

Choose the correct answer for the following questions:

- RMS value or effective value for the $V(t)$ signal is given by:

(A) $\sqrt{\frac{1}{T} \int_0^T V(t) dt}$ (B) $\sqrt{\frac{1}{T} \int_0^T V^2(t) dt}$ (C) $\frac{1}{T} \int_0^T V(t) dt$ (D) none
- Average value for the $V(t)$ signal is given by:

(A) $\sqrt{\frac{1}{T} \int_0^T V(t) dt}$ (B) $\sqrt{\frac{1}{T} \int_0^T V^2(t) dt}$ (C) $\frac{1}{T} \int_0^T V(t) dt$ (D) none
- The time period of a periodic signal is 10 milli sec. What is its frequency?

(A) 0.1 Hz (B) 10 Hz (C) 100 Hz (D) You know
- What is the time period for the signal $V(t) = 100\sin(10t)$?

(A) 10 sec (B) 0.628 sec (C) 1.591 sec (D) 100 sec
- What is the Angular frequency for the signal $V(t) = 100\sin(10t)$?

(A) 10π rad/sec (B) 100 rad/sec (C) 141.414 rad/sec (D) 10 rad/sec
- An AC current given by $i = 14.14\sin(\omega t + \frac{\pi}{6})$ has an RMS value or effective value of.....amperes.

(A) 10 (B) 14.14 (C) 1.96 (D) 7.07
- A Voltage sine wave has a peak value of 100 Volt. What is its effective value?

(A) 70.71 V (B) 141.42 V (C) 100 V (D) 50 V
- The RMS value of a sine wave form is 100 Volt. What is its effective value?

(A) 100 Volt (B) $100\sqrt{2}$ Volt (C) $\frac{100}{\sqrt{2}}$ (D) None
- The RMS value of a sine wave form is 100 Volt. What is its peak value or amplitude?

(A) 70.71 V (B) 141.42 V (C) 100 V (D) 50 V
- The RMS value of a sine wave form is 100 Volt. What is its peak-peak value?

(A) 70.71 V (B) 141.42 V (C) 200 V (D) $200\sqrt{2}$ Volt
- The frequency of a sine wave is 100 Hz. What is its angular frequency?

(A) 200 rad/sec (B) 200π rad (C) 0.01 sec (D) 200π rad/sec
- what is the frequency of DC voltage?

(A) 0 Hz (B) 50 Hz (C) unity Hz (D) None
- Which of the following is a non sinusoidal signal?

(A) Square wave (B) Triangular wave (C) sawtooth Wave (D) All the above
- A pure inductive circuit has an inductance of 10 milli henry at 50 Hz. What is its reactance?

(A) 31.41 Ω (B) 31.41 Henry (C) 3.141 Ω (D) None
- How much voltage is necessary to cause 10 milli Ampere to flow through an inductance of 50 milli henry at 100 Hz?

(A) 31.41 Ω (B) 31.41 Volt (C) 0.314 Volt (D) None
- How much voltage is necessary to cause 10 milli Ampere to flow through an inductive reactance of 50 ohms at 100 Hz?

(A) 5 Volt (B) 0.5 Volt (C) 50 Volt (D) None
- An ac voltage of 100 volt is applied across an inductive reactance of 50 ohms at 50 Hz? What is the value of current passing through Inductor?

(A) 2 Ampere (B) 20 Ampere (C) 200 Ampere (D) None
- An ac voltage of 100 volt is applied across an inductance of 50 milli henry at 100 Hz? What is the value of current passing through Inductor?

(A) 31.8 Ampere (B) 3.18 Ampere (C) 0.318 Ampere (D) None

19. How much voltage is necessary to cause 10 mA to flow through 100 Ω resistor in series with 15 mH choke at 400Hz?
 (A) 1 V (B) 1.3769 V (C) 0.3769 V (D) 1.06 V
20. A pure capacitive circuit has an capacitance of 10 μ Farad at 50 Hz. What is its reactance?
 (A) 31.41 Ω (B) 31.41 Farad (C) 318.30 Ω (D) None
21. How much voltage is necessary to cause 10 milli Ampere to flow through an capacitance of 50 micro farad at 100 Hz?
 (A) 31.8 Ω (B) 31.81 Volt (C) 0.318 Volt (D) None
22. How much voltage is necessary to cause 10 milli Ampere to flow through an capacitive reactance of 50 ohms at 100 Hz?
 (A) 0.05 Volt (B) 0.5 Volt (C) 5 Volt (D) None
23. An ac voltage of 100 volt is applied across a capacitive reactance of 50 ohms at 50 Hz? What is the value of current passing through capacitor?
 (A) 2 Ampere (B) 20 Ampere (C) 200 Ampere (D) None
24. An ac voltage of 100 volt is applied across an capacitance of 50 micro farad at 100 Hz? What is the value of current passing through capacitor?
 (A) 31.4 Ampere (B) 3.14 Ampere (C) 0.314 Ampere (D) None
25. How much voltage is necessary to cause 10 mA to flow through 100 Ω resistor in series with 15 μ Farad capacitor at 400Hz?
 (A) 1.03 Volt (B) 10.3 Volt (C) 103 volt (D) None
26. The reactance offered by a capacitor to alternating current of frequency 50 Hz is 10 Ω . If frequency is increased to 100 Hz reactance becomes.....ohm.
 (A) 20 (B) 5 (C) 2.5 (D) 40
27. In a purely capacitive circuit, Voltage the current by 90 degrees.
 (A) lags (B) leads (C) Both A and B (D) None
28. In a purely Inductive circuit, Voltagethe current by 90degrees.
 (A) lags (B) leads (C) Both A and B (D) None
29. In purely resistive circuit Voltage and current are inphase.
 (A) lags (B) leads (C) same (D) Different
30. In a series RL circuit, V_L V_R by 90 degrees.
 (A) lags (B) leads (C) equals (D) none
31. In a series RC circuit, V_C V_R by 90 degrees.
 (A) lags (B) leads (C) equals (D) none
32. Impedance is given by the vector sum of
 (A) conductance and suceptance (B) resistance and conductance
 (C) Resistance and reactance (D) Suceptance and resistance

ALL THE BEST FOR MTE BY GOVIND