Chemistry Worksheets Class 9 on Chapter 4 Structure of the Atom- Set 1

Q-1: What is the distinction between atomic mass and mass number?
Q-2: Calculate the approximate charge in coulombs and mass in kilograms of the sodium-23 nucleus.

Q-3: Proton was discovered by
a) Thomson's
b) Goldstein
c) Rutherford
d) Chadwick

Q-4: Rutherford's scattering experiment lead to the discovery of
a) Electrons
b) Nucleus
c) Atom
d) alpha-particles

Q-6: The nucleus of deuterium contains
a) 1p + 1 e^-
b) 2p + 0n
c) 1p + 1n
d) 2p + 2n

Q-7: Which of the following electron-related statements is false?
a) It is a component of cathode rays
b) It is a negatively charged particle
c) An electron has the same mass as a neutron.
d) It is a fundamental constituent of all atoms.

Q-8: How will you determine the valency of the following?
a) Calcium
b) Oxygen
c) Neon

Q-9: Which of the following does not exhibit path deflection when passing through an electric field?
Proton, electron, cathode rays, neutrons, alpha particles

Q-10: Find the number of valence electrons in the following
a) Na^+
b) Cl^-
d) C

Q-11: What are the various uses of isotopes?

Q-12: a) What is Thomson's model of atom?
b) Why are Bohr's orbits called stationary orbits?

Q-13: Complete the following table:

Particle	Atomic number	Neutrons	Protons	Electrons	Mass number
Aluminium ion	13			10	
Nitrogen atom		7		7	
Phosphorus Atom			15		31
Bromine		45			80
Calcium ion		20	20		

Q-14: Which of the following electron configurations is correct for a magnesium atom?
a) 2,8
b) 2,2,8
c) 2,8,2
d) 8,2,2.

Q-15: What is the maximum number of electrons that an M-shell can hold?
a) 8
b) 18
c) 16
d) 32

Q-16:
Assertion: All isotopes of the given element show the same type of chemical behaviour
Reason: The chemical properties of an atom are controlled by the number of electrons in the atom.
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true and R is not the correct explanation of A.

c) A is true and R is false
d) Both A and R are false

Q-17: In each of the following cases, identify the element:
i) An element's trivalent anion with ten electrons
ii) An element's trivalent cation with ten electrons
What is the name of the relationship between the two ions?

Q-18: Fill in the blanks
a) Elements are defined by the number of _____ they possess.
b) _____ is the combining capacity of an atom.
c) The mass of a proton is _____- unit.
d) The chemical properties of isobars are _____.
e) According to Dalton's atomic theory an atom is _____ and _____.

Q-19: What do you mean by canal rays?

Q-20: Write the correct symbol for the atom with the given atomic number(Z) and atomic mass(A).
i) Z=9, A=19
II) Z= 92, A= 233
III) Z=3, A=7