EXERCISE–I (CONCEPTUAL QUESTIONS)

PEAK, AVERAGE AND RMS VALUE

1. What is the r.m.s. value of an alternating current which when passed through a resistor produces heat which is thrice of that produced by a direct current of 2 amperes in the same resistor :-

(1) 6 amp (2) 2 arnp (3) 3.46 amp (4) 0,66 amp

Ans. **(3)**

2. The peak value of an alternating e.m.f. which is given by $E = E_0 \cos\omega t$ is 10 volts and its frequency is 50 Hz. At time $t = \frac{1}{600}$ s, the instantaneous e.m.f. is

(1) 10 V (2) $5\sqrt{3}$V (3) 5 V (4) 1V

Ans. **(2)**

3. The phase difference between current and voltage in an AC circuit is $\frac{\pi}{4}$ radian, If the frequency of AC is 50 Hz, then the phase difference is equivalent to the time difference:-

(1) 0. 78 s (2) 15.7 ms (3) 2.5 s (4) 2.5 ms

Ans. **(4)**

4. A current in circuit is given by $i = 3 + 4 \sin \omega t$. Then the effective value of current is :

(1) 5 (2) $\sqrt{7}$ (3) $\sqrt{17}$ (4) $\sqrt{10}$

Ans. **(3)**

5. Incorrect statement are :

(a) A. C. meters can measure D.C also

(b) If A. C. meter measures D.C. there scale must be linear and uniform

(c) A.C. and D.C. meters are based on heating effect of current

(d) A.C. meter reads rms value of current

(1) a,b (2) b,c (3) c,d (4) d,a

Ans. **(2)**

6. The r.m.s. value of current for a variable current $i = i_1 \cos \omega t + i_2 \sin \omega t$:–

(1) $\frac{1}{\sqrt{2}}(i_1 + i_2)$ (2) $\frac{1}{\sqrt{2}}(i_1 + i_2)^2$ (3) $\frac{1}{\sqrt{2}}(i_1^2 + i_2^2)^{1/2}$ (4) $\frac{1}{2}(i_1^2 + i_2^2)^{1/2}$

Ans. **(3)**

7. The relation between an A. C. voltage source and time in SI units is :

V = 120 sin (100 πt) cos (100 πt) volt value of peak voltage and frequency will be respectively:-

(1) 120 volt and 100Hz (2) $\frac{120}{\sqrt{2}}$ volt and 100 Hz

(3) 60 volt and 200 Hz (4) 60 volt and 100Hz

Ans. (4)

8. If an A.C. main supply is given to be 220 V. What would be the average e.m.f. during a positive half cycle:-

(1) 198 V (2) 386 V (3) 256 V (4) None of these

Ans. (1)

9. The hot wire ammeter measures :-

(1) D. C. current (2) A. C. current (3) None of above (4) both (1) & (2)

Ans. (4)

10. Frequency of A. C. in India is-

(1) 45 Hz (2) 60 Hz (3) 50 Hz (4) None of the above

Ans. (3)

11. For an alternating current $I = I_0 \cos \omega t$, What is the rms value of peak value of current :–

(1) $I_0, \frac{I_0}{\sqrt{2}}$ (2) $\frac{I_0}{\sqrt{2}}, I_0$ (3) $I, \frac{I_0}{2}$ (4) $2I_0, \frac{I_0}{\sqrt{2}}$

Ans. (2)

12. If a step up transformer have turn ratio 5, frequency 50 Hz root mean square value of potential difference on primary 100 volts and the resistance of the secondary winding is 500 Ω then the peak value of voltage in secondary winding will be (the efficiency of the transformer is hundred percent)

(1) $500\sqrt{2}$ (2) $10\sqrt{2}$ (3) $50\sqrt{2}$ (4) $20\sqrt{2}$

Ans. (1)

SIMPLE AC CIRCUIT

13. A resonant A.C. circuit contains a capacitor of capacitance 10^{-6} F and an inductor of 10^{-4} H. The frequency of electrical oscillations will be :–

