MORE -QUESTIONS SOLVED

I. Multiple Choice Questions
Choose the correct option:
1. The nucleons are
(a) protons and electrons
(b) neutrons and electrons
(c) protons and neutrons
(d) none of these
2. The isotope deuterium of hydrogen has
(a) no neutrons and one proton
(b) one neutron and two protons
(c) one electron and two neutron
(d) one proton and one neutron
3. The electrons present in the outermost shell are called
(a) valency electrons
(b) octate electrons
(c) duplet electrons
(d) valence electron
4. An a-particle contains
(a) 4 positive charge and 2 mass unit
(b) 2 positive charge and 4 mass unit
(c) 2 positive charge and 2 mass unit
(d) 4 positive charge and 4 mass unit
5. The atomic number of sodium is 11 and its mass number is 23. It has
(a) 11 neutrons and 12 protons
(b) 12 protons and 11 electrons
(c) 11 electrons and 12 neutrons
(d) 12 electrons and 11 neutrons
6. The electronic configuration of chlorine is
(a) 2, 7
(b) 2, 8, 8, 7
(c) 2, 8, 7
(d) 2, 7, 8
7. The isotope used to remove the brain tumours and treatment of cancer is
(a) U-235
(b) Na-24
(c) Iodine
(d) Co-60
8. The isobars among the following is

(a) $^{40}_{20}Ca$ $^{35}_{17}Cl$ (b) $^{20}_{18}Ar$ $^{20}_{19}K$

(c) $^{16}_{8}O$ $^{18}_{8}O$ (d) $^{19}_{7}X$ $^{13}_{7}Y$

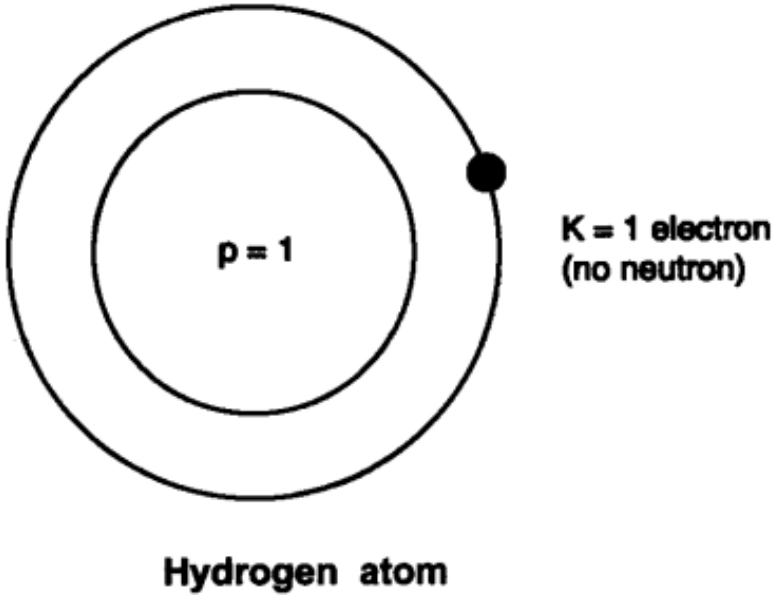
9. The elements with same valence electrons and form same type of ions

(a) $^{16}_{8}O$ $^{23}_{11}Na$ (b) $^{20}_{18}Ar$ $^{20}_{19}K$

(c) $^{14}_{5}N$ $^{27}_{13}Al$ (d) $^{23}_{11}Na$ $^{20}_{19}K$

10. In the α-scattering experiment, few α-particles rebounded because
(a) Most of the space in the atom is occupied.
(b) Positive charge of the atom occupies very little space.
(c) The mass of the atom is concentrated in the centre.
(d) all positive charge and mass of the atom is concentrated in small volume.
Answer: 1—(c), 2—(d), 3—(d), 4—(b), 5—(c), 6—(c), 7—(d), 8—(b), 9—(d), 10—(d).

II. Very Short Answer Type Questions
Question 1. Draw the atomic structure of hydrogen atom.
Answer:



Hydrogen atom

Question 2. Why are some elements chemically inert?
Answer: Because their outermost shell is completely filled.

Question 3. Why is atom electrically neutral?
Answer: It has same number of protons and electrons, (positive charge = negative charge).

Question 4. What is the charge and mass of a-particles?
Answer: Charge is + 2
Mass is 4 a.m.u.

Question 5. What are valence electrons?
Answer: Electrons present in the outermost shell of an atom are called valence electrons.

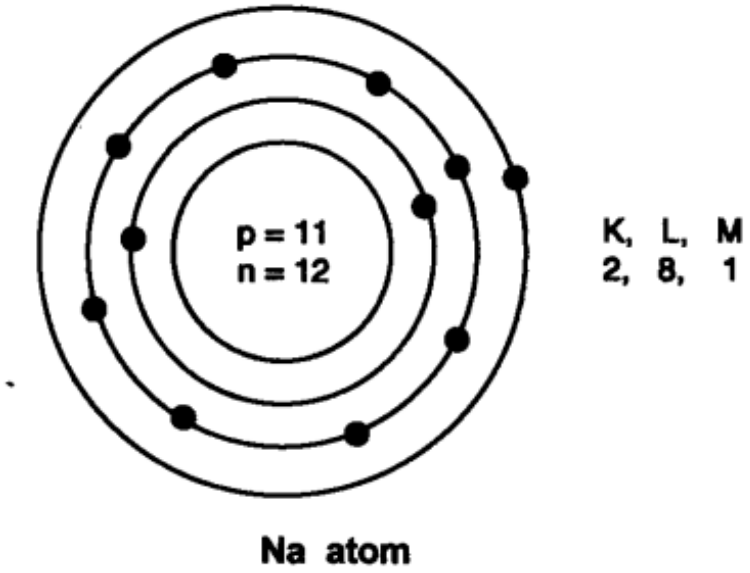
Question 6. An atom has atomic number 12, what is its valency and name the element?
Answer: Atomic number = 12
∴ Protons = Electrons = 12 Electrons Configuration = K L M -2 8 2
∴ Valency = 2
Element is magnesium.

Question 7. Find the number of neutrons in $^{27}_{13}X$.
Answer: Mass number = 27
∴ p + n = 27 p = 13, (Atomic No. = Number of protons)
∴ 13 + n = 27
∴ n = 14
∴ Neutron =14

Question 8. Where is the mass of atoiji concentrated?
Answer: Mass of an atom is concentrated in nucleus.

Question 9. Name two elements with same number of protons and neutrons?
Answer: Carbon (Protons = Neutrons = 6)
Oxygen (Protons = Neutrons = 8)

Question 10. Draw the atomic structure of sodium atom.
Answer:



Question 11. Name the isotope used for treatment of cancer.
Answer: Isotope of cobalt.

Question 12. AZX What does this symbol represent?
Answer: X → Symbol of element
A → Mass number
Z → Atomic number

Question 13. Can the value of 'Z' be same for two different atoms?
Answer: No, (Z = atomic number), two different atoms cannot have same atomic number.

Question 14. Can the value of A' be same for two different atom?
Answer: Yes, it can be e.g. Ca and Ar has A - 40 (i.e., mass number).

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