

## MDCAT Physics Chapter 16 Nuclear Physics MCQ's Test

Sr	Questions	Answers Choice
1	A radioactive nucleus can emit:	A. Electron B. <input type="checkbox"/> particles C. Positron D. Any of these
2	Beta particles have penetration of about:	A. 100 times more than that of the gamma particles B. 100 times less than that of an alpha ray C. 100 times more than that of an alpha ray D. 10 times more than that of an alpha particle
3	The rate of decay radioactive substance:	A. Is constant B. Decrease exponentially with time C. Varies inversely with time D. Decrease linearly with time
4	Three quarks make up a:	A. Leptons B. Mesons C. Baryons D. Quark
5	Which row is correct for fission and for fusion?	A. Produces larger nuclei B. Produces larger nuclei C. Produces smaller nuclei D. Produces smaller nuclei
6	For atomic nucleus, the binding energy per nucleon with increase in mass number:	A. Increases continuously B. Remains same C. Decrease continuously D. First increases and then decreases with increase in mass number
7	Which of the following have maximum ionization power?	A. <input type="checkbox"/> -rays B. <input type="checkbox"/> -rays C. <input type="checkbox"/> -rays D. Same for all
8	Beta particles have less ionizing power than that of alpha particles because:	A. Their smaller energy B. Their smaller mass C. Their smaller density D. Their smaller charge
9	The example of nuclear fusion is:	A. Formation of barium and krypton from uranium B. Formation of plutonium -235 from uranium -235 C. Formation of helium from hydrogen D. Formation of water from hydrogen and oxygen
10	If the radioactive substance reduces to <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> PHYSICS of its original mass in 40 days then its half-life is:	A. 10days B. 20days C. 40days D. 4days
11	The half-life of a certain element is 3.5 days at STP. If the temperature is doubled and pressure is reduced to half then half-life of the same element will be:	A. 1.75 days B. 3.5 days C. 7 days D. 14 days
12	The binding energy per nucleon is:	A. Greater for heavy nuclei B. Least for heavy nuclei C. Greatest for light nuclei D. Greatest for medium nuclei
13	The mother and daughter elements with the emission of <input type="checkbox"/> - <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> , are called:	A. Isotopes B. Isobars C. Isomers D. Isodiapheres

14	Due to emission of $\alpha$ - $\gamma$ :	A. Mass of the nucleus increases B. Mass of the nucleus decreases C. Charge on the nucleus increases D. Charge number decreases
15	A radioactive isotope ${}^{238}_{92}\text{U}$ decays consecutively to ${}^{206}_{82}\text{Pb}$ the particles emitted are:	A. One $\alpha$ and one $\beta$ B. Two $\alpha$ and one $\beta$ C. $e^-$ and two $\alpha$ D. Two $\alpha$ and two $\beta$
16	Because of large mass when $\alpha$ -particle enters the atom or molecule it:	A. Moves in zigzag path B. Moves along straight line C. Moves along circular path D. None of these
17	Nuclear fission experiments show that the neutrons the uranium nuclei into two fragment of about the same size. This process is accompanied by the emission of several:	A. Protons and positrons B. $\alpha$ -particles C. neutrons D. Protons and $\alpha$ -particles
18	The more readily fissionable isotope of uranium has an atomic mass of:	A. 220 B. 230 C. 235 D. 240
19	The half-life of a radioactive element which has only $1/32$ of its original mass left after a lapse of 60 days is:	A. 12days B. 10days C. 22days D. 36days
20	The activity of a radioactive sample is 1.6 curie and half-life is 2.5 days. Its activity after 10 days will be:	A. 0.8 Curie B. 0.1Curie C. 0.4 Curie D. 0.16 Curie