

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 constant 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 ?

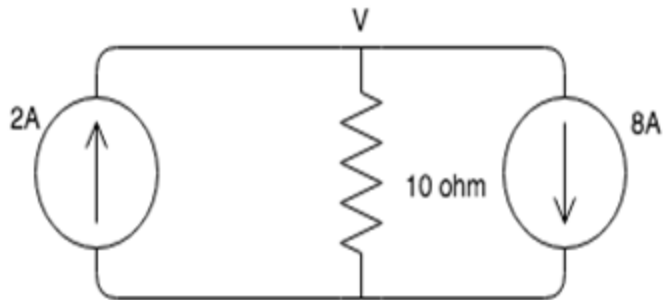
- ☒ A. Inductance
- B. Capacitance
- C. Resistance
- ☒ D. Transistor

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

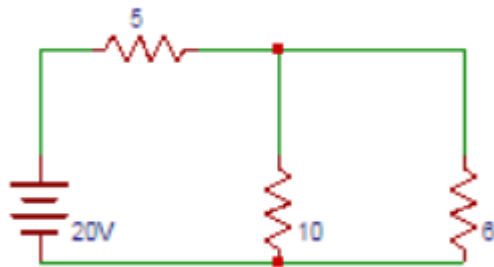
1) The voltage V using nodal analysis



?

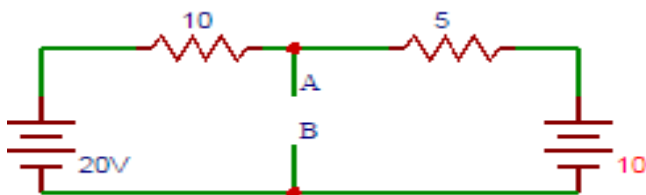
- A. -60V
- B. 60V
- C. -40V
- D. 40V

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



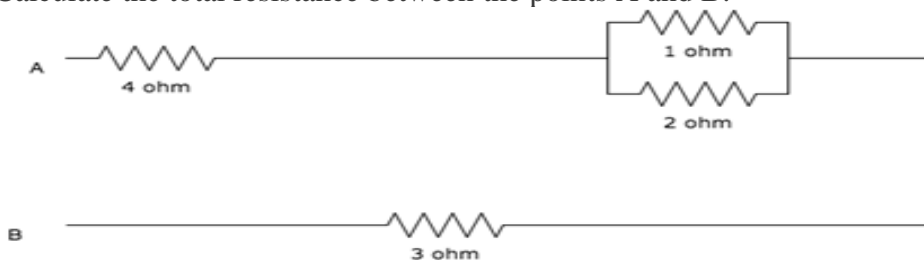
- A. 1
- B. 2
- C. 3
- D. 4

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



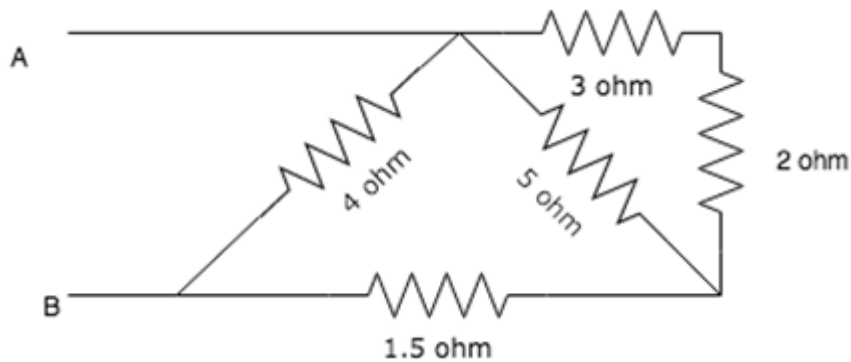
- A. 1
- B. 2
- C. 3
- D. 4

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



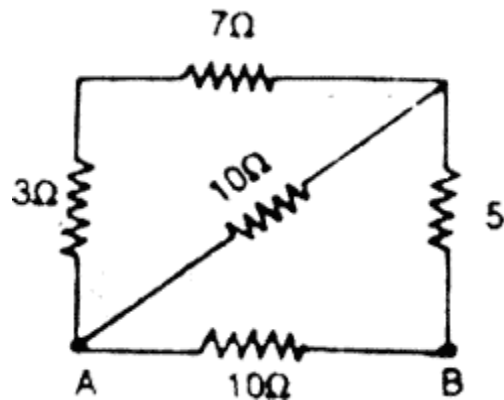
- A. 7 ohm
- B. 4 ohm
- C. 7.6 ohm
- D. 0.48 ohm

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 240V supply. 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?

