

ECAT Pre General Science Physics Chapter 16 Alternating Current

Sr	Questions	Answers Choice
1	In which of the following components, pn-junction is used	A. light emitting diode B. photo diode C. photo voltaic cell D. all of these
2	The closed loop gain of the non-inverting amplifier is given by	A. $G = R_{\text{out}}/R_{\text{in}}$ B. $G = -R_{\text{out}}/R_{\text{in}}$ C. $G = 1 - R_{\text{out}}/R_{\text{in}}$ D. $G = 1 + T_{\text{out}}/R_{\text{in}}$
3	The RMS value of alternating current is:	A. 0.7 times at the peak value B. 0.5 times the peak value C. 0.7 times the Instantaneous value D. Equal to maximum voltage E. None of these
4	Which of the following diode is used for the detection of light	A. photo diode B. light emitting diode C. photo voltaic cell D. all of them
5	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
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	The $R_1 = \infty$ and $R_2 = 0$, then the gain of non-inverting amplifier is	A. zero B. infinity C. one D. any one of these
8	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
9	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
10	OP-AMP has the following input terminals	A. one B. two C. three D. four
11	Electromagnetic waves transmit energy equal to	A. $1/2 mv^2$ B. $m\omega^2 c^2$ C. hf/c D. hf
12	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. Cosmic rays
13	A sinusoidally alternating voltage or current can be graphically represented by a:	A. Vector B. Rotating vector C. Clockwise vector D. Anticlockwise voltage vector E. None of these
14	During the positive half-cycle in the half-wave rectification, the diode	A. does not conduct B. conducts C. either of these

D. neither of these

15 The value of output resistance of OP-AMOP is of the order of

- A. few ohms
- B. few hundred ohms
- C. several kilo ohms
- D. several mega ohms

16 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

17 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

18 The phase angle of a series RLC circuit at resonance is

- A. 180°
- B. 90°
- C. 0°
- D. None of the these

19 Which of the following diodes can operate in the reverse biased condition

- A. photo diode
- B. light emitting diode
- C. photo voltaic cell
- D. none of these

20 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