



Vivekananda College of Engineering & Technology

[Sponsored by Vivekananda Vidyavardhaka Sangha, Puttur ®]

Affiliated to Visvesvaraya Technological University

Approved by AICTE New Delhi & Govt of Karnataka

CRM08

Rev 1.0

FY

17/08/2015

INTERNAL ASSESSMENT TEST - 1

Dept: EC	Sem / Div: I / A & C	Sub: Basic Electrical Engineering	S Code: 15ELE15
Date: 22/08/2015	Time: 9:30-11:00AM	Max Marks: 40	Elective: N
Note: Answer any 2 full questions.			

QN	Questions	Bloom's Level	Marks
1 a	Explain the concepts of resistances in parallel and branch currents.	L2	5
b	A resistance of 10Ω is connected in series with the two resistances each of 15Ω arranged in parallel. What resistance must be shunted across this parallel combination so that the total current taken will be $1.5A$ from $20V$ supply applied.	L3	7
c	Explain Faraday's laws of electromagnetic induction and also derive the equation for induced E.M.F.	L2	8
2 a	A current of $20A$ flows through two ammeters A and B in series. The potential difference across A is $0.2V$ and across B is $0.3V$. Find how the same current will divide between A and B when they are in parallel.	L3	8
b	For the network shown below, the power dissipated in 5Ω resistor is $20W$. Calculate <ol style="list-style-type: none"> the current through 20Ω resistor. the potential difference across X and Z. the total power dissipated. the current through 10Ω resistor. 	L3	7
c	Derive the equation for the coefficient of coupling.	L3	5
3 a	Find the current in all the branches of the network shown in the below figure.	L3	6

Prepared by: Shreyas

Checked by: Velloree

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b	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 3A, find a. current in 20Ω and 30Ω resistors. b. the voltage across the whole circuit. c. the total power and power consumed in all resistances.	L3	6
c	Explain the concepts of dynamically induced E.M.F. and statically induced E.M.F.	L2	8

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