Exercise MCQs

Sr. No.	Questions	A	B	C	D
1	Isotopes are atoms of same element with different	✓atomic mass	atomic number	number of protons	number of electrons
2	One of the isotopes of uranium is $^{238}_{92}U$. The number of neutrons in this isotope is	92	✓146	238	330
3	Which among the following radiations has more penetrating power?	a beta particle	✓a gamma ray	an alpha particle	all have the same penetrating ability
4	What happens to the atomic number of an element which emits one alpha particle?	increases by 1	stays the same	✓decreases by 2	decreases by 1
5	The half-life of a certain isotope is 1 day. What is the quantity of the isotope after 2 days?	one-half	✓one-quarter	one-eighth	none of these
6	When Uranium (92 protons) ejects a beta particle, how many protons will be in the remaining nucleus?	89 protons	90 protons	91 protons	✓93 protons
7	Release of energy by the Sun is due to	nuclear fission	nuclear fusion	burning of gases	chemical reaction
8	When a heavy nucleus splits into two lighter nuclei, the process would	✓release nuclear energy	absorb nuclear energy	release chemical energy	absorb chemical energy
9	The reason carbon-dating works is that	plants and animals are such strong emitters of carbon-14	✓after a plant or animal dies, it stops taking in fresh carbon-14	there is so much non-radioactive carbon dioxide in the air	When plants or animals die. they absorb fresh carbon -14

Additional MCQs

Sr. No.	Questions	A	B	C	D
1	Proton heavier than electron	1636 times	1736 times	✓1836 times	1936 times
2	Atomic mass number can be found by relation	$Z - A$	$A + N$	✓$Z + N$	$Z + A$
3	The temperature of sun is	20 kilo Kelvin	30million Kelvin	✓20 million Kelvin	30 kilo Kelvin
4	The number of neutrons in tritium $(^{3}_{1}H)$ is	1	✓2	3	0
5	The number of neutrons in deuterium $(^{2}_{1}H)$ is	✓1	2	3	0
6	The number of neutrons in protium $(^{1}_{1}H)$ is	1	2	3	✓0
7	In α decay decrease in atomic number___and mass number ___	2, 1	✓2, 4	2, 2	Constant
8	Safe limit of radiation exposure is___per year	3 rem	4 rem	✓5 rem	6 rem
9	Patient should be exposed to X-rays with limit	0 to 1.0 rem	1 to 2 rem	✓ 0.1 to 1.0 rem	0.2 to 2.0 rem
10	Half life of hydrogen $^{1}_{0}H$ is	12 years	✓12.3 years	30 years	30.3 years
11	Half life of cobalt $^{14}_{6}Co$ is	12 years	12.3 years	✓30 years	30.3 years
13	Half life of carbon $^{14}_{6}C$ is	3750 years	5370 years	✓5730 years	7530 years
14	Half life of iodine $^{131}_{53}I$ is	✓8.07 days	9.08 days	10.6 days	16.9 days
15	Half life of lead $^{212}_{82}Pb$ is	8.07 hours	9.08 hours	✓10.6 hours	16.9 hours
16	Half life of polonium $^{194}_{84}Po$ is	0.1 sec	0.3 sec	0.5 sec	✓0.7 sec
17	Half life of polonium $^{210}_{84}Po$ is	12 years	12.3 years	130 years	✓138 years
18	Half life of uranium $^{235}_{92}U$ is	✓7.1×10^{8} years	3.0×10^{8} years	4.51×10^{9} years	3.5×10^{9} years
19	Half life of uranium $^{236}_{92}U$ is	7.1×10^{8} years	3.79×10^{5} years	✓4.51×10^{9} years	3.5×10^{6} years
20	Half life of plutonium $^{242}_{94}Pu$ is	7.1×10^{8} years	✓3.79×10^{5} years	4.51×10^{9} years	3.5×10^{6} years
21	Half life of plutonium $^{236}_{94}Pu$ is	0.85 years	1.85 years	✓2.85 years	3.5 years
22	Beta particle is actually	Neutrons	Positrons	✓Electron	Proton
23	Alpha particles are	Neutrons	✓Helium	Electron	Proton
24	During fission of 1 kg of uranium $^{235}_{92}U$ energy is released	✓67×10^{10} J **OR** 6.7×10^{11} J	65×10^{8} J	65×10^{8} J	67×10^{11} J
25	To burn 1 tone of coal ……energy is released	36×10^{11} J	2.6×10^{11} J	✓36×10^{9} J **OR** 3.6×10^{10} J	2.6×10^{10} J
26	Number of neutrons during emission of fission reaction are	2	✓3	4	5
27	To diagnose a brain tumor, it is used	$I - 131$	✓Phosph. -32	$Co - 60$	$C - 14$
28	The rays used during brain radiotherapy	$\alpha -$ rays	$\beta -$ rays	✓$\gamma -$ rays	$X -$ rays
29	$\alpha -$ rays passing through a gas produce	Evaporation	✓Ionization	Excitation	All of these
30	The half-life of radium-226 is	4000 years	2000 years	✓1620 years	5730 years

31	Electron volt is also a unit of energy used in atomic and nearly physics $1\text{eV} = ?$	1.6×10^{19} J	✓1.6×10^{-19} J	1.6×10^{18} J	1.6×10^{-18} J
32	Which of the following option is the stream of high energy electrons?	Alpha particles	✓Beta radiations	Gemma radiations	Positive ions
33	SI unit of radioactivity is	Rem	✓Bq	Bit	J
34	The process by which electron are emitted by hot metal surface is known	Conduction	Thermionic emission✓	Evaporation	boiling
35	Isotope of iodine-131 is used in treatment of	Blood cancer	Bone cancer	Lungs cancer	Thyroid cancer
36	One of the isotope uranium $^{238}_{92}\text{U}$. The number of neutrons in this isotope	92	146	238	330