## G002 Online Test

Ref149

A sine wave voltage of 240V RMS is applied to a resistive circuit of 60Ω. Calculate(a) RMS value of current (b) Maximum value of current.

| A | 2A, 4A | B | 4A, 5.65A |
|---|---|---|---|
| C | 2A, 2.8A | D | 1A, 2A |
| | Answer | | |

Ref150

A coil of negligible resistance draws a current of 0.2A (RMS) when connected to 240V, 50HZ.
(a) Determine inductive reactance (b) Coil inductance.

| A | 600Ω , 3.8 H | B | 1200Ω , 1.9 H |
|---|---|---|---|
| C | 1200Ω , 3.8 H | D | 1800Ω , 7.6 H |
| | Answer | | |

Ref151

A 64 mH inductor is connected in series with a 300Ω resistor to a 1000HZ AC supply voltage of 10V rms. Find (a) the impedance (b) The phase angle (c) The current (d) the potential drop across resistor.

| A | 500Ω ,( 53.2 Deg), 0.002A (-53.2Deg), 6V,8V | B | 500Ω ,( 36.8 Deg), 0.001A (+53.2Deg), 8V,6V |
|---|---|---|---|
| C | 500Ω ,( 0 Deg), 0.002A (-0 Deg), 6V,8V | D | 500Ω ,( 90 Deg), 0.002A (-90 Deg), 6V,8V |
| | Answer | | |

Ref152

Find the current in the circuit when an AC voltage 10V rms at 1000HZ is applied to 2 µF capacitor.

| A | 0.375A | B | 0.25A |
|---|--------|---|-------|
| C | 0.125A | D | 0.5A |
| | Answer | | |

Ref153

A 1 µF capacitor is connected in series with 200 Ω resistor to 10V rms. 1600HZ supply. Find (a0 the impedance (b) The phase angle (c) The current (d) Potential drop across resistor (e) Potential drop across capacitor.

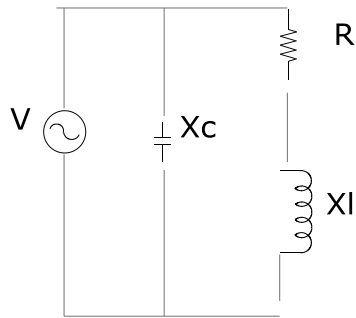| A | 111.3Ω ,( -26.5 Deg), 0.0224A (-26.5Deg), 4.5V,2.24V | B | 222.6Ω ,( +26.5 Deg), 0.0224A (-26.5Deg), 9V ,4.48V |
|---|---|---|---|
| C | 222.6Ω ,( 0 Deg), 0.0224A (0 Deg), 9V ,4.48V | D | 222.6Ω ,( -26.5 Deg), 0.0448A (+26.5Deg), 9V ,4.48V |
| | Answer | | |

Ref154

A series circuit is connected to a 10V rms AC supply. The circuit has resistance 100 Ω, inductive reactance 300 Ω , capacitive reactance 400 Ω. Find (a) Impedance (b) Current (c) Phase angle (d) Voltage drop across resistor (e) Voltage drop across inductor (f) Voltage drop across capacitor.

| A | 141 Ω (Angle -45 Deg), 0.071A, 45 Deg, 7.1V, 21.3V,28.4V | B | 70.7 Ω (Angle +45 Deg), 0.035A, 45 Deg, 3.35V, 10.65V,14.2V |
|---|---|---|---|
| C | 141 Ω(Angle 45 Deg), 0.071A,-45 Deg 7.1V, 28.4V, 21.3V | D | 141 Ω (Angle 0 Deg),0.071A, 0 Deg, 7.1V, 21.3V, 28.4V |
| | Answer | | |

Ref155

The following is a diagram of a parallel circuit with a supply voltage 100V rms at 50Hz.Determine the followings.

(a)Total circuit current (b) Total circuit impedance (c) Phase angle between circuit current and applied voltage (d) Power factor of circuit.



Xc= 318.5 Ω, R=100 Ω,Xl = 94.2 Ω, V = 100 V, 50Hz

| A | 1.8A (Angle -36.8 Deg), 206 Ω, 56.86 Deg, 0.8 | B | 0.97A (Angle +36.8 Deg),103 Ω, 36.8 Deg 0.59 |
|---|---|---|---|
| C | 0.97A (Angle -36.8 Deg),103 Ω, 36.8 Deg 0.59 | D | 0.97A (Angle +53.2 Deg),206 Ω, 53.2 Deg 0.59 |
| | Answer | | |

Ref156

A capacitor draws 0.971 Amp at PF 0.34 from 100V supply. Total power is

| A | 36.8W | B | 100W |
|---|---|---|---|
| C | 52.43W | D | 70.7 W |
| | Answer | | |

Ref157

The phase voltage and current in 3 phase star connected current are 240V and 50A. Find the line voltage and line current.

| A | 415V rms, 50A | B | 240V rms, 50A |
|---|---|---|---|
| C | 415V rms, 86.5A | D | 240V rms, 86.5A |
| | Answer | | |

Ref158

A delta connected load takes a line current 40A and line voltage 415V. Find (a) Phase current (b) Phase voltage

| A | 40A, 415V | B | 23.1A, 415V |
|---|---|---|---|
| C | 40A, 240V | D | 23.1A. 240V |
| | Answer | | |

Ref159

Three phase 415V, 37.3 KW, Delta connected alternator has efficiency 90% and PF 0.88 Lagging. Find (a) Line current (b) Phase current.

| A | 130A, 75.6A | B | 65.5 A, 75.6A |
|---|---|---|---|
| C | 65.5A, 37.8A | D | 130A, 37.8A |
| | Answer | | |

Ref160

The force produced in three phase winding of AC machine is

| A | $\dfrac{3\ Im\ N\ e^{jwt}}{2}$ | B | $\dfrac{Im\ N\ e^{jwt}}{2}$ |
|---|---|---|---|
| C | $\dfrac{\sqrt{3}\ Im\ N\ e^{jwt}}{2}$ | D | $\sqrt{3}\ Im\ N\ e^{jwt}$ |
| | Answer | | |