

Physics ECAT Pre Engineering Online Test

Sr	Questions	Answers Choice
1	A diode characteristic curve is a plot between	A. current and time B. voltage and time C. voltage and current D. forward voltage and reversed voltage
2	When the pn-junction is connected reversed biased, its resistance is of the order of	A. few ohms B. few kilo-ohms C. few mega-ohms D. few mili-ohms
3	When the pn-junction is in reversed biased, current flows through the junction due to the	A. majority carriers B. minority carriers C. either of them D. none of them
4	When the pn-junction is forward biased. the current flows through it is of the order of	A. mili-amperes B. amperes C. nano-amperes D. micro-amperes
5	When the p-n junction is forward biased its resistance is of the order of	A. few mega ohms B. few kilo ohms C. few ohms D. few milli ohms
6	The value of the potential difference across the depletion region for the case of germanium is	A. 0.3 V B. 0.5 V C. 0.7 V D. 0.9 V
7	A p-n junction is formed when a crystal of silicon is growth in such a way that its one half is doped with trivalent impurity and the other half with a impurity from	A. 2nd group B. fourth group C. fifth group D. sixth group
8	Average value of A.C voltage during one cycle is	A. 1 B. Zero C. Maximum D. Variable
9	A changing magnetic flux creates around itself	A. An electromotive force B. An electric field (changing electric flux) C. Magnetic field D. None of the above
10	When electrons in the transmitting antenna vibrate 94000 time per second, they produce radiowaves having frequency	A. 9.4 kHz B. 940 kHz C. 94 kHz D. None of these
11	In free space, the speed of electromagnetic waves is	A. $3 \times 10^{18} \text{ ms}^{-1}$ B. $3 \times 10^{16} \text{ ms}^{-1}$ C. $4 \times 10^{17} \text{ ms}^{-1}$ D. $3 \times 10^{19} \text{ ms}^{-1}$
12	Transmitting antenna emits	A. Magnetic waves B. Electric waves C. Electromagnetic waves D. Sound waves
13	Electromagnetic waves transmit energy equal to	A. $\frac{1}{2} mv^2$ B. $m_o c^2$ C. hf/c D. hf
14	Which one of the following Electro-magnetic wave have the highest frequency and shortest wave-length	A. X-rays B. Ultraviolet rays C. y-rays D. γ -rays

		D. Cosmic rays
15	Chock consumes externally small	A. Charge B. Current C. Power D. Potential
16	Which one of the following waves belongs to electromagnetic spectrum	A. Radio and TV waves B. Radar waves C. Micro waves D. All of them
17	In frequency modulation (FM), the carrier waves amplitude	A. Remains constant B. Increase C. Decreases D. None of these
18	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
19	The phase angle of a series RLC circuit at resonance is	A. 180° B. 90° C. 0° D. None of the these
20	The total reactance of a series RLC circuit at resonance is	A. zero B. Equal to the resistance C. Infinity D. Capacitive
21	SI unit of impedance is	A. hertz B. henry C. ampere D. ohms
22	In series RC circuit when $R=X_C$, then the phase angle is	A. 0° B. 90° C. 70° D. 45°
23	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
24	At resonance frequency the impedance of parallel resonance circuit is	A. Maximum B. Minimum C. Zero D. None of the above
25	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
26	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
27	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
28	At resonance, the impedance of RLC series circuit is	A. Maximum B. Zero C. Minimum D. Determinate
29	When either L or C is increased, the resonant frequency of the RLC series circuit	A. Increases B. Decreases C. Remains the same

C. Remains the same
D. Becomes zero

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At resonance, the phase angle for RLC series resonance circuit equals

- A. 0°
B. 90°
C. 180°
D. 270°