(1) 10^5 Hz (2) 10 Hz (3) $\frac{10^5}{2\pi}$ Hz (4) $\frac{10}{2\pi}$ Hz

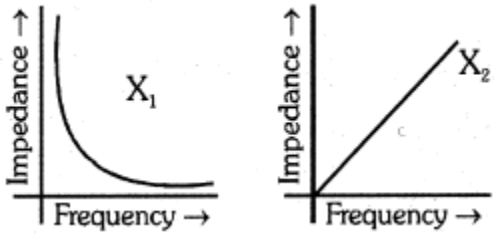
Ans. (3)

14. A resistance of 300Ω and an inductance of $\frac{1}{\pi}$ henry are connected in series to a A. C. voltage of 20 volts and 200 Hz frequency. The phase angle between the voltage and current is:-

(1) $\tan^{-1}\left(\frac{4}{3}\right)$ (2) $\tan^{-1}\left(\frac{3}{4}\right)$ (3) $\tan^{-1}\left(\frac{3}{2}\right)$ (4) $\tan^{-1}\left(\frac{2}{3}\right)$

Ans. (1)

15. The graphs given below depict the dependence of two reactive impedances X_1 and X_2 on the frequency of the alternating e.m.f. applied individually to them. We can then say that :



(1) X_1 is an inductor and X_2 is a capacitor (2) X_1 is a resistor and X_2 is a capacitor
(3) X_1 is a capacitor and X_2 is an inductor (4) X_1 is an inductor and X_2 is a resistor

Ans. (3)

16. A 12 ohm resistor and a 0.21 henry inductor are connected in series to an AC source operating at 20 volts, 50 cycle/second. The phase angle between the current and the source voltage is:

(1) 30° (2) 40° (3) 80° (4) 90°

Ans. (3)

17. A 110 V, 60 W lamp is run from a 220 V AC mains using a capacitor in series ·with the lamp, instead of a resistor then the voltage across the capacitor is about:-

(1) 110 V (2) 190 V (3) 220 V (4) 311 V

Ans. (2)

18. The resistance that must be connected in series with inductance of 0.2 H 1n order that the phase difference between current and e.m.f. may be 45° when the frequency is 50 Hz, is:-

(1) 6.28 ohm. (2) 62.8 ohm. (3) 628 ohm. (4) 31.4 ohm.

Ans. (2)

19. An inductive circuit contains resistance of 10 ohms and an inductance of 20 H. If an A.C. voltage of 120 volt and frequency 60 Hz is applied to this circuit, the current would be nearly

(1) 0.016 amp, (2) 0.16 amp. (3) 0.4S amp. (4) 0.80 amp.

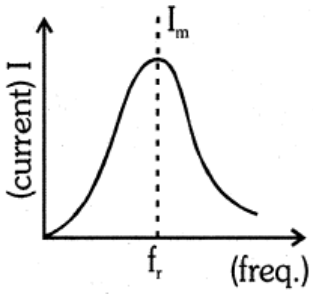
Ans. (1)

20. A student connects a long air cored - coil of manganin wire to a 100 V D.C. supply and records a current of 25 amp. When the same coil is connected across 100 V. 50 Hz a.c. the current reduces to 20 A , the reactance of the coil is :-

(1) 4 Ω (2) 3 Ω (3) 5 Ω (4) None

Ans. (2)

21. The graph shows variation of I with f for a series R-L-C network. Keeping Land C constant. If R decreases :



(a) Maximum current (I_m) increases (b) Sharpness ·of the graph increases

(c) Quality factor increases (d) Band width increases

(1) a, b, c (2) b, c, d (3) c·, d, a (4) All

Ans. (2)

22. Alternating current is flowing in inductance L and resistance R. The frequency of source is $\omega/2\pi$.

Which of the following statement is correct :–

(1) For low frequency the limiting value of impedance is L.

(2) For high frequency the limiting value of impedance is ωL.

(3) For high frequency the limiting value of impedance is R.

(4) For low frequency the limiting value of impedance is ωL.

Ans. (2)

23. A bulb and a capacitor are connected in series to a source of alternating current. If its frequency is increased, while keeping the voltage of the source constant, then

(1) Bulb will give more intense light.

