

Physics ECAT Pre Engineering Chapter 19 Dawn of Modern Physics

| Sr | Questions | Answers Choice |
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| 1 | In process of annihilation of matter, the two photons produced move in opposite direction to converse | A. momentum B. charge C. energy D. mass |
| 2 | The intensity of emitted energy (with wavelength) radiated from a black body at different temperatures was initially measured by: | A. Lummer B. Planck C. Pringsheim D. Both (A) and (B) E. Both (A) and (C) |
| 3 | 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 |
| 4 | The concept of direction and position are purely | A. absolute B. relative C. absolute or relative D. none of these |
| 5 | Position was discovered by Carl Anderson in | A. 1920 B. 1925 C. 1928 D. 1932 |
| 6 | 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. $2.6 \times 10^{9} \text{ms}^{-1}$ |
| 7 | 0.1 kg mass will be equivalent to the energy | A. $9 \times 10^{15} \text{J}$ B. $5 \times 10^{8} \text{J}$ C. $6 \times 10^{16} \text{J}$ D. $9 \times 10^{-16} \text{J}$ |
| 8 | Compton was awarded Nobel prize in physics in | A. 1921 B. 1923 C. 1925 D. 1927 |
| 9 | Position and momentum of a particle cannot both be measured simultaneously with perfect accuracy. This is the statement of | A. photoelectric effect B. pair production C. Compton effect D. uncertainty principle |
| 10 | When platinum wire is heated, it appears cherry red at | A. 1600°C B. 900°C C. 1100°C D. 1300°C |
| 11 | The threshold frequency of sodium is $6 \times 10^{6} \text{MHz}$. The cut-off wavelength for this metal will be | A. 500 m B. 500 nm C. 500 km D. 500 cm E. None of these |
| 12 | 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 |
| | | A. 0.5 to 1 m to possible |

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| 13 | With the help of 50 K v electron microscope, a resolution of | B. 1 m to 10 m is possible C. 0.5 to 1 nm is possible D. 1 to 10 nm is possible |
| 14 | The positron was discovered by: | A. In cosmic radiation B. In 1932 C. By Carl Anderson D. All above E. By direc |
| 15 | 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 travels in the opposite direction D. two photons which travel in any direction |
| 16 | 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 |
| 17 | Wave nature of particle was proposed by | A. Einstein B. Plank C. De-Brogile D. Max well |
| 18 | The special theory of relativity is based on: | A. Four postulates B. Three postulates C. Two postulates D. One postulate E. None of these |
| 19 | 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 |
| 20 | 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 |