Physics ECAT Pre Engineering Online Test

Sr	Questions	Answers Choice
1	The range of particle depends upon the factor	A. charge, mass and energy of particle B. density of medium C. ionization potential of the atoms D. all the above
2	The distance travelled byα-particle in a medium before coming to rest, is called	A. range ofγ-particle B. range of neutrons C. range of particle D. none of these
3	Which of the following material has smaller has life	A. uranium B. polonium C. radium D. radian
4	Which of the following material has longer half life	A. radium B. polonium C. radium D. uranium
5	The half life of uranium-238 is	A. 6.2 x 10⁹years B. 4.5 x 10⁹days C. 4.5 x 10⁹years D. 1.3 x 10⁶years
6	The half lie of radium-226 is	A. 238 years B. 4.5 x 10⁹days C. 1620 years D. 332 years
7	The unit of decay constant is	A. sex B. sec² C. sec⁻¹ D. sec⁻²
8	Fraction of the decaying atoms per unit time is called	A. decay atom B. decay element C. decay constant D. decay
9	In radioactive decay, the new element which is formed due to the disintegration of original element is called	A. element B. daughter element C. parent element D. none of these
10	In radio-active decay, the original element which disintegrate to another element is called	A. element B. daughter element C. parent element D. none of these
11	The emission of radiations take place in elements, having charge number greater than	A. 109 B. 82 C. 69 D. 52
12	The time required for a radioactive material to decrease in active by one half is called	A. half time B. half life C. disintegration time D. mean life
13	The half life of radioactive substances depends upon	A. amount of substance B. energy of substance C. state of substance D. temperature of substance
14	Different radioactive material have	A. same half lives B. different half lives C. same mean lives D. same total lives

15	The rate of decay of a radioactive substance	A. decrease exponentially with time B. decreases linearly with time C. increases linearly with time D. increases exponentially with time
16	After alpha decay the atomic number of the atom	A. increase by four B. decreases by two C. increases by two D. decrease by four
17	When radioactive nucleus emits aβ-particle, the proton-neutron ratio	A. decrease B. increase C. same D. none of these
18	Phenomenon of radioactivity is due to disintegration of	A. nucleus B. neutron C. proton D. molecule
19	A curie represents a very strong source of	A. α-particle B. β-particle C. γ-particle D. none of these
20	The rate of decay of radioactive substance	A. is constant B. decrease exponentially with time C. varies inversely as time D. decreases linearly with time
21	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
22	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
23	de-Broglies hypthesis was experimentally verified by	A. Maxwell B. Compton C. Einstein D. Davison and Germer
24	G.P. Thomson observer 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
25	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
26	Wave nature of particle was proposed by	A. Einstein B. Plank C. De-Brogile D. Max well
27	Momentum is a parameter associated with	A. wave motion B. particle motion C. neither wave nor particle motion D. none of these
28	With the help of 50 K v electron microscope, a resolution of	A. 0.5 to 1 m to possible B. 1 m to 10 m is possible C. 0.5 to 1 nm is possible D. 1 to 10 nm is possible
29	Which of the following phenomenon proves the particle nature of light	A. interference B. diffraction C. photoelectric effect D. none of these
30	An electron is accelerated through a potential difference of 50v. its de-Brogile wavelength is	A. 1.66 x 10⁻²⁹m B. 1.74 x 10⁻¹⁰cm C. 17.4 x 10⁻⁶m D. 1.74 x 10⁻¹⁰m