Quiz (AC Circuits-II)

*Required

1. Email address *

2. Name *

3. Branch *

Mark only one oval.

- TC
- MMFT

4. Roll No *

5. Mobile No

6. An ac circuit consists of a pure resistance of 20 ohm and is connected to an ac supply of 282.84 Sin 314t Calculate the (i) current (ii) power consumed (iii) equation for current and (iv) frequency of supply 1 point

Mark only one oval.

- 10A, 2kW, 14.44 Sin(314t-π/2) , 50 Hz
- 10A, 2kW, 14.44 Sin314t , 50 Hz
- 5A, 1450W, 14.44 Sin314t , 50 Hz
- 10A, 2000W, 282.84 Sin314t , 50 Hz

7. In an ac circuit consists of a pure Inductor the expression for instantaneous power is * 1 point

Mark only one oval.

- Option 1: $p = -\frac{V_m I_m}{2} \sin 2\omega t$
- Option 2: $p = \frac{V_m I_m}{2} \sin 2\omega t$
- Option 3: $p = \frac{V_m I_m}{2} \cos\Phi - \frac{V_m I_m}{2} \cos(2\omega t - \Phi)$
- Option 4: $p = \frac{V_m I_m}{2} \cos\Phi + \frac{V_m I_m}{2} \cos(2\omega t - \Phi)$

8. In an ac circuit consists of a pure Capacitor the expression for instantaneous power is * 1 point

Mark only one oval.

$p = -\frac{V_m I_m}{2} \sin 2\omega t$

Option 1

$p = \frac{V_m I_m}{2} \sin 2\omega t$

Option 2

$p = \frac{V_m I_m}{2} \cos \Phi - \frac{V_m I_m}{2} \cos(2\omega t - \Phi)$

Option 3

$p = \frac{V_m I_m}{2} \cos \Phi + \frac{V_m I_m}{2} \cos(2\omega t - \Phi)$

Option 4

9. In an ac circuit consists of a Resistance and a Capacitor the expression for instantaneous power is * 1 point

Mark only one oval.

$p = -\frac{V_m I_m}{2} \sin 2\omega t$

Option 1

$p = \frac{V_m I_m}{2} \sin 2\omega t$

Option 2

$p = \frac{V_m I_m}{2} \cos \Phi - \frac{V_m I_m}{2} \cos(2\omega t - \Phi)$

Option 3

$p = \frac{V_m I_m}{2} \cos \Phi + \frac{V_m I_m}{2} \cos(2\omega t - \Phi)$

Option 4

10. The complex Volt Amperes in a series circuit are (4330-j2500) and the current is (25+j43.3)A. The applied voltage is: * 1 point

Mark only one oval.

- 25+j43.3
- 433-j250
- 86.6+j50
- None of the above

11. A non inductive resistor of 10 ohm is in series with a capacitor of 100μF across a 250V, 50Hz ac supply. the current taken by the capacitor and power factor of the circuit * 1 point

Mark only one oval.

- 25+j43.3
- 433-j250
- 86.6+j50
- None of the above

12. A non inductive resistor of 10 ohm is in series with a capacitor of 100μF across a 250V, 50Hz ac supply. the current taken by the capacitor and power factor of the circuit * 1 point

Mark only one oval.

- 7.49∠72.5 degree A, 0.3
- 2.24+j7.14, Cos 72.5 degree
- Both Above
- None of the above

13. An impedance coil in parallel with a 100μF capacitor is connected across a 200V, 50Hz supply. The coil takes a current of 4A and the power loss in the coil is 600W. the inductance of the coil will be: * 1 point

Mark only one oval.

- 0.2H
- 0.0105H
- 0.105H
- None of the above

14. An impedance coil in parallel with a 100μF capacitor is connected across a 200V, 50Hz supply. The coil takes a current of 4A and the power loss in the coil is 600W. the power factor of the circuit is * 1 point

Mark only one oval.

- 0.6365
- 0.6010
- 0.5992
- 0.3656

15. In power triangle, P,Q and S are Respectively: * 1 point

Mark only one oval.

- Active Power(W), Reactive Power(VA), Apparent Power(VAR)
- Active Power(W), Reactive Power(VAR), Apparent Power(VA)
- Apparent Power(VA), Active Power(W), Reactive Power(VAR),
- Apparent Power(VAR), Active Power(W), Reactive Power(VA),