MDCAT Physics Chapter 16 Nuclear Physics MCQ's Test

Sr	Questions	Answers Choice
1	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
2	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
3	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
4	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
5	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
6	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
7	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
8	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
9	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
10	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
11	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
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	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

14	The particles equal in mass or greater than mass of protons are called:	A. Leptons B. Mesons C. Baryons D. Quarks
15	The fusion of hydrogen into helium is more likely to take place:	A. At high temperature and high pressure B. At high temperature and low pressure C. At low temperature and low pressure D. At low temperature and high pressure
16	The most penetrating radiations out of the following is that of	A. □-rays B. β-rays C. α-particles D. X-rays
17	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
18	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
19	The rate of decay radioactive substance:	A. Is constant B. Decrease exponentially with time C. Varies inversely with time D. Decrease linearly with time
20	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