

ECAT Pre General Science Physics 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	Max Planck received the Nobel Prize for his discovery of energy quanta in:	A. 1718 AD B. 1918 AH C. 1818 AD D. 1918 AD E. None of these
3	When a platinum wire is heated, it appears dull red at about	A. 500°C B. 900°C C. 1100°C D. 1300°C
4	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
5	Due to relative motion of observer and the frame of reference of events, time always:	A. Dilates itself B. Contracts itself C. Stretches itself D. Both (A) and (C) E. None of these
6	Photocell is a device which converts	A. chemical energy into electrical energy B. electrical energy into light energy C. heat energy into electrical energy D. light energy into electrical energy
7	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
8	With the help of 50 K v electron microscope, a resolution of	A. 0.5 to 1 m is possible B. 1 m to 10 m is possible C. 0.5 to 1 nm is possible D. 1 to 10 nm is possible
9	When low energy photons interact with a metal, which of the following effects is likely to be taken place	A. pair production B. photoelectric C. Compton effect D. None of these
10	When a positron comes close to an electron they annihilate into photons such that	A. each photon has energy 0.51 Me v B. each photon has energy 1.02 Me v C. each photon has energy 0.25 Me v D. none of these
11	Max Planck received the Nobel Prize in physics for his discovery of energy quanta in	A. 1900 B. 1906 C. 1912 D. 1918
12	In process of annihilation of matter, the two photons produced move in opposite directions to conserve	A. momentum B. charge C. energy D. mass
13	There is a 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
14	The concepts of direction and position are purely	A. absolute B. relative C. absolute or relative D. none of these

		D. none of these
15	A particle of mass 5.0 mg moves with a speed of 8.0 m/s. Its de-Broglie wavelength is	A. 1.66 m B. 1.66×10^{-10} m C. 1.66×10^{-29} cm D. 1.66×10^{-29} m
16	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 0.95 c with respect to the pendulum	A. 2.9 s B. 3.0 s C. 6.6 s D. 9.6 s
17	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)
18	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
19	Victor de-Broglie received the Nobel prize in physics in	A. 1925 B. 1929 C. 1932 D. 1935
20	According to the de-Broglie relation, an object of large mass and ordinary speed has	A. very small wavelength B. very large wavelength C. very small frequency D. all of these