LAHORE UNIVERSITY OF MANAGEMENT SCIENCES
Department of Electrical Engineering

EE 240 Circuits I
Quiz 2

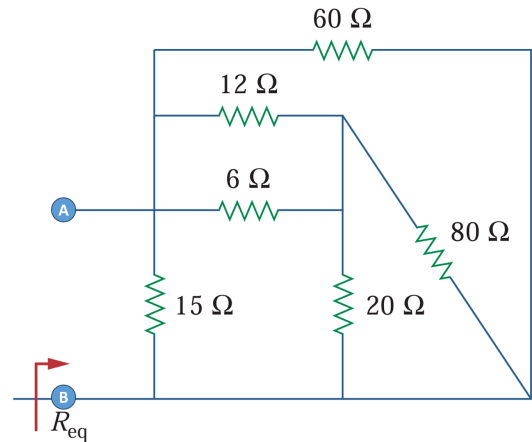**Name:** _____

Campus ID: _____

Total Marks: 10
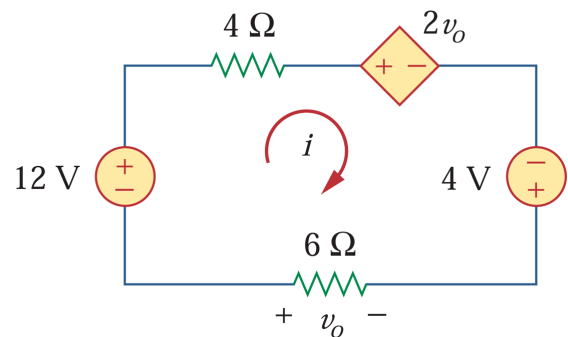**Time Duration:** 15 minutes

Question 1 (5 marks)

For the following network of resistors, find the equivalent resistance across terminals A and B.

Solution: $R_{\text{eq}} = 15||60||(80||20 + 12||6) = 12||(16 + 4) = \frac{15}{2}$

Question 2 (5 marks)

For the circuit given below, find v_0 and i.

Solution:

Apply Kirchhoff's Voltage Law (KVL) around the loop in the direction of i

$$-12\,V + (4\,\Omega) \cdot i + 2v_o - 4\,V + (6\,\Omega) \cdot i = 0$$

Using Ohm's law $v_o = -6i$, substitute into the KVL equation yields:

$$i = -8\,A$$

Calculate v_o

$$v_o = 48\,V$$

CIRCUITS I