

## Physics ECAT Pre Engineering Chapter 19 Dawn of Modern Physics

Sr	Questions	Answers Choice
1	In process of annihilation of matter, the two photons produced move in opposite direction to conserve	A. momentum B. charge C. energy D. mass
2	The intensity of emitted energy (with wavelength) radiated from a black body at different temperatures was initially measured by:	A. Lummer B. Planck C. Pringsheim D. Both (A) and (B) E. Both (A) and (C)
3	The energy of the 4th orbit in hydrogen atom is	A. 2.5 ev B. - 3.5 ev C. -0.85 ev D. -13.6 ev
4	The concept of direction and position are purely	A. absolute B. relative C. absolute or relative D. none of these
5	Position was discovered by Carl Anderson in	A. 1920 B. 1925 C. 1928 D. 1932
6	The mass of an object will be doubled at speed	A. $1.6 \times 10^{8\text{ms}^{-1}}$ B. $2.6 \times 10^{8\text{ms}^{-1}}$ C. $2.6 \times 10^{7\text{ms}^{-1}}$ D. $2.6 \times 10^{9\text{ms}^{-1}}$
7	0.1 kg mass will be equivalent to the energy	A. $9 \times 10^{15}\text{J}$ B. $5 \times 10^{8\text{J}}$ C. $6 \times 10^{16\text{J}}$ D. $9 \times 10^{-16\text{J}}$
8	Compton was awarded Nobel prize in physics in	A. 1921 B. 1923 C. 1925 D. 1927
9	Position and momentum of a particle cannot both be measured simultaneously with perfect accuracy. This is the statement of	A. photoelectric effect B. pair production C. Compton effect D. uncertainty principle
10	When platinum wire is heated, it appears cherry red at	A. $1600^{\circ}\text{C}$ B. $900^{\circ}\text{C}$ C. $1100^{\circ}\text{C}$ D. $1300^{\circ}\text{C}$
11	The threshold frequency of sodium is $6 \times 10^{14}\text{MHz}$ . The cut-off wavelength for this metal will be	A. 500 m B. 500 nm C. 500 km D. 500 cm E. None of these
12	According to Einstein, with the great increase in the speed of the body the relativistic length of the body	A. Remains constant B. Decreases C. Increases D. Reduces to zero
		A. 0.5 to 1 m to possible

13	With the help of 50 K v electron microscope, a resolution of	B. 1 m to 10 m is possible C. 0.5 to 1 nm is possible D. 1 to 10 nm is possible
14	The positron was discovered by:	A. In cosmic radiation B. In 1932 C. By Carl Anderson D. All above E. By direc
15	When a positron comes close to an electron they annihilate into	A. one photon B. two photons which travel in the same direction C. two photons which travel in the opposite direction D. two photons which travel in any direction
16	The concept of direction is purely:	A. Absolute B. Relative C. Relative to stars always D. Relative to the sun always E. None of these
17	Wave nature of particle was proposed by	A. Einstein B. Plank C. De-Broglie D. Maxwell
18	The special theory of relativity is based on:	A. Four postulates B. Three postulates C. Two postulates D. One postulate E. None of these
19	Compton studied the scattering of x-rays by loosely bound electrons from:	A. NaCl crystal B. Graphite crystal C. Zirconia D. Copper crystal E. None of these
20	In order to produce pair production, a photon must have a energy	A. 0.511 Me v B. 0.256 Me v C. 1.02 Me v D. 0.956 Me v