# ECAT Pre General Science Physics Chapter 19 Dawn of Modern Physics

| Sr | Questions | Answers Choice |
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| 1 | Position and momentum of a particle cannot both be measured simultaneously with perfect accuracy. This is the statement of | A. photoelectric effect<br>B. pair production<br>C. Compton effect<br>D. uncertainty principle |
| 2 | With the help of 50 K v electron microscope, a resolution of | A. 0.5 to 1 m to possible<br>B. 1 m to 10 m is possible<br>C. 0.5 to 1 nm is possible<br>D. 1 to 10 nm is possible |
| 3 | The energy of a photon is represented by | A. h/c<sup>2</sup><br>B. h/T<br>C. hc<sup>2</sup><br>D. hf/c<sup>2</sup> |
| 4 | When the atomic particle are moving with velocities approaching that of light: | A. Newton's laws become valid<br>B. Relativistic effects become prominent<br>C. Botha(A) and (B) are valid<br>D. Neither (A)nor (B)<br>E. There mass becomes zero. |
| 5 | Practically the quantity v/c is always: | A. less than one<br>B. Equal to one<br>C. Greater then one<br>D. all of these<br>E. None of these |
| 6 | Which of the following is not an example of intertial frame | A. a body placed on the surface of earth<br>B. a body placed in a car moving with uniform velocity<br>C. a body placed in a car moving with same acceleration<br>D. none of these |
| 7 | Max plank received the Nobel Prize in physics for his discovery of energy quanta in | A. 1900<br>B. 1906<br>C. 1912<br>D. 1918 |
| 8 | The photon of radio-waves has energy of about | A. 1 Me V<br>B. 1 Ke v<br>C. 10<sup>-10</sup>e v<br>D. 10<sup>10</sup>e v |
| 9 | Electromagnetic -radiation means: | A. Photons<br>B. protons<br>C. Electrons<br>D. Mesons<br>E. None of these |
| 10 | When platinum wire is heated, it appears cherry red at | A. 1600°C<br>B. 900°C<br>C. 1100°C<br>D. 1300°C |
| 11 | The length contraction happens only | A. Opposite to the direction of motion<br>B. along the direction of motion<br>C. perpendicular to the direction of motion<br>D. In any direction |
| 12 | S.I. unit of planks constant is | A. J-s<sup>-1</sup><br>B. J.s<br>C. J.s<sup>-2</sup><br>D. J.s<sup>2</sup> |

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| 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 0.95 c with respect to the pendulum | A. 2.9 s<br>B. 3.0 s<br>C. 6.6 s<br>D. 9.6 s |
| 14 | A photon is considered to have | A. Momentum<br>B. Energy<br>C. Wavelength<br>D. All of the above |
| 15 | If the radius of first orbit of hydrogen atom is 0.53° A the radius of second orbit will be | A. 2.120°A<br>B. 0.212°A<br>C. 21.2°A<br>D. 0.14° a |
| 16 | According to the special theory of relativity | A. mass and energy are same entities<br>B. mass and energy are same entities but interconverible<br>C. mass and energy are different entities but interconverible<br>D. mass and energy are different entities but non-interconveritble |
| 17 | The concept of direction is purely: | A. Absolute<br>B. Relative<br>C. Relative to stars always<br>D. Relative to the sun always<br>E. None of these |
| 18 | When a position comes close to an electron they annihilate into | A. one photon<br>B. two photons which travel in the same direction<br>C. two photons which travels in the opposite direction<br>D. two photons which travel in any direction |
| 19 | A black body is | A. an ideal absorber<br>B. an ideal radiator<br>C. both of them<br>D. none of them |
| 20 | A high temperature, the proportion of shorter wavelengths radiation, emitted by the body | A. decreases<br>B. first increases then decreases<br>C. increases<br>D. any one of them |