Program: BE

Curriculum Scheme: Revised 2019

Examination: First Year Semester I

Course Code: FEC105 **Course Name: Basic Electrical Engineering**

Time: 1 hour **Max. Marks: 50**

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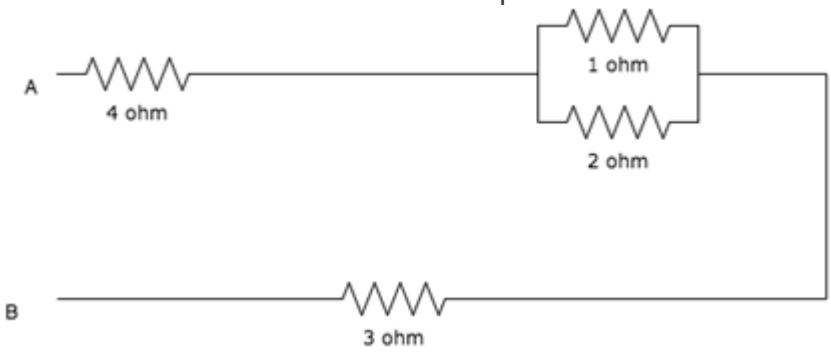
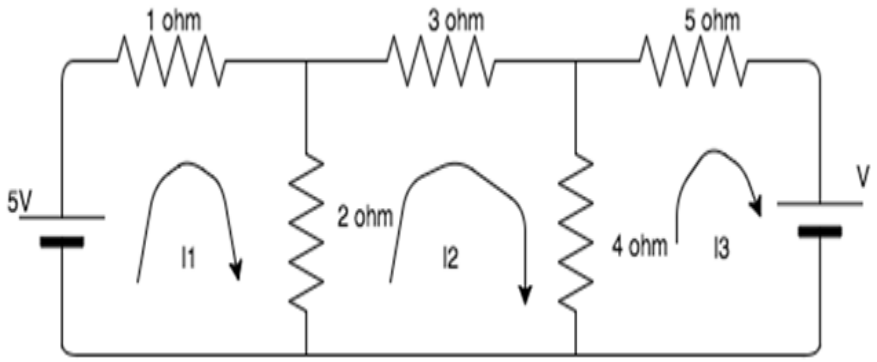
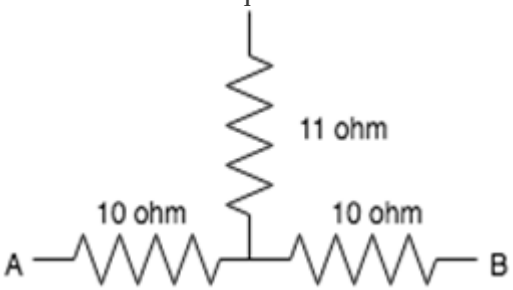
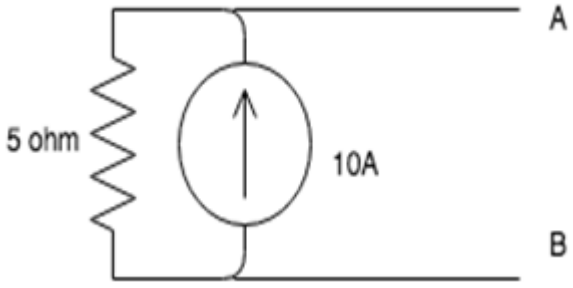
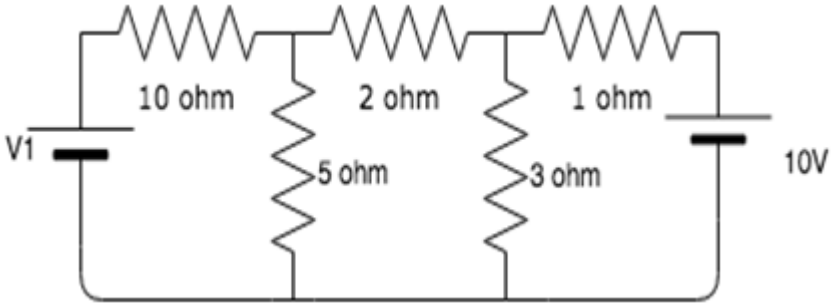
Note to the students:- All the Questions are compulsory and carry equal marks .

Q1.	Calculate the total resistance between the points A and B. 
Option A:	7 ohm
Option B:	0 ohm
Option C:	7.67 ohm
Option D:	0.48 ohm
Q2.	A copper coil has a resistance of 200 ohms when its mean temperature is 0 degree centigrade. Calculate the resistance of the coil when its mean temperature is 80 degree centigrade. Temperature coefficient of copper is 0.004041 centigrade.
Option A:	264.65ohm
Option B:	264.65kilo-ohm
Option C:	286.65ohm
Option D:	286.65kilo-ohm
Q3.	Find the value of V,if the value of I3= 0A.

