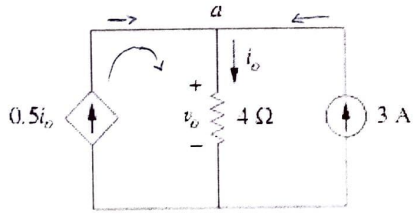



Figure 3

5. Ohm's law states that the voltage V across a resistor is directly proportional to the current flowing through the resistor. (a) True b) False

6. Find the current $i_o$ and the voltage $v_o$ in the circuit below.




from KCL.

$i_o = 3A + 0.5 i_o$

$i_o - 0.5 i_o = 3A$

$0.5 i_o = 3A$

$i_o = 6A$.

from ohm's law

$V_o = 4(i_o)$

$= 4(6)$

$V_o = 24V$

7. By combining the resistors in the figure a, find $R_{eq}$.

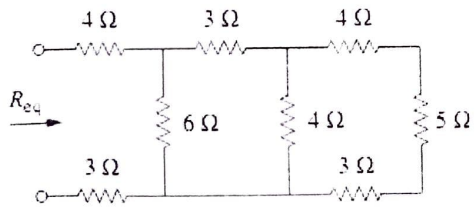



Figure a

8. Find $I$ and $V_{ab}$ in the circuit of figure b

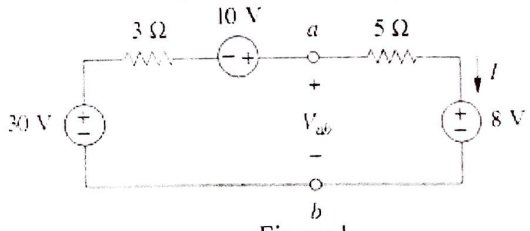



Figure b