ECAT Physics Online Test

Sr	Questions	Answers Choice
1	If the value of C in a series RLC circuit is increased, the resonant frequency	A. Is not affected B. Increase C. Remains the same D. Decreases
2	The phase angle of a series RLC circuit at resonance is	A. 180° B. 90° C. 0° D. None of the these
3	The total reactance of a series RLC circuit at resonance is	A. zero B. Equal to the resistance C. Infinity D. Capacitive
4	SI unit of impedance is	A. hertz B. henry C. ampere D. ohms
5	In series RC circuit when $R=X_C$, then the phase angle is	A. 0° B. 90° C. 70° D. 45°
6	An A.C. voltage is applied across the inductor. When the frequency of the voltage is increased, the current	A. Decreases B. Increases C. Does not change D. Momentarily goes to zero
7	At resonance frequency the impedance of parallel resonance circuit is	A. Maximum B. Minimum C. Zero D. None of the above
8	The impedance of RLC series resonance circuit at resonant frequency is	A. Greater than R B. Equal to R C. Less than R D. None of these
9	An A.C. voltmeter read 250 volts. The frequency of alternating is 50 Hz, the peak value of voltage is	A. 3525.0 volts B. 35.35 volts C. 353.5 volts D. 3.535 volts
10	To design a resonant circuit of frequency 100 KHz with an inductor of inductance 5 mH, we need a capacitor of capacitance	A. 5.07 pF B. 50 pF C. 0.507 pF D. 507 pF
11	At resonance, the impedance of RLC series circuit is	A. Maximum B. Zero C. Minimum D. Determinate
12	When either L or C is increased, the resonant frequency of the RLC series circuit	A. Increases B. Decreases C. Remains the same D. Becomes zero
		A. 0<span style="color: rgb(84, 84,

13	At resonance, the phase angle for RLC series resonance circuit equals	84); font-family: arial, sans-serif; font-size: small;">° B. 90° C. 180° D. 270°
14	The power factor of resonant series circuit is	A. 1 B. 0 C. -1 D. 0.5
15	In RLC series circuit, resonance occurs when	A. X_{L > Xc} B. X_{L < Xc} C. X_{L = Xc} D. None of these
16	A resonance curve for RLC series circuit is a plot of frequency versus	A. Voltage B. Current C. Impedance D. Reactance
17	The r.m.s. value of alternating current is equal to its maximum value at angle of	A. 60° B. 45° C. 30° D. 90°
18	The device which allows only the flow of an A.C. through a circuit is	A. Capacitor B. Inductor C. D.C. motor D. Battery
19	Alternating current can induce voltage because it has a	A. High peak value B. Varying magnetic field C. Stronger field than direct curren D. Constant magnetic field
20	An A.C varies as a function of	A. Current B. Voltage C. Time D. Charge
21	At higher frequency of the alternating current, the capacitive reactance X_C	A. Increases B. Decreases C. Remains the same D. Increases only when the voltage increases
22	Which one of the following is correct?	A. V_o= 1.414 V_{rms} B. I_{ams}= 1.414 I_o C. VO = 10.70 Vrms D. Both a and b
23	In an A.C circuit with resistor only, the current and voltage have a phase angle of	A. 90° B. 0° C. 180° D. none of these
24	The basic circuit elements of A.C circuit are	A. Resistor B. Inductor C. Capacitor D. All the three
25	During each cycle, alternating voltage reaches a peak value	A. One time B. Two times C. Four times D. A number of times depending on the frequency

26	The average of A.C. current and voltage over a complete cycle is	A. Maximum B. zero C. Neither zero nor maximum D. None of these
27	Carnot heat engine only used	A. isothermal processes B. adiabatic processes C. both of them D. none of them
28	Sadi carnot described an ideal heat engine in	A. 1820 B. 1840 C. 1860 D. 1880
29	We cannot utilize the heat contents of oceans and atmosphere because	A. there is no reservoir at the same temperature B. there is no reservoir at the temperature lower than any one of two C. there is no reservoir at the temperature higher than any one of two D. none of them
30	For the working of a heat engine, there must be	A. a source of heat at high temperature B. a sink at low temperature C. both of them D. none of them