MDCAT Physics Chapter 16 Nuclear Physics MCQ's Test

Sr	Questions	Answers Choice
1	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
2	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
3	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
4	The rate of decay radioactive substance:	A. Is constant B. Decrease exponentially with time C. Varies inversely with time D. Decrease linearly with time
5	The more readily fissionable isotope of uranium has an atomic mass of:	A. 220 B. 230 C. 235 D. 240
6	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
7	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
8	The particles equal in mass or greater than mass of protons are called:	A. Leptons B. Mesons C. Baryons D. Quarks
9	A radioactive nucleus can emit:	A. Electron B. □ particles C. Positron D. Any of these
10	Three quarks make up a:	A. Leptons B. Mesons C. Baryons D. Quark
11	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
12	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
13	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
14	When a radioactive nucleus remits a beta particle, the proton neutron ratio:	A. Decreases B. Increases

	[illegible]	C. Remain same D. None of the above
15	The mother and daughter elements with the emission of □ − □□□□, are called:	A. Isotopes B. Isobars C. Isomers D. Isodiapheres
16	Half-life of radon gas is:	A. 1620 years B. 3.8 days C. 7 days D. 11 days
17	In an □ −decay:	A. The parent and daughter nuclei have same number of protons B. The daughter nucleus has one proton more than parent nucleus C. The daughter nucleus has two protons less than parent nucleus D. The daughter nucleus has two neutrons more than parent nucleus
18	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
19	□, □ □□□ radiations come out of radioactive substance:	A. Spontaneously B. When it is put in a reactor C. When it is heated D. Under pressure
20	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