

## Physics ECAT Pre Engineering Chapter 21 Nuclear Physics

Sr	Questions	Answers Choice
1	The chemical properties of all the isotopes of an elements are	A. same B. different C. slightly different D. none of these
2	Charge on proton is	A. $1.59 \times 10^{-9}$ C B. $1.59 \times 10^{-7}$ C C. $-1.59 \times 10^{-19}$ C D. $1.59 \times 10^{-19}$ C
3	The penetration power of $\beta$ -particle is	A. zero B. less than $\alpha$ -particle C. equal to $\alpha$ -particle D. greater than $\alpha$ -particle
4	According to Rutherford atomic model, the positive charge in an atom	A. is concentrated at its centre B. is in the form of positive electron at same distance from its centre C. is spread uniformly through its volume D. none of these
5	When radioactive nucleus emits $\alpha$ -particle, the proton-neutron ratio	A. decrease B. increase C. same D. none of these
6	The range of $\beta$ -particle in air is greater than that of $\alpha$ -particle by	A. 1000 times B. 100 times C. 15 times D. 10 times
7	Neutrons are	A. positive charge B. negatively charged C. massless D. neutral
8	In his experiment on nuclear reactions, Rutherford bombarded $\alpha$ particles on:	A. Nitrogen B. Hydrogen C. Lead D. Oxygen E. Krypton
9	Marie Curie and Pieree Curie discovered two new radioactive elements, which are called	A. polonium uranium B. uranium and radium C. polonium and radium D. none of these
10	How many isotopes of helium are present?	A. 1 B. 2 C. 3 D. 4
11	For Protium, the mass defect is:	A. Infinite B. Zero C. Very large D. A few grams E. None of these
12	The nucleus of uranium -235 differs from a nucleus of a uranium -238 in that the later contains	A. 3 more neutrons B. 3 more electrons C. 3 more protons D. 3 more ions
13	Different radioactive material have	A. same half lives B. different half lives C. "

		C. same mean lives D. same total lives
14	Referring to the above figure, we can say that of all the elements, the most stable element is	A. Phosphours B. Iron C. uranium D. Lithium E. Bismuth
15	Radioactivity	A. is exhibited more by semiconductors in general B. in exhibited more by the element when they are coupled C. with other radioactive elements by a covalent bond D. is an atomic property of radioactive elements
16	When a nucleus emits an alpha particles, its charge number decreases by	A. 3 B. 2 C. 6 D. 5
17	Alfa particles are	A. hydrogen nuclei B. helium nuclei C. electrons D. photons
18	U-238 present in the natural uranium is about:	A. 59% B. 0.007% C. 99% D. 39% E. 19%
19	The diameter of an atom is of the order	A. $10^{125}$ m B. $10^{11}$ m C. $10^{10}$ m D. $10^9$ m
20	In 1932 Chadwick discovered	A. proton B. neutron C. photon D. electron