SRM INSTITUTE OF SCIENCE AND TECHNOLOGY - RAMAPURAM
DEPARTMENT OF ECE & EEe
18EES101J – BASIC ELECTRICAL AND ELECTRONICS ENGINEERING
MULTIPLE CHOICE QUESTION –
QUESTION BANK

UNIT 1 - ELECTRICAL CIRCUITS

EASY QUESTIONS

1) Thevenin resistance is found by _____
A. Shorting all voltage sources
B. Opening all current sources
C. Shorting all voltage sources and opening all current sources
D. Opening all voltage sources and shorting all current sources

2) In a star connected system, the current flowing through the line is
A. Greater than the phase current
B. Equal to the phase current
C. Lesser than the phase current
D. zero

3) The 2ohm and 3 ohm resistor are in series the equivalent resistance is
A. 1.2
B. 5
C. 4.2
D. 1.4

4) The internal resistance for the maximum transfer of power should be
A. equal to load resistance
B. greater than load resistance
C. zero
D. lesser than load resistance

5) If the voltage frequency applied to a series RC circuit is increased, then the phase angle will
A. Increases
B. reduces
C. remains the same
D. zero

6) In an RLC circuit above the resonant frequency, the current will
A. lags the applied voltage
B. leads the applied voltage

C. is in phase with the applied voltages
D. is zero

7) The equation for ohms law is
A. V=IR,at contant temperature
B. V=IC
C. V=IL
D. V=I/R

8) A 6 kHz sinusoidal voltage is applied to a series *RC* circuit. The frequency of the voltage across the resistor is
A. 6Khz
B. 12Khz
C. 13Khz
D. 14Khz

9) In a certain load, the actual power is 150 W and the reactive power is 125 VAR. What is the apparent power?
A. 19.52W
B. 195.2W
C. 375W
D. 24W

10) What is the unit of power?
A. Watt
B. Newton
C. Joule
D. Henry

11) Mesh analysis employs the method of
A. KVL
B. KCL
C. Both KVL and KCL
D. Neither KVL or KCL

12) If there are 10 nodes in a circuit, how many equations do we get?
A. 10
B. 9
C. 8
D. 7

13) Superposition theorem can only be used for circuits
A. Element resistive

B. Element passive
C. Linear bilateral elements
D. Non-linear elements

14) Each phase of a three phase alternator delta connected produces a voltage of 11KV and a current of 1000A at pf 0.9.Find line voltage and line current.
A. 11KV,1732A
B. 11KV,1632A
C. 3.33KV,1732A
D. 3.33V,1000A

15) In a balanced three phase system three voltages differ in ____ electrical from each other in a sequence and have equal magnitude.
A. 240
B. 120
C. 360
D. 0

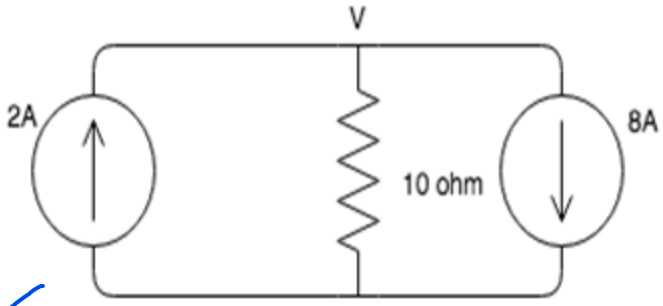
16) For series circuit the equivalent resistance is ___ the greatest resistance connected in series circuit.
A. lesser than
B. greater than
C. equal to
D. not equal to

17) The non-linear circuit parameters are ?
A. Inductance
B. Capacitance
C. Resistance
D. Transistor

18) In a series *RC* circuit, find the RMS voltage where the voltage across resistor is 12 $V_{(rms)}$ and voltage across capacitor is 15 $V_{(rms)}$. The rms source voltage is
A. 3
B. 27
C. 19.2
D. 40