(2) Bulb will give less intense light.

(3) Bulb will give light of same intensity as before

(4) Bulb will stop radiating light.

Ans. (1)

24. In an A.C. circuit resistance and inductance are connected in series. The potential and current in inductance is:

(1) $V_0 \sin \omega t, \frac{V_0}{\omega L} \sin \omega t$ (2) $V_0 \sin \omega t, \frac{V_0}{\omega L} \sin(\omega t + \pi/2)$

(3) $V_0 \sin (\omega t + \pi/2), \frac{V_0}{\omega L} \sin \omega t$ (4) $V_0 \sin (\omega t + \pi/2), \frac{V_0}{\omega L} \sin(\omega t - \pi/2)$

Ans. (3)

25. An a.c. source of voltage V and of frequency 50 Hz is connected to an inductor of 2 H and negligible resistance. A current of r.m.s value I flows in the coil. When the frequency of the voltage is changed to 400 Hz keeping the magnitude of V the same, the current is now :-

(1) 8 I in phase with V (2) 4 I and leading by 90° from V

(3) $\frac{I}{4}$ and lagging by 90° from V (4) $\frac{I}{8}$ and lagging by 90° from V

Ans. (4)

26. A capacitor of capacity C is connected in A.C. circuit. The applied emf is $V=V_0 \sin\omega t$, then the current is :–

(1) $I = \frac{V_0}{\omega L} \sin \omega t$ (2) $I = \frac{V_0}{\omega L} \sin(\omega t + \pi/2)$

(3) $I = V_0 \omega C \sin\omega t$ (4) $I = V_0 \omega C \sin (\omega t + \pi/2)$

Ans. (4)

27. The impedance of a circuit, when a resistance R and an inductor of inductance L are connected in series in an A.C. circuit of frequency (f) is :-

(1) $\sqrt{R + 4\pi f L^2}$ (2) $\sqrt{R + 4\pi^2 f^2 L^2}$ (3) $\sqrt{R^2 + 4\pi^2 f^2 L^2}$ (4) $\sqrt{R^2 + 2\pi 2^f 2L^2}$

Ans. (3)

28. A capacitor of capacity C and reactance X if capacitance and frequency become double then reactance will be :-

(1) 4X (2) $\frac{X}{2}$ (3) $\frac{X}{4}$ (4) 2x

Ans. (3)

29. The coil of choke in a circuit :

(1) increases the current

(2) controled the current

(3) has high resistance to d.c. circuit

(4) does not change the current

Ans. (2)

30. The inductive reactance of an inductive coil with $\frac{1}{\pi}$ henry and 50 Hz :–

(1) $\frac{50}{\pi}$ ohm (2) $\frac{\pi}{50}$ ohm (3) 100 ohm (4) 50 ohm

Ans. (3)

31. In the L–R circuit R= 10Ω and L = 2H. If 120 V, 60 Hz alternating voltage is applied then the flowing current in this circuit will be :–

(1) 0.32 A (2) 0.16 A (3) 0.48 A (4) 0.80 A

Ans. (2)

32. An inductance of 0.4 Henry and a resistance of 100 ohm are connected to a A.C. voltage source of 220V and 50 Hz. Then find out the phase difference between the voltage and current flowing in the circuit :

(1) $\tan^{-1}(2.25\,\pi)$ (2) $\tan^{-1}(0.4\,\pi)$ (3) $\tan^{-1}(1.5\,\pi)$ (4) $\tan^{-1}(0.5\,\pi)$

Ans. (2)

33. A capacitor of capacitance 100 μF & a resistance of 100Ω is connected in series with AC supply of 220V, 50Hz. The current leads the voltage by .....

