

ECAT Physics Chapter 19 Dawn of Modern Physics

Sr	Questions	Answers Choice
1	If A represents linear momentum and c , the velocity of light, then unit of pc in international system of units is:	A. Newton B. Joule C. Joule-Sec D. Joule-s ⁻¹ E. Watt
2	The location and speed anywhere on earth can now be determined using relativistic effects by NAVISTAR to an accuracy of	A. 2 cm/s B. 20 cm/s C. 200 cm/s D. 2000 cm/s
3	The mass ' m ' of a body moving at $0.8c$ (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
4	de-Broglies hypothesis was experimentally verified by	A. Maxwell B. Compton C. Einstein D. Davison and Germer
5	Strictly speaking, the earth is:	A. An accelerated frame of reference B. A non-inertial frame of reference C. An inertial frame of reference D. A non-accelerated frame of reference E. Both (A) and (B)
6	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
7	The general theory of relativity treats problems involving	A. inertial frame of references B. accelerating frame of references C. both of these D. none of these
8	The photon of radio-waves has energy of about	A. 1 MeV B. 1 KeV C. 10^{-10} eV D. 10^{10} eV
9	According to Einstein, with the great increase in the speed of the body, the relativistic mass of the body	A. Remains constant B. Decreases C. Increases to infinity D. Reduced to zero
10	According to the special theory of relativity, time is	A. absolute quantity B. not absolute quantity C. constant quantity D. none of these
11	Compton was awarded Nobel prize in physics in	A. 1921 B. 1923 C. 1925 D. 1927
12	The nature of radiations emitted by a hot body depends upon its:	A. Material B. Temperature C. colour D. Volume E. Length
13	The speed of a pendulum is measured to be 3.0 s in the inertial reference frame of the pendulum. What is its period measured by an observer moving at a speed of $0.95c$ with respect to the pendulum	A. 2.9 s B. 3.0 s C. 6.6 s D. 9.6 s
14	The value of the plank's constant ' h ' is given by	A. 1.6×10^{-19} J B. 1.67×10^{-27} Kg C. 6.63×10^{34} Js D. 6.63×10^{-34} Js

15	The Einstein's changes in length, mass and time are not observed in common life because	A. We dont observer then seriously B. The masses are too large C. Their speed is too small than the speed of right D. All of the above
16	The existence of positron was predicted by Dirac in	A. 1920 B. 1925 C. 1930 D. 1928
17	According to the special theory of relativity	A. mass and energy are same entities B. mass and energy are same entities but interconvertible C. mass and energy are different entities but interconvertible D. mass and energy are different entities but non-interconvertible
18	The special theory of relativity treats problems involving	A. inertial frame of references B. accelerating frame of references C. both of these D. none of these
19	There is certain frequency below which no electrons are emitted from the metal surface, this frequency is known as	A. maximum frequency B. minimum frequency C. threshold frequency D. all of these
20	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