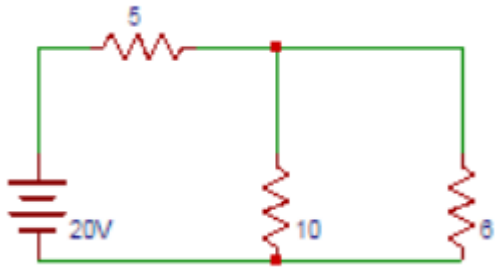
MODERATE QUESTIONS

1) The voltage V using nodal analysis



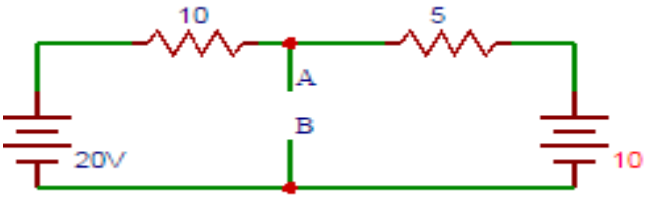
A. -60V
B. 60V
C. -40V
D. 40V

2) Find the current flowing between terminals A and B of the circuit shown below.



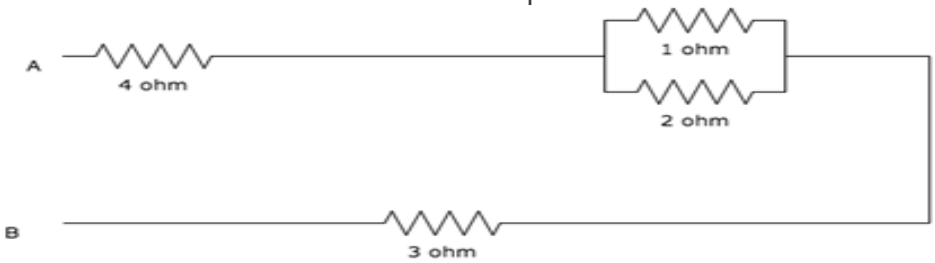
A. 1
B. 2
C. 3
D. 4

3) Find the current flowing between terminals A and B.



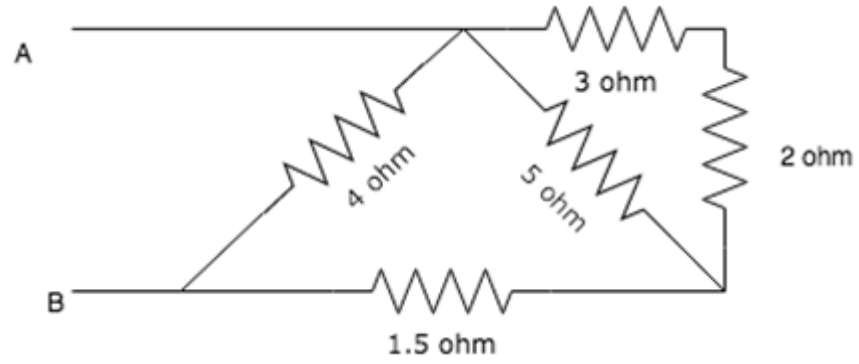
A. 1
B. 2
C. 3
D. 4

4) Calculate the total resistance between the points A and B.



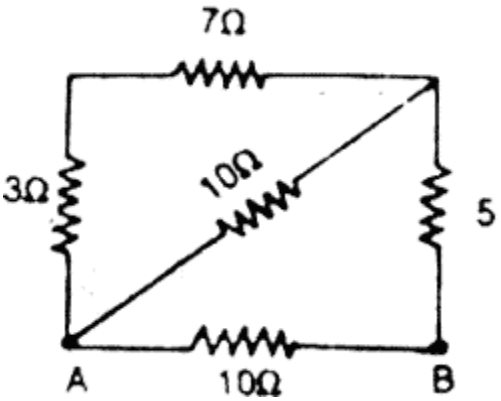
A. 7 ohm
B. 4 ohm
C. 7.6 ohm
D. 0.48 ohm

5) Calculate the equivalent resistance between A and B.



