

Total No. of Pages 02

SECOND SEMESTER

MID SEMESTER EXAMINATION

Roll No. 02414

B.Tech. (Group B)

March-2014

EE-105 ELECTRICAL SCIENCES

Time: 1:30 Hours

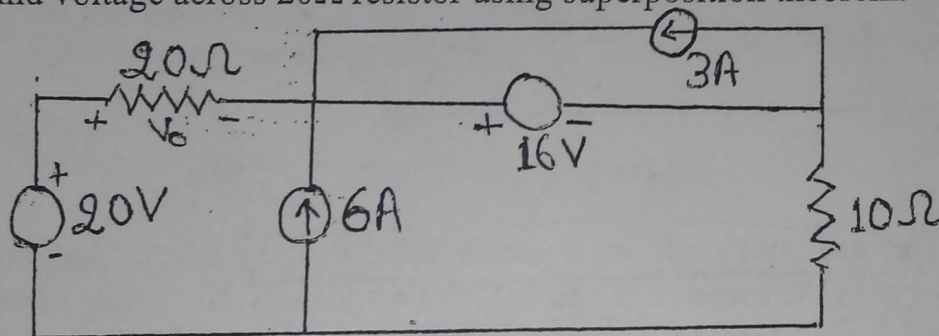
Max. Marks : 20

Note : Attempt ALL questions.

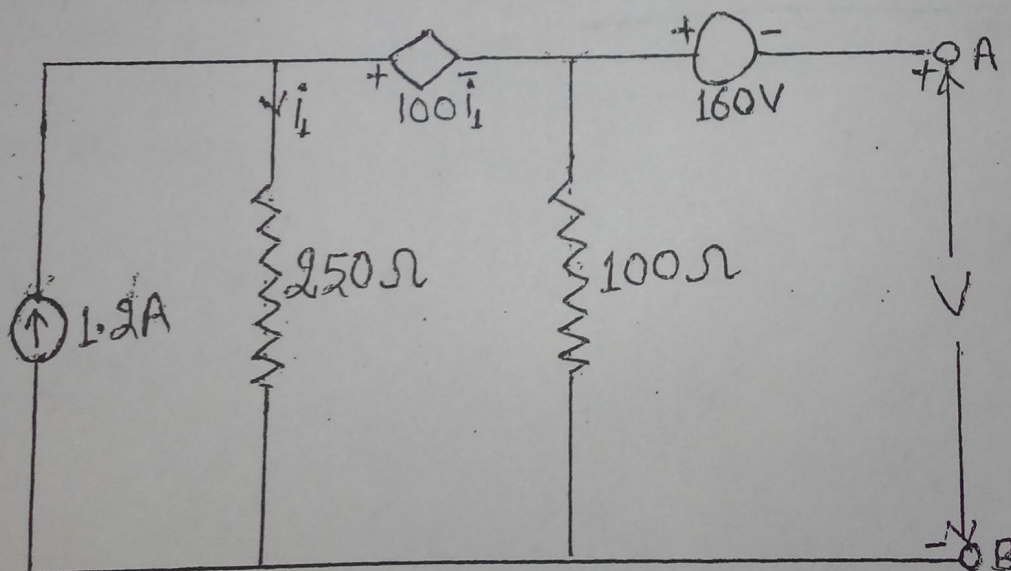
All questions carry equal marks.

Assume suitable missing data, if any.

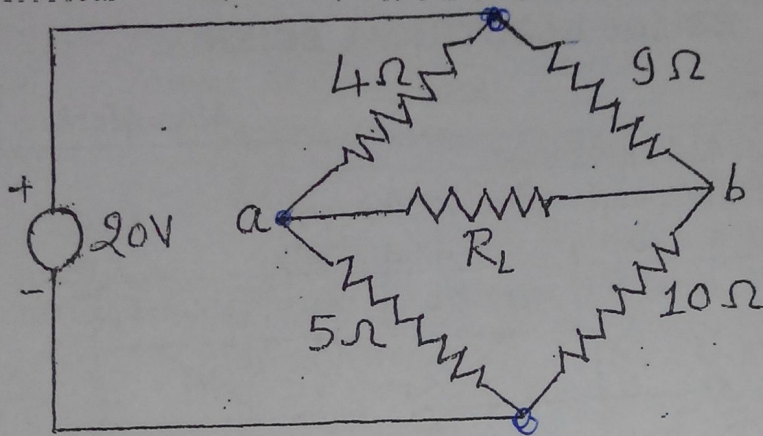
Q.1 Find voltage across 20Ω resistor using superposition theorem. (5)



Q.2 Find the Norton's & Thevenin's Models between terminal 'A' and 'B' of the given circuit diagram. (5)



Q.3 Calculate the value of Load Resistance R_L for which maximum power is transferred to the load resistor R_L . Also calculate the maximum power transferred to R_L . (5)



Q.4 Define bandwidth in a series RLC circuit. Show that bandwidth increase with the increase in the value of resistance. The voltage applied to a series RLC circuit is $8.5V$. The quality factor of the coil is 50 and the value of the capacitor is 320 pF . The resonance frequency of the circuit is 175 KHz. Find the value of the inductance, current flowing in the circuit during resonance and voltage across the capacitor under resonance. Draw phasor diagram. (5)