MDCAT Physics Chapter 16 Nuclear Physics MCQ's Test

Sr	Questions	Answers Choice
1	When a radioactive nucleus remits a beta particle, the proton neutron ratio:	A. Decreases B. Increases C. Remain same D. None of the above
2	During a negative β-decay	A. An atomic electron is ejected B. A neutron in the nucleus decays emitting an electron C. An electron which already present within the nucleus is ejected D. A part of binding energy of nuclei is converted into electron
3	Three quarks make up a:	A. Leptons B. Mesons C. Baryons D. Quark
4	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
5	The rate of decay radioactive substance:	A. Is constant B. Decrease exponentially with time C. Varies inversely with time D. Decrease linearly with time
6	The more readily fissionable isotope of uranium has an atomic mass of:	A. 220 B. 230 C. 235 D. 240
7	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
8	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
9	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
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 present within the nucleus is ejected D. A part of binding energy of nuclei is converted into electron
11	A radioactive isotope □□□ □ decays consecutively to □□□ □ the particles emitted are:	A. One □ and one □ B. Two □ and one □ C. e □ and two □ D. Two □ and two □
12	A radioactive nucleus can emit:	A. Electron B. □ particles C. Positron D. Any of these
13	When a radioactive nucleus emits a □ −paritcles, the mass number of the atom:	A. Increases by one B. Decreases by one C. Remains the same D. Decreases by four
14	The mother and daughter elements with the emission of □ − □□□□, are called:	A. Isotopes B. Isobars C. Isomers

		D. Isodiapheres
15	In 420 days, the activity of a sample of polonium (Po) fell to one-eight of its initial value. The half-life of polonium is :	A. 140days B. 45days C. 87days D. 90days
16	□, □ □□□ radiations come out of radioactive substance:	A. Spontaneously B. When it is put in a reactor C. When it is heated D. Under pressure
17	A count rate 240 per minute reduces to 30 counts per min in 1 hour. The half-life of source is:	A. 20min B. 60min C. 80min D. 90min
18	The uranium Nucleus □□□ □ undergoes successive decays, emitting respectively □ − □□□,□ − □□□ □□□ − □□□□. What is the atomic number and atomic mass of the resulting nucleus:	A. 90, 238 B. 91, 234 C. 92, 236 D. 92, 238
19	Due to emission of □+ − □□□□:	A. Mass of the nucleus increases B. Mass of the nucleus decreases C. Charge on the nucleus increases D. Charge number decreases
20	If the radioactive substance reduces to □ □□ PHYSICS of its original mass in 40 days then its half-life is:	A. 10days B. 20days C. 40days D. 4days