A. 2
B. 4
C. 6
D. 8

6) The resistance are connected in series. Find the equivalent resistance



A. 35
B. 25
C. 15
D. 5

7) An electric kettle has a resistance of 30ohm.What current will flow when it is connected to 240Vsupply.Also find the power.
A. 8A,1.92Kw
B. 9A,3Kw

C. 10A,4Kw
D. 12A,5Kw

8) An ideal voltage source has
A. Zero internal resistance
B. Open circuit voltage equal to the voltage on full load
C. Terminal voltage in proportion to current
D. Terminal voltage in proportion to load

9) To find impedance in thevenins theorem.
A. All independent current sources are short circuited and independent voltage sources are open circuited
B. All independent voltage sources are open circuited and all independent current sources are short circuited
C.All independent voltage and current sources are short circuited
D. All independent voltage sources are short circuited and all independent current sources are open circuited

10) Application of Norton's theorem to a circuit yields
A. Equivalent current source and impedance in series
B. Equivalent current source and impedance in parallel
C.Equivalent impedance
D. Equivalent current source

11) What will be the resistance of the wire which has 0.14 mm diameter and specific resistance 9.6 micro ohm-cm is 440 cm long. The resistance of the wire will be
A.9.6 ohm
B. 11.3 ohm
C. 13.7 ohm
D. 27.4 ohm

12) In Superposition theorem, while considering a source, all other voltage sources are?
A. open circuited
B. short circuited
C. change its position
D. removed from the circuit

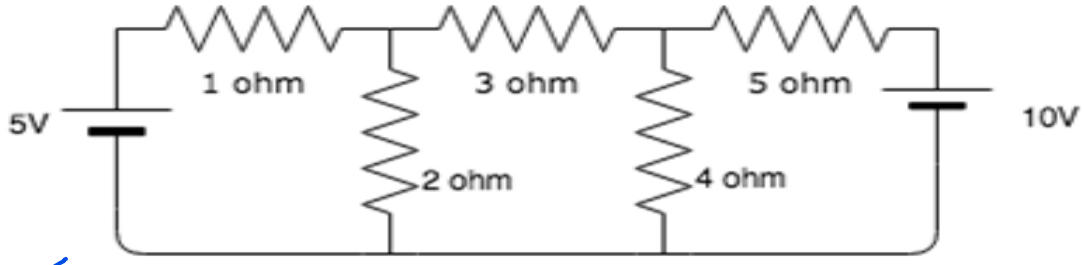
13. How line voltage and phase voltage are related in three phase star connected system?
A. $V_L = V_{PH}$
B. $V_L = \sqrt{3}V_{PH}$
C. $V_L = \sqrt{2}V_{PH}$
D. $V_L = 2V_{PH}$

14. In three phase voltage generation the windings are placed at

A. 240 degree apart
B. 45 degree apart
C. 120 degree apart
D. 360 degree apart

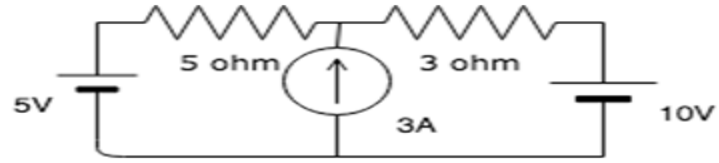
TOUGH QUESTIONS

1) Find the value of the currents I1, I2 and I3 flowing clockwise in the first, second and third mesh respectively.



