Physics ECAT Pre Engineering Chapter 19 Dawn of Modern Physics

Sr	Questions	Answers Choice
1	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
2	The special theory of relativity is based on the	A. one postulate B. two postulates C. three postulates D. four postulates
3	The mass 'm' of a body moving at 0.8 c (whose rest mass is mo) becomes	A. 2 mo B. 1.67 mo C. 0.67 mo D. 2.67 mo
4	In process of annihilation of matter, the two photons produced move in opposite direction to converse	A. momentum B. charge C. energy D. mass
5	Photoelectric effect takes place with a photon of:	A. Very high energy B. Very low energy C. Low energy D. High energy E. None of these
6	The energy of a photon in a beam of infrared radiation of wavelength 1240 nm is	A. 100 ev B. 10⁶e v C. 10³e v D. 1.0 e v
7	The ratio of energy E to the corresponding frequency (f) of the radiation (emitted or absorbed) is called:	A. Wien's constant B. Stefen's constnat C. Planck's constant D. Boltzmann's constant E. None of these
8	de-Broglies hypthesis was experimentally verified by	A. Maxwell B. Compton C. Einstein D. Davison and Germer
9	The positron was discovered by:	A. In cosmic radiation B. In 1932 C. By Carl Anderson D. All above E. By direc
10	When monochromatic light is allowed to fall on cathode, it begins to emit electrons, these electrons are called	A. thermoionic electrons B. free electrons C. photoelectrons D. slow electrons
11	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
12	Davision and Germer performed experiment to verify	A. de-Brogile hypothesis B. theory of relativity C. Newton's law of gravitation D. Mass-energy relation
13	The Stephen-Boltzmann law for the black body radiation is given by	A. E = T² B. E = -T² C. E = T⁴ D. E = -T⁴
14	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

15	A particle of mass 5.0 mg moves with a speed of 8.0 m/s. Its de-Brogile wavelength is	A. 1.66 m B. 1.66 x 10⁻¹⁰m C. 1.66 x 10⁻²⁹cm D. 1.66 x 10⁻²⁹m
16	A photon is considered to have	A. Momentum B. Energy C. Wavelength D. All of the above
17	If the radius of first orbit of hydrogen atom is 0.53° A the radius of second orbit will be	A. 2.120°A B. 0.212°A C. 21.2°A D. 0.14° a
18	A high temperature, the proportion of shorter wavelengths radiation, emitted by the body	A. decreases B. first increases then decreases C. increases D. any one of them
19	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
20	Intensity of light determines the:	A. Energy of each photon B. Number of photons C. Speed of photons D. Size of photons E. None of these