

## ECAT Physics Chapter 16 Alternating Current

Sr	Questions	Answers Choice
1	The $R_1 = \infty$ and $R_2 = 0$ , then the gain of non-inverting amplifier is	A. zero B. infinity <b>C. one</b> D. any one of these
2	During each cycle, alternating voltage reaches a peak value	A. One time <b>B. Two times</b> C. Four times D. A number of times depending on the frequency
3	The amplifier which is used to perform mathematical operations electronically is known as	A. calculator <b>B. OP-AMP</b> C. computer D. any one of them
4	Mathematical manipulation of the two quantized states can be best carried if they are represented by	A. high - low B. yes - no C. on - off <b>D. 0 - 1</b>
5	Unless stated otherwise, when we speak of A.C. meter reading, we usually mean:	A. Peak value <b>B. RMS value</b> C. Instantaneous value D. Peak-to-peak value E. Both (A) and (C)
6	The r.m.s. value of alternating current is equal to its maximum value at angle of	A. $60^\circ$ <b>B. <math>45^\circ</math></b> C. $30^\circ$ D. $90^\circ$
7	In which of the following diodes when an electron combines with a hole during the forward biasing, photon of visible light is emitted.	A. photo diode B. light emitting diode C. photo voltaic cell <b>D. all of them</b>
8	To design a resonant circuit of frequency 100 KHz with an inductor of inductance 5 mH, we need a capacitor of capacitance	<b>A. 5.07 pF</b> B. 50 pF C. 0.507 pF D. 507 pF
9	Which one of the following is correct?	<b>A. <math>V_{rms} = 1.414 V_0</math></b> B. $I_{rms} = 1.414 I_0$ C. $V_0 = 10.70 V_{rms}$ D. Both a and b
10	A p-n junction is formed when a crystal of silicon is grown 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 <b>C. fifth group</b> D. sixth group
11	When a transistor is used as a switch the circuit in which the current is to be switched OFF and ON, is connected between the	A. base and emitter <b>B. collector and emitter</b> C. base and collector D. any one of these
12	In series RC circuit when $R = X_C$ , then the phase angle is	A. $0^\circ$ B. $90^\circ$ <b>C. <math>70^\circ</math></b>

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D. 45<span style="color: rgb(84, 84, 84); font-family: arial, sans-serif; font-size: small;"></span>

13	A digital system deals with quantities or variables which have	A. only one state B. only two discrete states C. three discrete states D. four discrete states
14	The time interval during which the Voltage source changes its polarity once is known as:	A. Time period T B. Half the time period C. Quarter the time period D. Two third of the time period E. None of these
15	Electromagnetic waves transmit energy equal to	A. $\frac{1}{2} mv^2$ B. $m^2c^2$ C. $hf/c$ D. $hf$
16	The value of current gain of n-p-n transistor is of the order of	A. tens B. hundreds C. thousands D. ten thousands
17	Due to the high value of the input resistance, practically, the value of the current which flows between the input terminals is	A. zero B. small C. large D. very large
18	The open loop gain of OP-AMP is of the order of	A. $10^2$ B. $10^3$ C. $10^4$ D. $10^5$
19	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
20	Alternating current is produced by a voltage source which polarity:	A. Remains the same B. Reverse after period T C. Keeps on reversing with time D. Reverse after every time interval T/2 E. Both (C) and (D)