

ECAT Pre General Science Physics Chapter 21 Nuclear Physics

Sr	Questions	Answers Choice
1	Which of the following material has longer half life	A. radium B. polonium C. radium D. uranium
2	Radioactivity was discovered by	A. Rutherford B. Henri Becquereal C. Maxwell D. James Chadwick
3	The energy acquired by a mass of 1g moving with the speed of light is	A. 3×10^{18} J B. 9×10^{13} J C. 3×10^{13} J D. 9×10^{16} J
4	When a nucleus emits an alpha particle, it atomic mass decreased by	A. 2 B. 1 C. 4 D. 3
5	The reciprocal of decay constant λ of a radioactive material is:	A. Frequency B. Half life C. Year D. Mean life E. None of these
6	Mass of proton is	A. 1.67×10^{-27} kg B. 1.67×10^{-31} kg C. 1.66×10^{-34} kg D. 1.67×10^{-17} kg
7	A mass difference of 0.0012 u is equivalent to and energy of:	A. 0.5 Me V B. 1.13 MeV C. 5.13 MeV D. 1.13 keV E. 1.13 eV
8	There is present in paraffin a large amount of:	A. Nitrogen B. Hydrogen C. Carbon D. Baryllium E. Lithium
9	Hydrogen atom with only one proton in its nucleus, and one electron in its orbit is called	A. deuteron B. deterium C. protium D. tritium
10	The penetration power of β -particle is	A. zero B. less than α -particle C. equal to α -particle D. greater than α -particle
11	The number if neutrons in the nucleus of ${}_{92}\text{U}^{235}$ are	A. Infinite B. 92 C. 235 D. 143
12	Phenomenon of radioactivity is due to disintegration of	A. nucleus B. neutron C. proton D. molecule
13	Rutherford performed an experiment on nuclear reactions in:	A. 1718 A.D B. 1818 A.D C. 1918 A.D D. 2021 A.D

		D. 2001 A.D. E. 1701 A.D.
14	γ -rays behave like a particle because they explain the	A. Compton effect B. Photoelectric effect C. Pair-production D. all the above
15	Neutron was discovered by	A. Curie B. Roentgen C. Chadwick D. Rutherford
16	U-238 present in the natural uranium is about:	A. 59% B. 0.007% C. 99% D. 39% E. 19%
17	The energy is found from Einstein's mass energy relation is called	A. binding energy of electron B. binding energy of proton C. binding energy of neutron D. binding energy of nucleus
18	The mass of the nucleus is always less than the total mass of the protons and neutron that make up the nucleus. The difference of the two masses is called	A. nuclear fission B. nuclear fusion C. mass defect D. radioactivity
19	Referring to the above figure, the binding energy per nucleon increases upto mass number equal to:	A. 50 B. 100 C. 150 D. 200 E. 250
20	The unit of decay constant is:	A. Second B. Metre C. Hour D. Year E. Second ⁻¹