

## ECAT Physics Online Test

Sr	Questions	Answers Choice
1	The energy is found from Einstein's mass energy relation is called	A. binding energy of electron B. binding energy of proton C. binding energy of neutron D. binding energy of nucleus
2	The mass of fluid passing through any cross-section per unit time is called	A. electric flux B. magnetic flux C. mass flux D. none of them
3	The product of induced current and the resistance of the wire through which the current is passing is called:	A. Electromagnetic induction B. induced emf C. Induced current D. Self induced E. None of these
4	A particle of mass 5.0 mg moves with a speed of 8.0 m/s. Its de-Broglie wavelength is	A. 1.66 m B. $1.66 \times 10^{-10}$ m C. $1.66 \times 10^{-29}$ m D. $1.66 \times 10^{-29}$ m
5	A tube tapers from 20 cm diameter to 2 cm, the velocity at first cross-section is $50 \text{ ms}^{-1}$ then velocity at second cross-section is	A. $5000 \text{ cms}^{-1}$ B. $500 \text{ cms}^{-1}$ C. $50 \text{ cms}^{-1}$ D. 0.5 cm/s
6	For a n-p-n transistor, the conventional current equation can be written as	A. $I_E + I_C = I_B$ B. $I_C - I_B = I_E$ C. $I_C + I_B = I_E$ D. $I_B + I_E = I_C$
7	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
8	The solids which has structure in-between order and disorder are called	A. amorphous solids B. polymeric solids C. crystalline solids D. all of them
9	The second law of thermodynamics is concerned with the circumstances in which	A. heat can be converted into work B. direction of flow of heat C. none of them D. both of them
10	One kilogram of different substances contain	A. same number of molecules B. different number of molecules C. may be same or different D. none of them
11	The smallest three dimensional basic structure in a crystalline solid is called	A. lattice point B. crystal lattice C. cubic crystal D. unit cell
12	The magnitude of the force producing an acceleration of $10 \text{ m/sec}^2$ in a body of mass 500 grams is:	A. 3 N B. 4 N C. 5 N D. 6 N
13	The emission of electrons from a metal surface when exposed to light of suitable frequency is called the	A. pair production B. Compton effect C. photoelectric effect D. relativity
14	Fire fighters have jet attached to the head of their water pipes in order to	A. Increase the mass of water flowing per second B. Increase the velocity of water flowing out

		<p>C. Increase the volume of water flowing per second</p> <p>D. Avoid wastage of water</p>
15	Good absorbers of heat are	<p>A. Poor emitters</p> <p>B. Non emitters</p> <p>C. Good emitters</p> <p>D. Highly polarized</p>
16	A diatomic gas molecule has	<p>A. translational energy</p> <p>B. rotational energy</p> <p>C. vibrational energy</p> <p>D. all of them</p>
17	The value of threshold frequency for different metals is	<p>A. different</p> <p>B. same</p> <p>C. may be different or may be same</p> <p>D. none of these</p>
18	The earth's potential and potential at infinity are taken:	<p>A. <span style='font-size: 12pt; line-height: 107%; font-family: "Times New Roman", serif;'>First is greater than the second</span></p> <p>B. <span style='font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", serif;'>Second is greater than the first</span></p> <p>C. <span style='font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", serif;'>Both (A) and (B)</span></p> <p>D. <span style='font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", serif;'>First is greater than the second</span></p> <p>E. <span style='font-size: 12.0pt; line-height: 107%; font-family: "Times New Roman", serif;'>Both (A) and (B)</span></p>
19	In series RC circuit when $R = X_C$ , then the phase angle is	<p>A. <span style="color: rgb(84, 84, 84); font-family: arial, sans-serif; font-size: small;">0°</span></p> <p>B. <span style="color: rgb(84, 84, 84); font-family: arial, sans-serif; font-size: small;">90°</span></p> <p>C. <span style="color: rgb(84, 84, 84); font-family: arial, sans-serif; font-size: small;">70°</span></p> <p>D. <span style="color: rgb(84, 84, 84); font-family: arial, sans-serif; font-size: small;">45°</span></p>
20	Example of progressive wave is	<p>A. transverse waves</p> <p>B. longitudinal waves</p> <p>C. both of them</p> <p>D. none of them</p>