

MDCAT Physics Chapter 16 Nuclear Physics MCQ's Test

Sr	Questions	Answers Choice
1	The number of electrons in a nucleus X of atomic number Z and mass number A is:	A. A B. W C. Z D. Y
2	The uranium Nucleus undergoes successive decays, emitting respectively -	A. 90, 238 B. 91, 234 C. 92, 236 D. 92, 238
3	A radioactive nucleus can emit:	A. Electron B. □ particles C. Positron D. Any of these
4	□, □ □□□ radiations come out of radioactive substance:	A. Spontaneously B. When it is put in a reactor C. When it is heated D. Under pressure
5	When the radioactive nucleus emits a beta particle, the proton neutron ration:	A. increases by one B. Remains same C. Decreases by one D. Decreases by four
6	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
7	The rate of decay radioactive substance:	A. Is constant B. Decrease exponentially with time C. Varies inversely with time D. Decrease linearly with time
8	The more readily fissionable isotope of uranium has an atomic mass of:	A. 220 B. 230 C. 235 D. 240
9	If the radioactive substance reduces to $\hfill\Box$ PHYSICS of its original mass in 40 days then its half-life is:	A. 10days B. 20days C. 40days D. 4days
10	During a negative β-decayv	A. An atomic electron is ejected B. A neutron in the nucleus decays emitting an electron C. An electron which already preser within the nucleus is ejected D. A part of binding energy of nucle is converted into electron
11	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. □ -partilces C. neutrons D. Protons and □ -partilces
12	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
13	A thorium nucleus is formed when a uranium nucleus emits an □ −particles. Atomic number of thorium is :	A. 23 B. 60 C. 90 D. 70
14	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

15	The activity of a radioactive sample is 1.6 curie and half-life is 2.5 days. Its activity after 10 days will be:	B. 0.1Curie C. 0.4 Curie D. 0.16 Curie
16	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
17	Which of the following have maximum ionization power?	A. □ -rays B. □ -rays C. □ -rays D. Same for all
18	The phenomenon of radioactivity is associated with:	A. Fission of nucleus B. Disintegration of neutrons C. Emission of spectral lines D. Spontaneous disintegration of the nuclei of atoms
19	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
20	In nuclear fission reaction, when the products are 140X and 94Sr, the number of neutrons emitted is	A. 1 B. 2 C. 5 D. 9