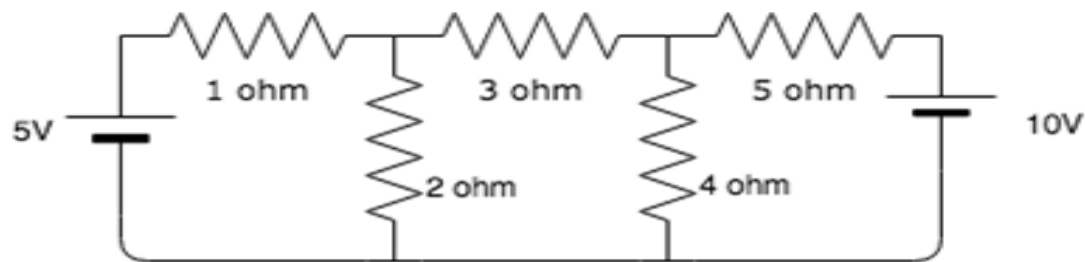
- A. $V_L = V_{PH}$
- B. $V_L = \sqrt{3}V_{PH}$
- C. $V_L = \sqrt{2}V_{PH}$
- D. $V_L = 2V_{PH}$

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

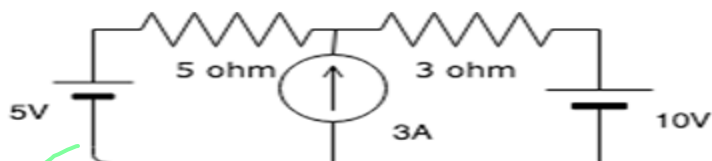
TOUGH QUESTIONS

1) Find the value of the currents I_1 , I_2 and I_3 flowing clockwise in the first, second and third mesh respectively.



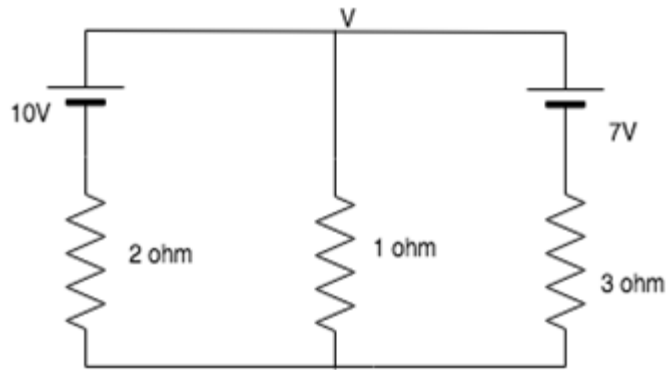
- A. 1.54A, -0.189A, -1.195A
- B. 2.34A, -3.53A, -2.23A
- C. 4.33A, 0.55A, 6.02A
- D. -1.18A, -1.17A, -1.16A

2) Calculate the mesh currents I_1 and I_2 flowing in the first and second meshes respectively



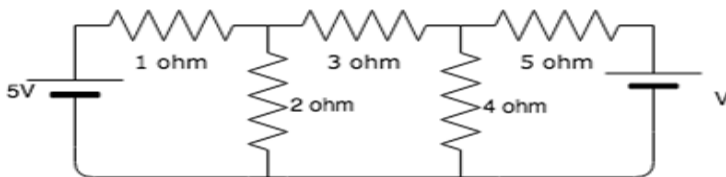
- A. 1.75A, 1.25A
- B. 0.5A, 2.5A
- C. 2.3A, 0.3A
- D. 3.2A, 6.5A

3) Find the node voltage V .



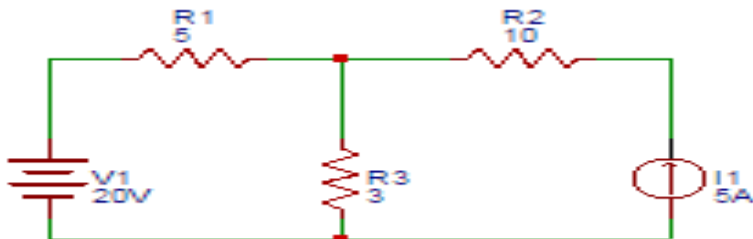
- A. 1V
- B. 2V
- C. 3V
- ☒ D. 4V

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



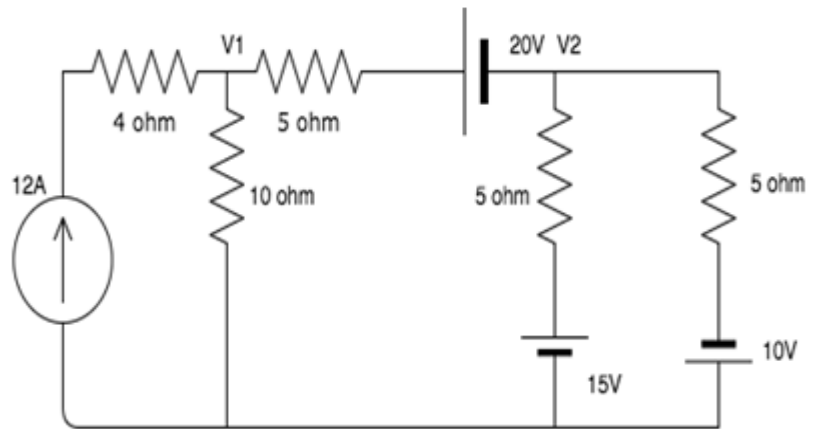
- A. 3.5V
- ☒ B. 6.5V
- C. 7.5V
- D. 8.5V

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