

Physics ECAT Pre Engineering Chapter 19 Dawn of Modern Physics

Sr	Questions	Answers Choice
1	The way through which electromagnetic radiations or photons interact with matter depends upon their:	A. Wavelength B. Frequency C. Energy D. Temperature E. All of these
2	The value of threshold frequency for different metals is	A. different B. same C. may be different or may be same D. none of these
3	Wave nature of particle was proposed by	A. Einstein B. Plank C. De-Brogile D. Max well
4	The existence of positron was predicted by Dirac in	A. 1920 B. 1925 C. 1930 D. 1928
5	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
6	The energy of photon 'E' is proportional to	A. The magnetic field H B. The electric field E C. Both the electric and magnetic field H and E D. Frequency
7	The idea of quantization of energy was proposed by:	A. Einstein B. Max. Planck C. Maxwell D. Bohr E. Rutherford
8	The mass 'm' of a body moving at 0.8 c (whose rest mass is m_0) becomes	A. $2 m_0$ B. $1.67 m_0$ C. $0.67 m_0$ D. $2.67 m_0$
9	Wien's constant is measured in:	A. Metre per kelvin B. Metre kelvin C. Kelvin per meter D. Joules E. Dynes
10	If a material object moves with the speed of light 'C' its mass becomes	A. Equal to its rest mass B. Four times of its rest mass C. Double of its rest mass D. Infinite
11	Compton was awarded Nobel prize in physics in	A. 1921 B. 1923 C. 1925 D. 1927
12	As the light shines on the metal surface, the electrons are ejected	A. slowly B. instantaneously C. either of these D. none of these
13	G.P. Thomson observed experimentally that electrons and neutrons possess	A. particle-like properties B. wave-like properties C. neither particle nor wave like properties D. none of these
14	The stopping voltage for a certain metal is 100 volts, then the work function for the cathode plate is	A. 100 J B. 1.6×10^{-17} J C. 100 eV D. 1.6×10^{-17} eV

15	When the atomic particles are moving with velocities approaching that of light:	<p>A. Newton's laws become valid</p> <p>B. Relativistic effects become prominent</p> <p>C. Both (A) and (B) are valid</p> <p>D. Neither (A) nor (B)</p> <p>E. Their mass becomes zero.</p>
16	The threshold frequency of sodium is 6×10^6 MHz. The cut-off wavelength for this metal will be	<p>A. 500 m</p> <p>B. 500 nm</p> <p>C. 500 km</p> <p>D. 500 cm</p> <p>E. None of these</p>
17	The special theory of relativity is based on:	<p>A. Four postulates</p> <p>B. Three postulates</p> <p>C. Two postulates</p> <p>D. One postulate</p> <p>E. None of these</p>
18	A non-inertial frame of reference is one, in which	<p>A. law of inertia is valid</p> <p>B. all laws of physics are the same in all frames</p> <p>C. $a > 0$ or $a < 0$</p> <p>D. $a = 0$</p>
19	0.1 kg mass will be equivalent to the energy	<p>A. 9×10^{15} J</p> <p>B. 5×10^8 J</p> <p>C. 6×10^{16} J</p> <p>D. 9×10^{-16} J</p>
20	According to the special theory of relativity, a moving clock	<p>A. runs faster</p> <p>B. runs slower</p> <p>C. neither runs faster nor slower</p> <p>D. all of these</p>