(1) $\tan^{-1}\left(\frac{1}{2\pi}\right)$ (2) $\tan^{-1}\left(\frac{1}{\pi}\right)$ (3) $\tan^{-1}\left(\frac{2}{\pi}\right)$ (4) $\tan^{-1}\left(\frac{4}{\pi}\right)$

Ans. (2)

34. If the current through an inductor of inductance L is given by $I = I_0 \sin\omega t$, then the voltage across inductor will be :-

(1) $I_0\,\omega L \sin(\omega t - \pi/2)$ (2) $I_0\,\omega L \sin(\omega t + \pi/2)$

(3) $I_0\,\omega L \sin(\omega t - \pi)$ (4) None of these

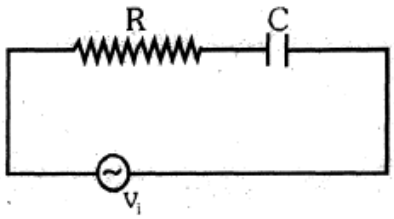
Ans. (2)

35. There is a 5Ω resistance in an A. C., circuit. Inductance of 0.1 H is connected with it in series. If equation of A.C. e.m.f. is 5 sin 50 t then the phase difference between current and e.m.f. is :-

(1) $\frac{\pi}{2}$ (2) $\frac{\pi}{6}$ (3) $\frac{\pi}{4}$ (4) 0

Ans. (3)

36. A 50 Hz a.c. source of 20 volts is connected across R and C as shown in figure below. The voltage across R is 12 volts. The voltage across C is



(1) 8 V (2) 16 V
(3) 10 V
(4) Not possible to determine unless values of R and C are given

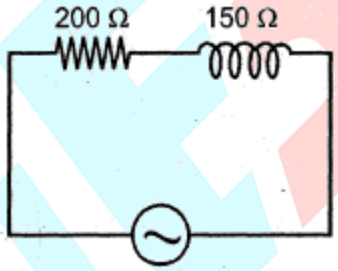
Ans. (2)

37. 200 Ω resistance and 1H inductance are connected in series with an A.C. circuit. The frequency of the source is $\frac{200}{2\pi}$ Hz. Then phase difference in between V and I will be :

(1) 30° (2) 60° (3) 45° (4) 90°

Ans. (3)

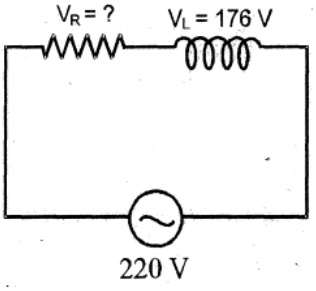
38. Impedance of the following circuit will be :



(1) 150Ω (2) 200Ω (3) 250Ω (4) 340Ω

Ans. (3)

39. In showing figure find V_R:



(1) 132 V (2) 396 V (3) 185 V (4) $\sqrt{220\times176}$V

Ans. (1)

40. If alternating current of 60Hz frequency is flowing through inductance of L= 1 mH and drop in ΔV_L is 0.6 V then alternating current :–

(1) $\frac{1}{\pi}$A (2) $\frac{5}{\pi}$A (3) $\frac{50}{\pi}$A (4) $\frac{20}{\pi}$A

Ans. (2)

LCR SERIES CIRCUIT, RESONANCE

41. An inductance of 1mH, a condenser of 10μFand a resistance of 50Ω are connected in series. The reactance of inductor and condensers are same. The reactance of either of them will be :-

(1) 100 Ω (2) 30 Ω (3) 3.2 Ω (4) 10 Ω

Ans. (4)

42. L, C and R represent physical quantities inductance, capacitance and resistance respectively. The combination representing dimension of frequency is

(1) LC (2) $(LC)^{-1/2}$ (3) $\left(\frac{L}{C}\right)^{-1/2}$ (4) $\frac{C}{L}$

Ans. (2)

43. A circuit contains R, L and C connected in series with an A.C. source. The values of the reactances for inductor and capacitor are 200Ω and 600Ω respectively and the impedance of the circuit is Z_1. What happens to the impedance of the same circuit if the values of the reactances are interchanged:-

(1) The impedance will remain unchanged (2) The impedance will increase
(3) The impedance will decrease (4) Information insufficient

Ans. (1)

44. When V = 100 sin ωt is applied across a series (R–L–C) circuit, At resonance the current in resistance (R = 100Ω) is I = i_0 sinωt, then power dissipation in circuit is :–

