LAHORE UNIVERSITY OF MANAGEMENT SCIENCES
Department of Electrical Engineering

EE240 Circuits I
Quiz 05

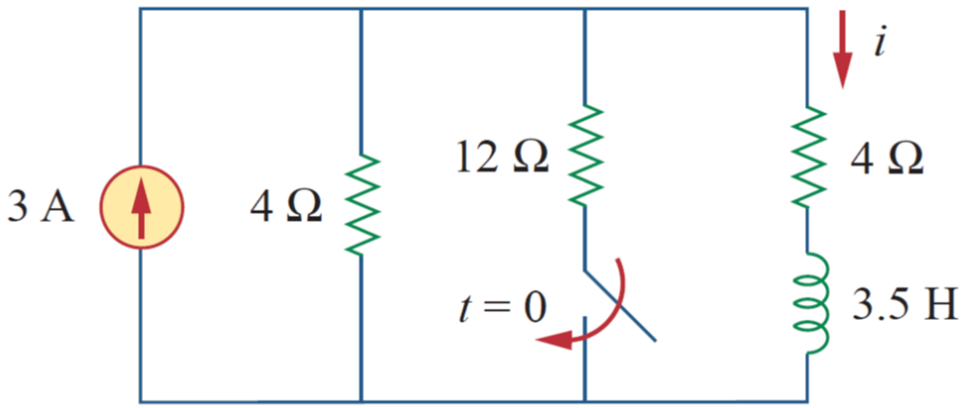
Name: _____

Campus ID: _____

Total Marks: 10
Time Duration: 20 minutes

Question 1 (10 marks)

In a first-order circuit given below, the switch that has been opened for a long time is closed at $t = 0$.



(a) [2 marks] Determine the current $i(t)$ at $t = 0^-$ and $t = 0^+$.

(b) [2 marks] Write down the differential equation, in terms of $i(t)$, describing the circuit after the switch is operated, that is, for $t \geq 0$.

(c) [2 marks] Determine $i(t)$ at $t = \infty$.

(d) [4 marks] Determine $i(t)$ for all values of t and plot (and label) it.