41 **The amplitude factor for the sinusoidal waveform is**

(a)$\sqrt{3}$

(b)$\sqrt{2}$

(c)1.11

(d)0.78

Correct Answer (b): $\sqrt{2}$

42 **Which of the following is important for dielectric insulation testing?**

(a)Form factor

(b)Peak factor

(c)RMS value

(d)Average value

Correct Answer (b): Peak factor

The dielectric stress which insulation subject to directly proportional to maximum or peak value of applied voltage therefore knowledge of peak factor is important for dielectric insulation testing.

43 **The peak factor is also known as**

(a)Crest factor

(b)Form factor

(c)Power factor

(d)Maximum factor

Correct Answer (a): Crest factor

Peak factor is also known as crest factor or amplitude factor.

44 **The RMS voltage for voltage V = 50 sin 314t is**

(a)50 × √ 2 V

(b)50 V

(c)50 / √ 2

(d)Zero volt

Correct Answer (c): 50 / √ 2

Compare $V = 50 \sin 314t$ with $V = V_m \sin \omega t$

Here, $V_m = 50$ V therefore $V_{RMS} = 50 / \sqrt{2}$

45 **The frequency for voltage waveform V = 50 sin 314t is**

(a)314 Hz

(b)100 Hz

(c)50 Hz

(d)Zero

Correct Answer (c): 50 Hz

Compare $V = 50 \sin 314t$ with $V = V_m \sin 2\pi ft$

$2\pi f = 314$ therefore $f = 50$ Hz

AC Circuit MCQ: 46 to 50

46 **The unit of angular velocity is**

(a)Radian

(b)Radian / second

(c)Degree

(d)Radian - second

Correct Answer (b): Radian / second

47 **Which of the following relation is true?**

(a)$f = 2\pi\omega$

(b)$\omega = \pi f$

(c)$\omega = 2\pi f$

(d)$\omega = 2\pi / f$

48   **The angular velocity for voltage waveform V = 100 sin 314t**

    is

(a)50 radian / second

(b)314 radian / second

(c)3.14 radian / second

(d)Zero

Compare V = 100 Sin 314t with V = V_m Sin ωt

Therefore, angular velocity ω = 314 radian per second

49   **The time period for voltage waveform V = 100 sin 314t is**

(a)0.04 second

(b)0.02 second

(c)0.01 second

(d)0.1 second

Compare V = 100 Sin 314t with V = V_m Sin ωt

Here ω = 100

$2\pi f$ = 100 therefore f = 50 Hz

Time period T = 1/f = 1/50 = 0.02 second

50   **The frequency for voltage waveform V = 100 sin 314t is**

(a)314 Hz

(b)100 Hz

(c)50 Hz

(d)Zero Hz

AC Circuit MCQ: 51 to 55

51   The hot wire voltmeter always reads

(a)Peak voltage

(b)Average voltage

(c)RMS voltage

(d)None of the above

The hot wire volt meter always read RMS voltage.

52   The RMS value of half wave rectifier alternating voltage is

(a)$V_m / \sqrt{2}$

(b)V_m

(c)$V_m / 2$

(d)$\sqrt{2}V_m$

The alternating voltage is taken for 0 to π period for half wave rectifier,

53   The average value of half wave rectifier alternating voltage

is

(a)$I_{max} / 2$

(b)$I_{max} / \sqrt{2}$

(c)I_{max} / π

(d)$I_{max} / \sqrt{3}$

54 **The value of form factor for half wave alternating quantity is**

(a)0.707

(b)1.11

(c)1.57

(d)1.68

Correct Answer (c): 1.57

Form factor = RMS Current / Average Current

$$= (I_m/2) / (I_m/\pi) = \pi/2$$

55 **The moving coil ammeter always reads**

(a)Maximum current

(b)Average current

(c)RMS current

(d)None of the above

Correct Answer (b): Average current

The moving coil ammeter always reads average current for whole cycle

AC Circuit MCQ: 56 to 60

56 **The DC ammeter always read _____ value of rectifier current.**

(a)Maximum

(b)Average

(c)RMS

(d)Zero

Correct Answer (b): Average

The AC ammeter reads RMS current whereas DC ammeter reads average current of rectified current.

57 **The RMS value of semicircle voltage waveform with radius**

   of b is equal to

   (a)$\sqrt{2b}$

   (b)$\sqrt{2} \times (b)$

   (c)$\sqrt{2b^2/7}$

   (d)$\sqrt{2b^2/3}$

Correct Answer (d): $\sqrt{2b^2/3}$

58 **The angle between the voltage vector and current vector in**

   the pure resistive circuit is

   (a)45°

   (b)90°

   (c) 135°

   (d) 0°

Correct Answer (d): 0°

The angle between voltage vector and current vector in the pure resistive circuit is zero

59 **Which of the following is not equation of power loss in the**

   pure resistive circuit?

   (a)VI

   (b)V^2/R

   (c)I^2R

   (d)V^2R

Correct Answer (d): V^2R

The equation of power loss = $I^2R = V^2R = VI$

60 **The power factor of pure resistive circuit is**

(a) 0°

(b) 90^oLagging

(c) 90^oLeading

(d)Unity

Correct Answer (d): Unity

The angle between voltage vector and current vector in the pure resistive circuit is zero

therefore

Cos 0° = 1

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