DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

19EE103T – BASIC ELECTRICAL ELECTRONICS AND COMMUNICATION ENGINEERING

PART – A (1 MARKS)

UNIT – I DC CIRCUITS

1. The path between any two nodes is called **Branch**
(a)Branch (b) Node (c) Loop (d) Tree

2. In an electrical circuit, the algebraic sum of **Current** in a node is zero
(a)Voltage (b) Current (c) Power (d) energy

3. In an electrical circuit, the algebraic sum of **Voltage** in a closed path is zero.
(a)Voltage (b) Current (c) Power (d) energy

4. The **Energy** is given by the product of Power & Time.
(a)Voltage (b) Current (c) Power (d) energy

5. Mesh analysis is used to solve **Current** variables of a circuit.
(a)Voltage (b) Current (c) Power (d) energy

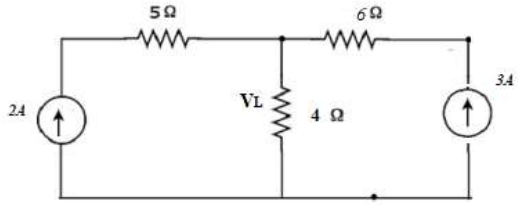
6. Mesh equation are **KVL** equation of a circuit.
(a)KVL (b) KCL (c) Ohms Law

7. The solution of a mesh basis matrix equation IR=V will be in the form **I=V/R**
(a)I=V/R (b) R (c) V (d) I

8. Node analysis is used to solve **Voltage** variables of a circuit.
(a)Voltage (b) Current (c) Power (d) energy

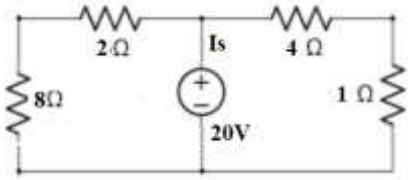
9. Node equation are **KCL** equation of a circuit.
(a)KVL (b) KCL (c) Ohms Law

10. The voltage V_L in the circuit shown



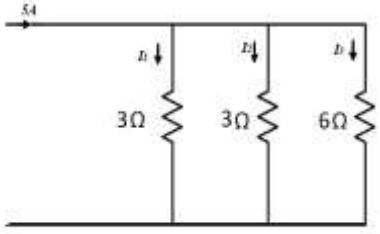
(a) 4v (b) 8v (c) 12 v (d) **20 v**

11. The current Is delivered by the voltage source in the circuit shown



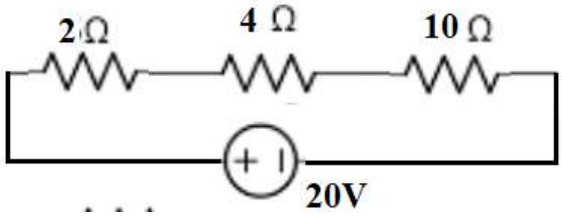
(a)**6 A** (b) 5A (c) 4A (d) 2A

12.In fig, the current I_1,I_2& I_3respectively are



(a)1.5 A ,1.5 A,2 A (b)1A,1A,3A (c)1A,2A,3A (d)**2A,2A,1A**

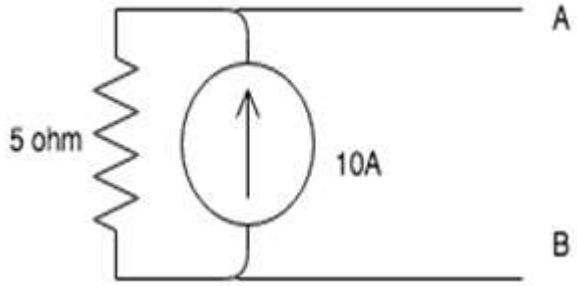
13.In fig, the current V_1,V_2& V_3respectively are



(a)4V,6V,10V (b)3.5V,6.5V,10V (c)**2.5V,5V,12.5V** (d)2V,6V,12V

14. A voltage source connected in series with a resistor can be converted to a?
a) Current source in series with a resistor
b) **Current source in parallel with a resistor**
c) Voltage source in parallel with a resistor
d) Cannot be modified

15Find the value of voltage once source transformation is applied to the circuit.



a) 10Vb) 30Vc) **50V**d) 70V

UNIT 2(AC Circuits & Transformer)

1. In a series RLC circuit the phase difference between current in the circuit and the voltage across the capacitor is
   (a) 0^0 (b)90^o (c)180^0 (d) 360^0

2. .In a series RLC circuit the phase difference between current in the circuit and the voltage across the inductor is
   (a) 0^0 (b)**90^o** (c)180^0 (d) 360^0

3. In a series RLC circuit the phase difference between current in the circuit and the voltage across the resistor is
   (a) 0^0 (b)90^o (c)180^0 (d) 360^0

4.Find the total voltage applied in a series RLC circuit when i=3mA, VL=30V, VC=18V and R=1000 ohms.
a) 3.95V b) **51V** c) 32.67V d) 6.67V

5.In an RLC circuit, the power factor is always _____
a)Positive b)Negative c) **Depends on the circuit** d) Zero

6.In an RLC series phasor, we start drawing the phasor from which quantity?
(a) Voltage (b) Resistance (c) Impedance (d) **Current**

7.In an RLC circuit, which of the following is always used as a vector reference?
a)**Voltage** b)Resistance c)Impedance d) Current

8.What is the correct expression for the phase angle in an RLC series circuit?
a)**φ=tan-1(XL-XC)/R** **(**b)φ=tan-1(XL+XC)/R
c)φ=tan(XL-XC)/R d) φ=tan-1 (XL-XC)

9.Which of the following is not ac waveform?
a)sinusoidal b)square c)**constant** d) triangular

10.If supply frequency of a transformer increases, the secondary output voltage of the transformer
(a)Increase (b)Decrease (c) **Remain the same(d)**Any of the above

11.The open circuit test in a transformer is used to measure
(a)Copper loss (b)Winding loss (c)Total loss (d)**Core loss**

12. Lamination of transformer core is made of
(a)Cast Iron (b)**Silicon Steel** (c)Aluminum (d)Cast Steel

13.Breather is provided in a transformer to
(a)Absorb moisture of air during breathing (b)provide cold air in the transformer
(c)The filter of transformer oil (d)None of above

14.Which of the following losses varies with the load in the transformer?
(a)Core loss (b) **Copper loss** (c)Both core & copper loss (d)None of the above

15.A transformer transform
(a)Current (b)Voltage & current (c)Frequency (d)**Voltage**