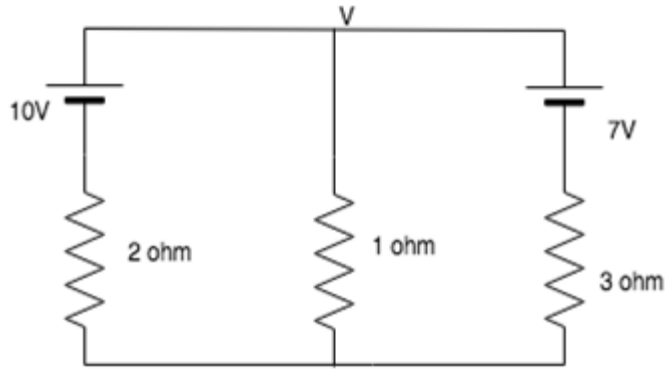
A. 1.54A, -0.189A, -1.195A
B. 2.34A, -3.53A, -2.23A
C. 4.33A, 0.55A, 6.02A
D. -1.18A, -1.17A, -1.16A

2) Calculate the mesh currents I1 and I2 flowing in the first and second meshes respectively



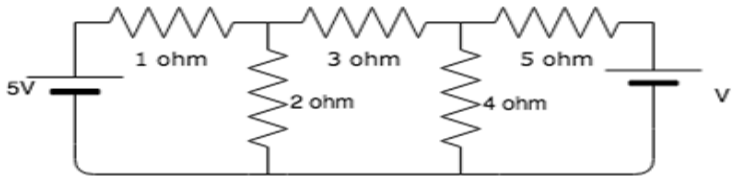
A. 1.75A, 1.25A
B. 0.5A, 2.5A
C. 2.3A, 0.3A
D. 3.2A, 6.5A

3) Find the node voltage V.



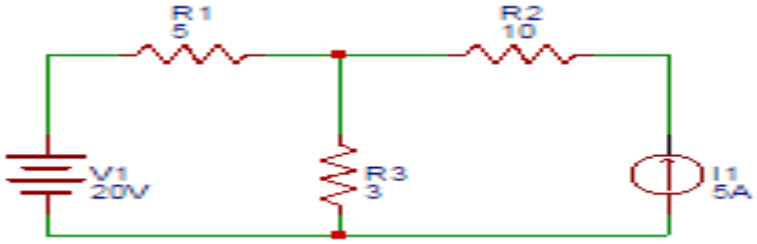
A. 1V
B. 2V
C. 3V
D. 4V

4) Find the value of V if the current in the 3 ohm resistor=0.



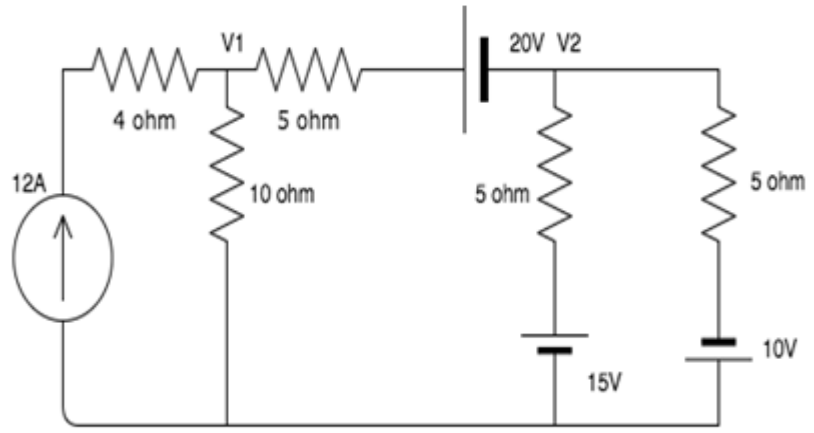
A. 3.5V
B. 6.5V
C. 7.5V
D. 8.5V

5) In the circuit shown, find the current through 4Ω resistor using Superposition theorem.



A. 4
B. 5
C. 6
D. 7

6) Find the value of V1 and V2.



A. 87.23V, 29.23V
B. 23.32V, 46.45V
C. 64.28V, 16.42V
D. 56.32V, 78, 87V