(1) 50 W (2) 100 W (3) 25 W (4) Can't be calculated

Ans. (1)

45. At resonance in a series LCR circuit, which of the following statements is true:-

(1) Current in the circuit is maximum and phase difference between E and I is π/2
(2) Current in the circuit is maximum and phase difference between E and I is zero
(3) Voltage is maximum and phase difference between E and I is π/2
(4) Current is minimum and phase difference between E and I is zero

Ans. (2)

46. An alternating voltage is connected in series with a resistance rand an inductance L. If the potential drop across the resistance is 200 volt and across the inductance is 150 volt, the applied voltage:

(1) 350 volt (2) 250 volt (3) 500 volt (4) 300 volt

Ans. (2)

47. For a series R-L-C circuit :-

(a) Voltage across L and C are differ by π
(b) Current through L and R are in same phase

(c) Voltage across R and L differ by $\pi/2$
(d) Voltage across L and current through C are differ by $\pi/2$
(1) a, b, c (2) b, c, d (3) c, d, a (4) All

Ans. (4)

48. A series R – L – C (R = 10 Ω), X_L = 20 Ω, Xc = 20 Ω) circuit is supplied by V = 10 sin ωt volt then power dissipation in circuit is :–
(1) Zero (2) 10 watt (3) 5 watt (4) 2.5 watt

Ans. (3)

49. The self inductance of the motor of an electric fan is 10 H. In order to impart maximum power at 50Hz. It should be connected to a capacitance of :
(1) 2×10^{-6} F (2) 3×10^{-6} F (3) 10^{-4} F (4) 10^{-6} F

Ans. (4)

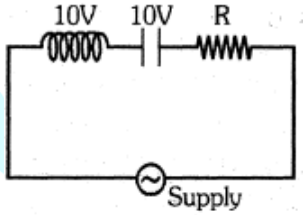
50. In a series resonant R-L-C circuit, if L is increased by 25% and C is decreased by 20%, then the resonant frequency will :
(1) Increases by 10% (2) Decreases by 10%
(3) Remain unchanged (4) Increases by 2.5%

Ans. (3)

51. The value of quality factor is :-
(1) $\frac{\omega L}{R}$ (2) $\frac{\omega}{RC}$ (3) $\sqrt{LC}$ (4) L/R

Ans. (1)

52. If value of R is changed, then :–



(1) Voltage across L remains same
(2) Voltage across C remains same
(3) Voltage across LC combination remains same
(4) Voltage across LC combination changes

Ans. (3)

53. In a series LCR circuit voltage across resistor, inductor and capacitor are 1V, 3V and 2V respectively. At the instant t when the source voltage is given by :–
$V = V_0 \cos \omega t$, the current in the circuit will be :
(1) $I = I_0 \cos\left(\omega t + \frac{\pi}{4}\right)$ (2) $I = I_0 \cos\left(\omega t - \frac{\pi}{4}\right)$

(3) $I = I_0 \cos\left(\omega t + \frac{\pi}{3}\right)$ (4) $I = I_0 \cos\left(\omega t - \frac{\pi}{3}\right)$

Ans. (2)

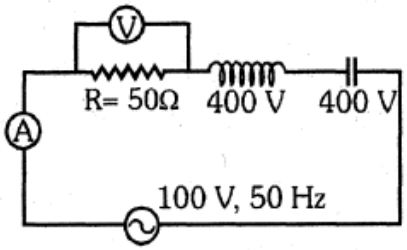
54. In an AC Circuit decrease in impedance with increase in frequency is indicates that circuit has/have:-

(1) Only resistance (2) Resistance & inductance.

(3) Resistance & capacitance (4) Resistance, capacitance & inductance.

