

Physics ECAT Pre Engineering Chapter 19 Dawn of Modern Physics

Sr	Questions	Answers Choice
1	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. $2.6 \times 10^{9} \text{ms}^{-1}$
2	The ratio of energy E to the corresponding frequency (f) of the radiation (emitted or absorbed) is called:	A. Wien's constant B. Stefan's constant C. Planck's constant D. Boltzmann's constant E. None of these
3	Electromagnetic radiation or photons interact with matter in	A. two distinct ways B. three distinct ways C. four distinct ways D. five distinct ways
4	Current, voltage, resistance measuring circuit is connected with the galvanometer with the help of switch, known as	A. ON switch B. off switch C. function switch D. none of these
5	A black body is	A. an ideal absorber B. an ideal radiator C. both of them D. none of them
6	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
7	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
8	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
9	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
10	The photon of radio-waves has energy of about	A. 1 Me V B. 1 Ke v C. 10^{-10}e v D. 10^{10}e v
11	Max plank founded a mathematical model resulting in an equation that describes the shape of observed black body radiation curves exactly, in	A. 1890 B. 1895 C. 1900 D. 1905
12	Compton derived an expression to find compton shift by applying to the process, the law of conservation of:	A. Energy only B. Momentum only C. Mass only D. Charge only E. Both (A) and (B)
13	A bar 1.0 m in length and located along x-axis moves with a speed of 0.75 c with respect to a stationary observer. The length of the bar as measured by the stationary observer is	A. 1.66 m B. 1.0 m C. 0.66 m D. 2.66 m
14	The analysis of the distribution of wavelengths of the radiation emitted from a hot body set the foundation of new mechanics, known as	A. classical mechanics B. Newtonian mechanics C. quantum mechanics

		D. statistical mechanics
15	An inertial frame of reference is a frame of reference which is	A. at rest B. moving with uniform velocity C. either at rest or moving with uniform velocity D. none of these
16	Davision and Germer performed experiment to verify	A. de-Broglie hypothesis B. theory of relativity C. Newton's law of gravitation D. Mass-energy relation
17	If the radius of first orbit of hydrogen atom is 0.53 \AA the radius of second orbit will be	A. 2.120 \AA B. 0.212 \AA C. 21.2 \AA D. 0.14 \AA
18	G.P. Thomson observer 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
19	According to the electromagnetic wave theory of light, increasing the intensity of incident light should increase the	A. number of photoelectrons B. size of the photoelectrons C. charge on photoelectrons D. K.E of photoelectrons
20	When a platinum wire is heated, it appears dull red at about	A. 500°C B. 900°C C. 1100°C D. 1300°C