

University of Mumbai
Examination 2020 under cluster 9 (FAMT)

Program: Electronics and Telecommunication Engineering

Curriculum Scheme: Revised 2019

Examination: First Year Semester I

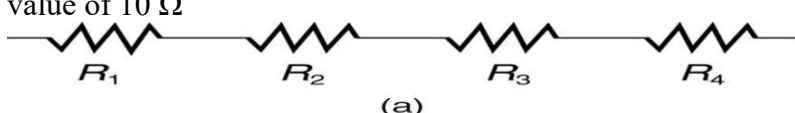
Course Code: **FEC105** and Course Name: **Basic Electrical Engineering**

Time: 1 hour

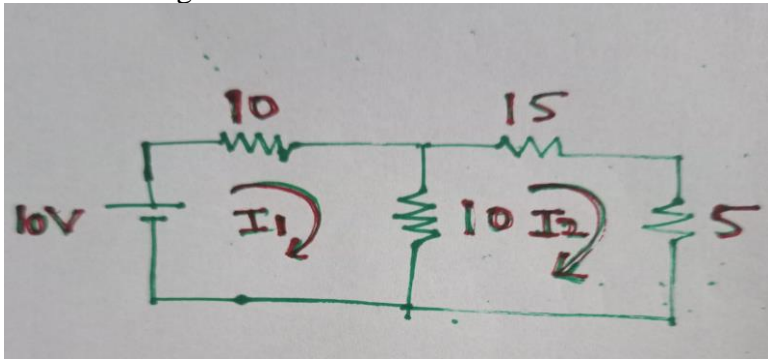
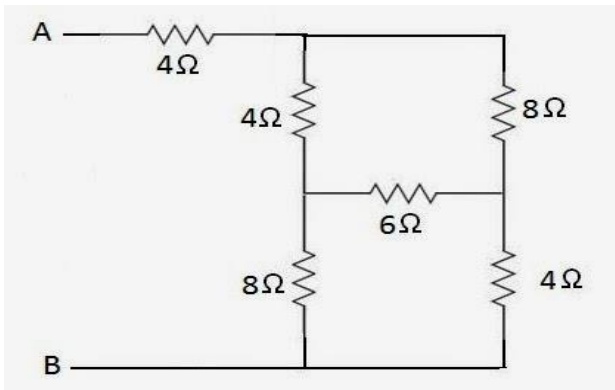
Max. Marks: 50

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

Q1.	Mesh is a closed loop
Option A:	that contains many loops
Option B:	that contains two loops
Option C:	that doesn't contain any other loop
Option D:	that is complex loop
Q2.	Kirchhoff's Voltage & current laws are applied respectively in
Option A:	Only Mesh Analysis
Option B:	Only Nodal Analysis
Option C:	Mesh & Nodal Analysis
Option D:	Nodal & Mesh Analysis
Q3.	Voltage & currents are always measure in
Option A:	Series & parallel respectively
Option B:	Parallel & Series respectively
Option C:	Only in parallel
Option D:	Only in series
Q4.	Internal resistance of an Ideal voltage source is
Option A:	Infinite
Option B:	negative
Option C:	Zero
Option D:	Non Zero
Q5.	Calculate Equivalent resistance for given network if all resistors having equal value of $10\ \Omega$
 <p style="text-align: center;">(a)</p>	
Option A:	$2.5\ \Omega$
Option B:	$5\ \Omega$
Option C:	$40\ \Omega$
Option D:	$100\ \Omega$

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Q6.	For Given Figure I1 & I2 values are 
Option A:	0.8 A, 0.2 A
Option B:	0.7 A, 0.2 A
Option C:	0.6 A, 0.2 A
Option D:	0.8 A, 0.3 A
Q7.	Calculate RAB 
Option A:	3.67 Ω
Option B:	5.67 Ω
Option C:	7.67 Ω
Option D:	9.67 Ω
Q8.	Super node is formed when
Option A:	only current source is present in a independent branch
Option B:	only voltage source present between a normal junction & datum junction
Option C:	only voltage source present between two normal junctions
Option D:	only voltage source present between two datum junctions
Q9.	What is the unit of admittance?
Option A:	ohm
Option B:	farad
Option C:	henry
Option D:	mho
Q10.	What is amplitude, frequency if equation is $e=25 \sin(314t)$
Option A:	25V, 50 Hz
Option B:	17.67 V, 50 Hz

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Option C:	25V,60Hz
Option D:	17.67 V, 60Hz
Q11.	For parallel circuit impedances $Z_1=6+j8$, $Z_2=8-6j$ of individual branches What is equivalent Impedance
Option A:	$5+2j$
Option B:	$1+2j$
Option C:	$7+1j$
Option D:	$7-1j$
Q12.	Which Circuit never consumes the power
Option A:	Purely resistive
Option B:	Inductive or Series RL
Option C:	Purely Capacitive
Option D:	Capacitive or Series RC
Q13.	In Series Resonance the Impedance Z is
Option A:	R
Option B:	$R+jX_L$
Option C:	$R-jX_C$
Option D:	$R+j(X_L-X_C)$
Q14.	Parallel Resonance is
Option A:	Voltage Magnification Circuits
Option B:	Current Magnification Circuits
Option C:	Current Reduction Circuits
Option D:	Voltage Reduction Circuits
Q15.	Power factor in series Resonance is
Option A:	Zero
Option B:	one
Option C:	Less than one
Option D:	Greater than one
Q16.	What is Phase Sequence in 3 Φ system
Option A:	RBY
Option B:	YBR
Option C:	BYR
Option D:	RYB
Q17.	In star connected 3 Φ load Line Voltage VL is =
Option A:	$\sqrt{3} V_{Ph}$
Option B:	V_{Ph}
Option C:	$\frac{1}{\sqrt{3}} V_{Ph}$

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Option D:	$\sqrt{2} V_{Ph}$
Q18.	In Delta connected load
Option A:	Line & Phase Voltages are Equal
Option B:	Line & Phase Currents are Equal
Option C:	Phase Voltage & Phase Currents are Equal
Option D:	Line Voltage & Line Currents are Equal
Q19.	Power in Star connected load is equal to
Option A:	Power in Delta connected load
Option B:	Three times the Power in Delta connected load
Option C:	One Third of Power in Delta connected load
Option D:	Two times the Power in Delta connected load
Q20.	Transformer converts input AC signal into
Option A:	DC signal
Option B:	AC signal with change in Voltage or Currents with Keeping constant Frequency.
Option C:	AC signal with change in Voltage or Currents with variable Frequency.
Option D:	Constant Signal
Q21.	For given Voltage Rating 440 V/230V What is type of Transformer
Option A:	Step down
Option B:	Step up
Option C:	isolated
Option D:	Auto
Q22.	A role of slip ring in a AC generator
Option A:	Power transmission
Option B:	Allow electrical contact with brushes
Option C:	Not allow electrical contact with brushes
Option D:	For rotation of armature
Q23.	Open Circuit Test on Transformer is used to Calculate
Option A:	Copper Loss
Option B:	Iron Loss
Option C:	Both Copper Loss & Iron Loss
Option D:	Full load Currents
Q24.	Dc Generator converts
Option A:	Mechanical Energy into Electrical Energy
Option B:	Electrical Energy into Mechanical Energy
Option C:	Electrical Energy into Solar Energy
Option D:	Mechanical Energy into Solar Energy
Q25.	Role of Commutator in motor is to

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Option A:	Flow the current in uni-direction in rotor winding
Option B:	Flow the current in bi-direction in rotor winding
Option C:	No flow of Current in rotor winding
Option D:	Flow of Current in all direction