Ans. (3)

55. In given LCR circuit, the voltage across the terminals of a resistance & current will be-



(1) 400V, 2A (2) 800V, 2A (3) 100V, 2A (4) 100V, 4A

Ans. (3)

56. Phase of current in LCR circuit –

(1) Is in the phase of potential

(2) Leading from the phase of potential

(3) Lagging from the phase of potential

(4) Before resonance frequency, leading from the phase of potential and after resonance frequency, lagging from the phase of potential

Ans. (4)

57. In LCR circuit, the voltage across the terminals of a resistance, inductance & capacitance are 40V, 30V & 60V, then the voltage across the main source will be-

(1) 130 volt (2) 100 volt (3) 70 volt (4) 50 volt

Ans. (4)

58. For an alternating current of frequency $\frac{500}{\pi}$ Hz in L–C–R series circuit with L = 1H, C = 1 μF, R = 100Ω, impedance is :–

(1) 100 Ω (2) $100\sqrt{\pi}$ Ω (3) $100\sqrt{2\pi}$ Ω (4) 100 πΩ

Ans. (1)

POWER IN AC CIRCUIT

59. A sinusoidal A.C. current flows through a resistor of resistance R. If the peak current is I_P, then the power dissipated is :–

(1) $I_p^2 R\cos\theta$ (2) $\frac{1}{2}I_p^2 R$ (3) $\frac{4}{\pi}I_p^2 R$ (4) $\frac{1}{\pi^2}I_p^2 R$

Ans. (2)

60. An AC circuit draws 5A at 160 V and the power consumption is 600 W. Then the power factor is:-

(1) 1 (2) 0.75 (3) 0.50 (4) Zero

Ans. (2)

61. Which is not correct for average power P at resonance:

(1) $P = I_{rms}\, V_{rms}$ (2) $P = \frac{V}{\sqrt{2}}\frac{I}{\sqrt{2}}$ (3) $P = VI$ (4) $P = I_{rms}^2 R$

Ans. (3)

62. In an A.C. circuit inductance, capacitance and resistance are connected. If the effective voltage across inductance is V_L, across capacitance is V_c and across resistance is V_R, then the total effective value of voltage is :

(1) $V_R + V_L + V_C$ (2) $V_R + V_L - V_C$ (3) $\sqrt{V_R^2 (V_L - V_C)^2}$ (4) $\sqrt{V_R^2 - (V_L - V_C)^2}$

Ans. (3)

63. In an a.c. circuit V and I are given by

$V = 100 \sin (100\, t)$ volts

$I = 100 \sin (100t + \pi/3)$ mA

The power dissipated in the circuit is

(1) 10^4 watt (2) 10 watt (3) 2.5 watt (4) 5.0 watt

Ans. (3)

64. For a series LCR circuit the power loss at resonance is :-

(1) $\frac{V^2}{\left[\omega L - \frac{1}{\omega C}\right]}$ (2) $I^2 L\omega$ (3) $I^2 R$ (4) $\frac{V^2}{C\omega}$

Ans. (3)

65. In an alternating circuit applied voltage and flowing current are $E = E_0 \sin\omega t$ and $I = I_0 \sin(\omega t + \pi/2)$ respectively. Then the power consumed in the circuit will be :

(1) Zero (2) $E_0 I_0/2$ (3) $E_0 I_0 / \sqrt{2}$ (4) $E_0 I_0/4$

Ans. (1)

66. In which of the following case power factor will be negligible :-

(1) Inductance and resistance both high

(2) Inductance and resistance both low.

(3) Low resistance and high inductance

(4) High resistance and low inductance

Ans. (3)

67. If V = 100 sin100t volt, and $I = 100\sin\left(100t + \frac{\pi}{6}\right)$ A. then find the watt less power in watt :

(1) 10^4 (2) 10^3 (3) 10^2 (4) 2.5×10^3

Ans. **(4)**

68. An AC. supply gives 30V r.m.s. which passes through a 100 resistance. The power dissipated in it is :-

(1) $90\sqrt{2}$W (2) 90W (3) $45\sqrt{2}$W (4) 45 W

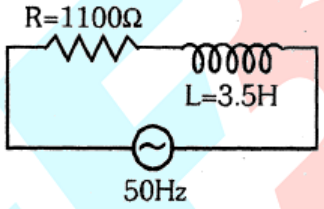
Ans. **(2)**

69. An inductor of inductance L and resistor of resistance R are joined in series and connected by a source of frequency ω. Power dissipated in the circuit is :–

