Assessment Quiz 2 (Single Phase AC)

MCQ questions single answer Type

*Required

1. Email address *

2. Name *

3. Semester *

Mark only one oval.

- 1
- 2

4. Roll No *

5. Branch *

Mark only one oval.

- TC
- MMFT

Multiple Choice Questions on 1-Phase AC

Total 10 questions are given. All to be attended

6. Consider a rectangular coil of 50 turns placed in a Uniform Magnetic Field . The component of Flux acting perpendicular to the plane of the coil i.e. Φm = 0.03 cosωt induces an emf in the coil e =Em Sinωt. If frequency of rotation of coil is 50 Hz, the Value of Maximum Induced Voltage will be * 2 points

Mark only one oval.

- 75 V
- 471 V
- 440 V
- 220 V

7. An alternating Current through resistor of 50 ohm is given by i= 30 sin 314t .The rms value of Voltage across resistance will be: * 2 points

Mark only one oval.

- 1500/√2
- 1500√2
- 30 sin 314t X 50
- 30 sin 314t / 50
- Other: _____

8. An alternating Voltage is given by v = 310 sin 314t .The Maximum value, Frequency, Time Period and instantaneous value when t=3ms, will be as * 2 points

Mark only one oval.

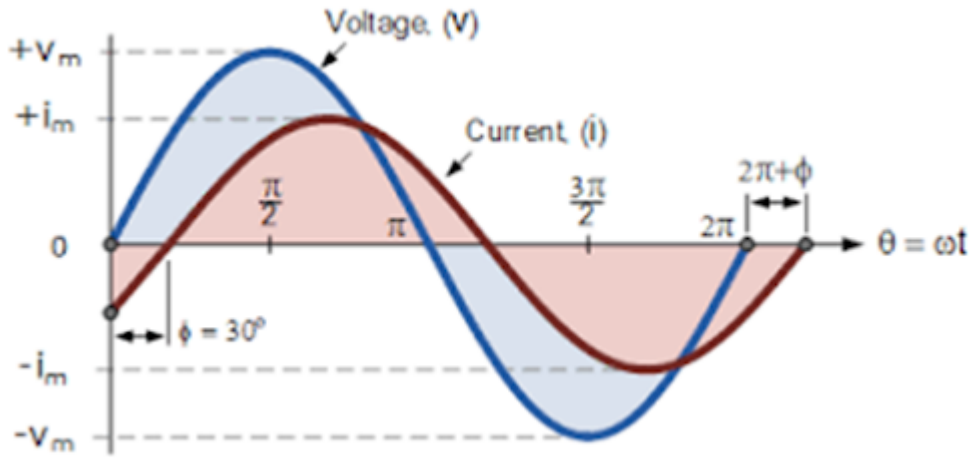
- 250.71V, 50Hz, 0.02s,310V
- 220 V, 50Hz, 0.02s, 250.71V
- 310 V, 314 Hz, 0.003s, 250.71V
- 310V, 50Hz, 0.02s, 250.71V

9. Form Factor and peak factor of current Sinusoidal wave are given by the expressions respectively as: * 1 point

Mark only one oval.

- $Irms/Iav, Im/Irms$
- $Iav/Irms, Im/Irms$
- $Im/Irms, Irms/Iav$
- $Im/Irms, Iav/Irms$

