# ECAT Physics Chapter 19 Dawn of Modern Physics

| Sr | Questions | Answers Choice |
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| 1 | 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<br>B. Newtonian mechanics<br>C. quantum mechanics<br>D. statistical mechanics |
| 2 | A particle having mass and charge equal to that of an electron is called: | A. Proton<br>B. Positron<br>C. Pion<br>D. Pi-meson<br>E. Both (C) and (D) |
| 3 | Photoelectric effect takes place with a photon of: | A. Very high energy<br>B. Very low energy<br>C. Low energy<br>D. High energy<br>E. None of these |
| 4 | Compton was awarded Nobel prize in physics in | A. 1921<br>B. 1923<br>C. 1925<br>D. 1927 |
| 5 | The stopping voltage for a certain metal is 100 volts, then the work function for the cathode plate is | A. 100 J<br>B. 1.6 x 10<sup>-17</sup>J<br>C. 100 eV<br>D. 1.6 x 10<sup>-17</sup>eV |
| 6 | In process of annihilation of matter, the two photons produced move in opposite direction to converse | A. momentum<br>B. charge<br>C. energy<br>D. mass |
| 7 | When a platinum wire is heated, it appears white at | A. 1600°C<br>B. 900°C<br>C. 1100°C<br>D. 1300°C |
| 8 | Compton derived an expression to find compton shift by applying to the process, the law of conservation of: | A. Energy only<br>B. Momentum only<br>C. Mass only<br>D. Charge only<br>E. Both (A) and (B) |
| 9 | Photoelectrons are emitted when ultraviolet light falls on: | A. Casium<br>B. Silver<br>C. Potassium<br>D. Any of these<br>E. None of these |
| 10 | If you are moving at relativistic speed between two points that are a fixed distance apart, then the distance between the two points appers | A. larger<br>B. shorter<br>C. equal<br>D. none of these |
| 11 | A bar 1.0 m in length and located along x-axix 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<br>B. 1.0 m<br>C. 0.66 m<br>D. 2.66 m |
| 12 | When a platinum wire is heated, it appears yellow at | A. 1600°C<br>B. 900°C<br>C. 1100°C<br>D. 1300°C |
| 13 | Current, voltage, resistance measuring circuit is connected with the galvanometer with the help of switch, known as | A. ON switch<br>B. off switch<br>C. function switch |

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| | | D. none of these |
| 14 | There is certain frequency below which no electrons are emitted from the metal surface, this frequency is known as | A. maximum frequency<br>B. minimum frequency<br>C. threshold frequency<br>D. all of these |
| 15 | When a position comes close to an electron they annihilate into photons such that | A. each photon has energy 0.51 Me v<br>B. each photon has energy 1.02 Me v<br>C. each photon has energy 0.25 Me v<br>D. none of these |
| 16 | Which one of the following physical quantities changes with relativistic speed | A. Length<br>B. Mass<br>C. Time<br>D. All of the above |
| 17 | Newton's law of motion do not hold in | A. an accelerated frame of reference<br>B. an unaccelerated frame of reference<br>C. both of these<br>D. none of these |
| 18 | The inside cavity of the black body is | A. painted white<br>B. painted silver<br>C. blackened with soot<br>D. painted red |
| 19 | The intensity of emitted energy (with wavelength) radiated from a black body at different temperatures was initially measured by: | A. Lummer<br>B. Planck<br>C. Pringsheim<br>D. Both (A ) and (B)<br>E. Both (A) and (C) |
| 20 | According to the electromagnetic wave theory of light, increasing the intensity of incident light should increase the | A. number of photoelectrons<br>B. size of the photoelectrons<br>C. charge on photoelectrons<br>D. K.E of photoelectrons |