(1) $\frac{\left(R^2+\omega^2L^2\right)}{V}$ (2) $\frac{V^2R}{\left(R^2+\omega^2L^2\right)}$ (3) $\frac{V}{\left(R^2+\omega^2L^2\right)}$ (4) $\frac{\sqrt{R^2+\omega^2L^2}}{V^2}$

Ans. **(2)**

70. For given circuit the power factor is :



(1) 0 (2) $\frac{1}{2}$ (3) $1/\sqrt{2}$ (4) None of these

Ans. **(3)**

71. In a purely capacitive circuit average power dissipated in the circuit is :–

(1) $V_{rms}\ I_{rms}$ (2) Depends on capacitance
(3) Infinite (4) Zero

Ans. **(4)**

72. Energy loss in pure capacitance in A C. circuit is

(1) $\frac{1}{2}CV^2$ (2) CV (3) $\frac{1}{4}CV^2$ (4) Zero

Ans. **(4)**

73. Power dissipated in pure inductance will be :

(1) $\frac{LI^2}{2}$ (2) $2LI^2$ (3) $\frac{LI^2}{4}$ (4) Zero

Ans. **(4)**

74. The power factor of L-R circuit is :

(1) $\frac{\omega L}{R}$ (2) $\frac{R}{\sqrt{(\omega L)^2 + R^2}}$ (3) ωLR (4) $\sqrt{\omega LR}$

Ans. (2)

75. If alternating current of rms value 'a' flows through resistance R then power loss in resistance is:

(1) Zero (2) a^2R (3) $\frac{a^2R}{2}$ (4) $2a^2R$

Ans. (2)

76. Which of the following device in alternating circuit provides maximum power :-

(1) Only capacitor (2) Capacitor and resistor
(3) Only inductor (4) Only resistor

Ans. (4)

LC OSCILLATION

77. Comparing the L-C oscillations with the oscillations of a spring-block system (force constant of spring = k and mass of block = m), the physical quantity mk is similar to :-

(1) CL (2) $\frac{1}{CL}$ (3) $\frac{C}{L}$ (4) $\frac{L}{C}$

Ans. (4)

78. In an oscillating LC circuit the maximum charge on the capacitor is Q. The charge on the capacitor when the energy is stored equally between the electric and magnetic fields is-

(1) Q/2 (2) $Q/\sqrt{3}$ (3) $Q/\sqrt{2}$ (4) Q

Ans. (3)

79. A fully charged capacitor C with initial charge q_0 is connected to a coil of self inductance L at t= 0. The time at which the energy is stored equally between the electric and the magnetic fields is :-

(1) $2\pi\sqrt{LC}$ (2) $\sqrt{LC}$ (3) $\pi\sqrt{LC}$ (4) $\frac{\pi}{4}\sqrt{LC}$

Ans. (4)

80. A LC circuit is in the state of resonance. If C = 0.1 J.lF and L = 0.25 henry. Neglecting ohmic resistance of circuit what is the frequency of oscillations

(1) 1007 Hz (2) 100 Hz (3) 109 Hz (4) 500 Hz

Ans. (1)

81. A 60 μF capacitor is charged to 100 volts. This charged capacitor is connected across a 1.5 mH coil, so that LC oscillations occur. The maximum current in the coil is :–

(1) 1.5 A (2) 2 A (3) 15 A (4) 20 A

Ans. (4)

EXERCISE-I (Conceptual Questions) ANSWER KEY

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	3	2	4	3	2	3	4	1	4	3	2	1	3	1	3
Que.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Ans.	3	2	2	1	2	1	2	1	3	4	4	3	3	2	3
Que.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Ans.	2	2	2	2	3	2	3	3	1	2	4	2	1	1	2
Que.	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans.	2	4	3	4	3	1	3	2	3	3	4	4	1	2	2
Que.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Ans.	3	3	3	3	1	3	4	2	2	3	4	4	4	2	2
Que.	76	77	78	79	80	81									
Ans.	4	4	3	4	1	4									