	
Option A:	1.739V
Option B:	6.5V
Option C:	4.5V
Option D:	2.739V
Q4.	In superposition theorem, when we consider the effect of one current source, all the other voltage sources are _____
Option A:	Shorted
Option B:	Opened
Option C:	Removed
Option D:	Undisturbed
Q5.	Find the equivalent resistance between A and B. 
Option A:	32ohm
Option B:	31ohm
Option C:	30ohm
Option D:	29ohm
Q6.	Find the value of voltage once source transformation is applied to the circuit. 
Option A:	10V
Option B:	30V

Option C:	50V
Option D:	70V
Q7.	Find the value of V1 if the current through the 1 ohm resistor=0A. 
Option A:	83.33V
Option B:	78.89V
Option C:	87.87V
Option D:	33.33V
Q8.	Calculate the resistance in the circuit if the rms voltage is 20V and the rms current is 2A.
Option A:	2ohm
Option B:	5ohm
Option C:	10ohm
Option D:	20ohm
Q9.	A resistance of 7 ohm is connected in series with an inductance of 31.8mH. The circuit is connected to a 100V 50Hz sinusoidal supply. Calculate the current in the circuit.
Option A:	2.2A
Option B:	4.2A
Option C:	6.2A
Option D:	8.2A
Q10.	In an inductive circuit, the current_____ the voltage?
Option A:	Leads
Option B:	Lags
Option C:	Is greater than
Option D:	Is less than
Q11.	In an RLC series phasor, we start drawing the phasor from which quantity?
Option A:	Voltage
Option B:	Resistance
Option C:	Impedance
Option D:	Current
Q12.	The rms value is _____ times he maximum value
Option A:	1.414

Option B:	0.5
Option C:	2
Option D:	0.707
Q13.	Find the source voltage when the voltage across the capacitor is 1000V and the Q factor is 10.
Option A:	10V
Option B:	200V
Option C:	100V
Option D:	90V
Q14.	In a series RLC circuit, the phase difference between the voltage across the capacitor and the current in the circuit is?
Option A:	0^0
Option B:	90^0
Option C:	180^0
Option D:	360^0
Q15.	By using two wattmeter method, power can be measured in
Option A:	3 - phase, 2 - wire system
Option B:	3 - phase, 3 - wire system
Option C:	3 - phase, 4 - wire system
Option D:	All of these
Q16.	The two wattmeter method is applicable for
Option A:	Only star connected system
Option B:	Only delta connected system
Option C:	Both star connected and delta connected system
Option D:	None of these
Q17.	The expression for total power output of a delta connected system in terms of phase voltage and current is given by
Option A:	$3V_pI_p\cos\emptyset$
Option B:	$\sqrt{3}V_pI_p\cos\emptyset$
Option C:	$1/\sqrt{}\ 3V_pI_p\cos\emptyset$
Option D:	$1/3 \times V_pI_p\cos\emptyset$
Q18.	In a 3 - phase star connected balanced induction motor, the line voltage is equal to the

Option A:	3 times the phase voltage
Option B:	√3 times the phase voltage
Option C:	1/√3 times the phase voltage
Option D:	1/3 times the phase voltage
Q19.	When will be the efficiency of a transformer maximum?
Option A:	Copper losses = hysteresis losses
Option B:	Hysteresis losses = eddy current losses
Option C:	Eddy current losses = copper losses
Option D:	Copper losses = iron losses
Q20.	Why OC test is performed on LV side?
Option A:	Simple construction
Option B:	Less voltage is required and parameters can be transformed to HV side
Option C:	It'll not give losses ig conducted on HV side
Option D:	HV side does not have connections for voltage
Q21.	During short circuit test why iron losses are negligible?
Option A:	The current on secondary side is negligible
Option B:	The voltage on secondary side does not vary
Option C:	The voltage applied on primary side is low
Option D:	Full-load current is not supplied to the transformer
Q22.	Which of the following statement regarding an ideal single-phase transformer is incorrect? Transformer is having a turn ratio of 1: 2 and drawing a current of 10 A from 200 V AC supply is incorrect?
Option A:	It's a step-up transformer
Option B:	Its secondary voltage is 400 V
Option C:	Its rating is 2 kVA
Option D:	Its secondary current is 20 A
Q23.	Slip ring induction motor has
Option A:	Low starting torque
Option B:	Medium starting torque
Option C:	High starting torque
Option D:	None of these
Q24.	What is the lamination used for the stator?
Option A:	Cast iron
Option B:	die cast aluminium alloy frame
Option C:	cast iron or die cast aluminium alloy frame
Option D:	cast iron and die cast aluminium alloy frame
Q25.	How many kinds of single phase windings are present?

Option A:	2
Option B:	3
Option C:	4
Option D:	5

Answer Key	
Q 1	c
Q 2	a
Q 3	a
Q 4	a
Q 5	d
Q 6	c
Q 7	a
Q 8	c
Q 9	d
Q 10	b
Q 11	d
Q 12	d
Q 13	c
Q 14	b
Q 15	b
Q 16	c
Q 17	a
Q 18	b
Q 19	d
Q 20	b
Q 21	c
Q 22	d
Q 23	c
Q 24	c
Q 25	b