

## Physics ECAT Pre Engineering Chapter 21 Nuclear Physics

Sr	Questions	Answers Choice
1	Different radioactive material have	A. same half lives B. different half lives C. same mean lives D. same total lives
2	A pair of quark and antiquark makes a:	A. Meson B. Baryon C. Proton D. Neutron E. None of these
3	Which of the following material has smaller has life	A. uranium B. polonium C. radium D. radian
4	Pair production take place when energy of $\gamma$ -rays photon is	A. equal to 1.02 Mev- B. greater than 1.02 Mev C. less than 1.02 Mev D. none of these
5	Mass of proton is of order of	A. $10^{-31}$ gm B. $10^{-27}$ kg C. $10^{-24}$ gm D. $10^{-27}$ kg
6	The most abundant isotope of neon is	A. neon-20 B. neon-21 C. neon-22 D. neon-23
7	For an atom having atomic number Z and atomic weight A, the number of electron in an atoms	A. A - Z B. A + Z C. Z D. A
8	For an atom having atomic number Z and atomic weight A, the charge on the nucleus is	A. A - Z B. A + Z C. Z D. A
9	When a charged particle passes through matter, it produces ionization, this effect is used in	A. fission reaction B. reactor C. radiation detector D. fusion reaction
10	In his experiment on nuclear reactions, Rutherford bombarded $\alpha$ particles on:	A. Nitrogen B. Hydrogen C. Lead D. Oxygen E. Krypton
11	Curie is a unit of	A. reluctance B. resistivity C. binding energy D. radioactivity
12	The number of isotopes of hydrogen are	A. 2 B. 1 C. 3 D. 4
13	Gamma rays consist of stream of	A. electron B. proton C. photons D. all of these
14	Nuclei that have the same charge number but different mass number are called	A. isotones B. isomers C. isotopes D. isobars
15	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

16 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

17 The half life of radioactive substances depends upon

- A. amount of substance
- B. energy of substance
- C. state of substance
- D. temperature of substance

18 Rutherford performed an experiment on nuclear reactions in:

- A. 1718 A.D
- B. 1818 A.D
- C. 1918 A.D
- D. 2001 A.D.
- E. 1701 A.D.

19 When thorium nucleus emits  $\alpha$ -particle, the daughter nucleus is called:

- A. Protactinium
- B. Actinium
- C. Uranium
- D. Radium
- E. Redon

20 The unit of decay constant is

- A. sex
- B.  $\text{sec}^{-2}$
- C.  $\text{sec}^{-1}$
- D.  $\text{sec}^{-2}$