CLASS IX (ICSE)
Subject: Physics
Topic Atomic Structure

SUMMARY –

Dalton's atomic theory and modern atomic theory.
Discovery of electrons, protons, atomic nucleus (Rutherford's experiment), neutrons.
Atomic number, mass number, electronic configuration, octet rule.
Isotopes, isobars, formation of electrovalent and covalent compounds.

SECTION -1

1.Elements X, Y, Z have atomic numbers 6, 9 and 12 respectively. Which one
a.Forms anion – negative ion.
b.Forms cation – positive ion.
c.Has 4 electrons in the outermost orbit ?
2.Fill in the blanks spaces with appropriate words :
a.The charge on the positive rays depends upon_____ of gas in the _____ tube.
b.The anode rays (positive rays) obtained from _____ gas, consists of only protons.
3.What is the main cause of existence of isotopes ?
4.Why do all elements have fractional atomic mass ?
a) Name an element which has one valence electron, but is a non-metal.
5.Name an element which has two valence electrons, but is a noble gas.
6.Why do the isotopes of same elements have similar chemical properties ?

SECTION – 2

1. Draw the atomic structure of the following elements geometrically, clearly showing the
a.Number of protons,
b.Number of neutrons,
c.Number of electrons in various shell around nucleus

2.The ratio of isotopes of in natural chlorine is 1 : 3. Calculate the fractional atomic mass of chlorine.
3.Atomic number of elements A, B, C and D are 3, 9, 11, and17 respectively. Identify two pairs amongst the elements which have similar chemical properties. Which pair is likely to be metallic in character ?
4.Who discovered nucleus within an atom ?
5.Briefly describe the experiment which led to the discovery of nucleus.
6. State three ways by which a proton differs from an electron.

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