



Vivekananda College of Engineering & Technology

[Sponsored by Vivekananda Vidyavardhaka Sangha, Puttur @]

Affiliated to Visvesvaraya Technological University

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CRM08

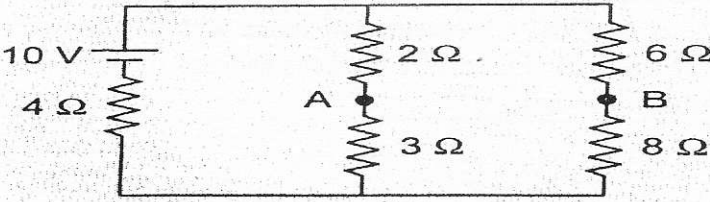
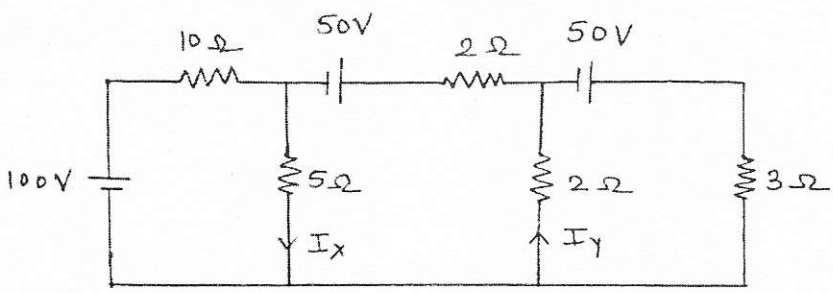
Rev 1.0

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17/08/2015

INTERNAL ASSESSMENT TEST - 1

Dept: EC	Sem / Div: I / B & D	Sub: Basic Electrical Engineering	S Code: 15ELE15
Date: 22/08/2015	Time: 9.30a.m-11a.m	Max Marks: 40	Elective: N
Note: Answer any 2 full questions.			

QN	Questions	Bloom's Level	Marks
1 a	<p>Explain KVL and KCL.</p> <p>Find the current in the battery, the current in each branch and potential difference across AB in the network shown in fig.</p> 	L2	8
b	Explain Faraday's Law of Electromagnetic induction and also derive the equation for induced e.m.f.	L2	6
c	<p>A circuit consists of two parallel resistors having resistance of 20Ω and 30Ω respectively connected in series with 15Ω. If current through 15Ω resistor is 3Ampere, find:</p> <ol style="list-style-type: none"> Current in 20Ω and 30Ω resistors. The voltage across the whole circuit. The total power and power consumed in all resistances. 	L3	6
2 a	<p>Using KCL, KVL determine the currents I_x and I_y in the network shown.</p> 	L3	8
b	Explain dynamically induced e.m.f and statically induced e.m.f.	L2	6
c	<p>Two coils having 30 and 600 turns respectively are wound side by side in a closed iron circuit of area of cross section 100 sq.cm and mean length 200 cms. Estimate the mutual inductance between the coils if the relative permeability of the iron is 2000. if a current of zero ampere grows to 20A in a time of 0.02sec in the first coil, find the e.m.f induced in the second coil.</p>	L3	6

Prepared by: Velloree Khuraijam Checked by: Shreyas H

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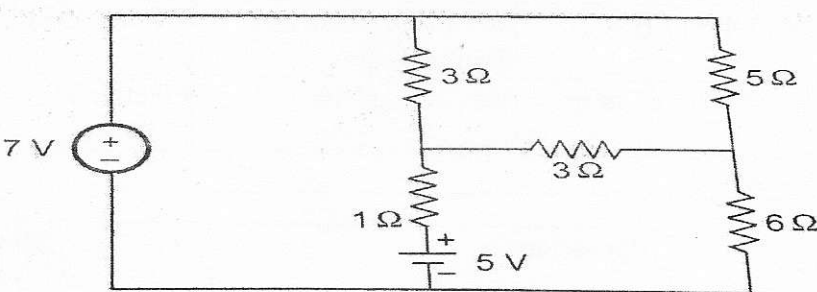
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INTERNAL ASSESSMENT TEST - 1

3	a Find the current supplied by 7V source.	L3	8
			
	b Explain Lenz's Law.	L2	6
	c A coil of resistance 150Ω is placed in a magnetic field of 0.1mWb . The coil has 500 turns and a galvanometer of 450Ω is connected in series with it. The coil is moved in 0.1sec from the given field of 0.3mWb . Find the average induced e.m.f and the average current through the coil.	L3	6

Velloree Khuraijam
17/8/2015

Shreyas H

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