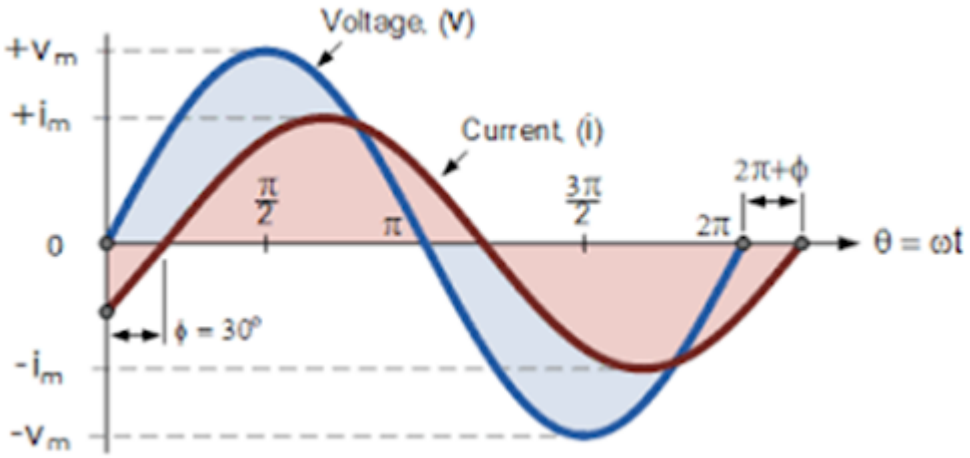
10. In the figure which statement is true? * 1 point



Mark only one oval.

- V is lagging behind I by 30 degrees
- V is leading I by 30 degrees
- V and I are in same phase
- None of the above is correct

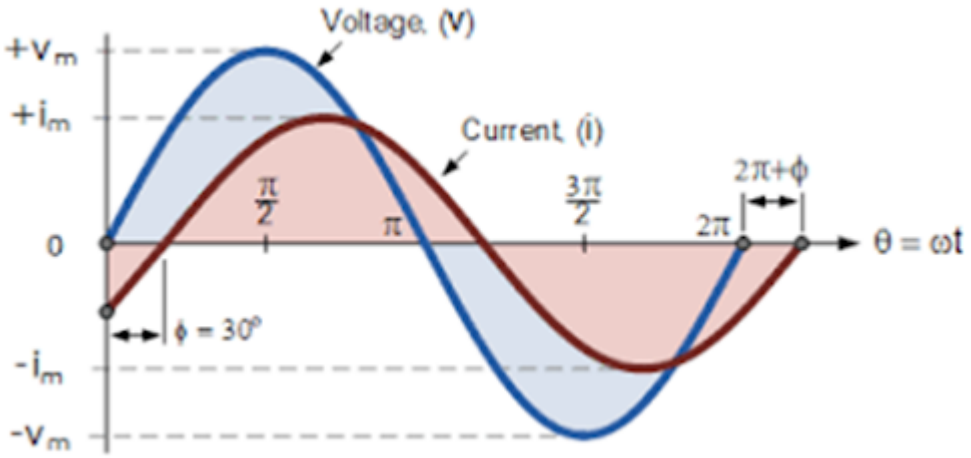
11. In the figure The equation of Voltage is v= Vm Sinωt. The equation of Current will be * 1 point



Mark only one oval.

- i = Im Sinωt
- i = Im Sin(ωt-π/6)
- i = Im Sin(ωt+π/6)
- i = Im Cos(ωt)

12. In the figure If the Voltage and Current are associated with an inductive load Z, the Power Factor will be: * 1 point



Mark only one oval.

- 0.866
- 1.0
- 0.982
- cos (π/3)

13. An ac resistive circuit consists of a resistance of 10 ohm and is connected to an ac supply of 230 V, 50 Hz. the (i) current (ii) power consumed and (iii) equations for voltage and current are * 2 points

Mark only one oval.

- 2.3A, 529 W, 325.27 Sin314t, 32.53 Sin314
- 23 A, 529 W, 32.527 Sin314t, 325.27 Sin314
- 2.3 A, 5.29kW, 325.27 Sin314t, 32.53 Sin314
- 23 A, 5.29kW, 325.27 Sin314t, 32.53 Sin314t

14. The incorrect statement is: * 1 point

Mark only one oval.

- AC voltages can be efficiently stepped up/down using transformer
- AC motors are cheaper and simpler in construction than DC motors
- The Form Factor of AC sinusoidal wave is 1.414
- Switchgear for AC system is simpler than DC system

15. Instantaneous Power in a resistor in a pure resistive circuit is given by product of * 2 points

Mark only one oval.

- instantaneous Voltage and RMS Current
- Instantaneous Current and RMS Voltage
- Average Voltage and Average current
- Instantaneous voltage and Instantaneous current