

**CHEMISTRY NOTES FOR
CLASS VII
CHAPTER 4
ATOMIC STRUCTURE**

PAGE 64 WORK SHEET (answers only)

- i) Name the scientist who
- 1) Kanad
 - 2) John Dalton
 - 3) J.J. Berzelius

- ii) Complete the table by giving symbols and Latin names:

Symbol	Latin Names
1. Na	Natrium
2. K	Kalium
3. Fe	Ferrum
4. Ag	Argentum
5. Pb	Plumbum

- iii) Give examples of the following:
1. Helium (He)
 2. Oxygen (O₂)
 3. Ozone (O₃)
 4. Phosphorus (P₄)

- iv) An atom is electrically neutral explain

Atom is electrically neutral because number of protons is equal to number of electrons as a result, total positive charge is equal to negative charge.

- v) Fill up
1. Atomicity
 2. Symbol

- vi) Complete the following table

Element/ion	Atomic number	Mass number	Protons	Electrons	neutrons

	6	12	6	6	6
	17	35	17	18	18
	15	31	15	18	16
	11	23	11	10	12
	8	16	8	10	8

Worksheet page 68

S.No.	Element	Symbol	Atomic no.	Electronic Configuration	Number of Shells
1.	Carbon	C	6	2, 4 K L	2
2.	Aluminium	Al	13	2, 8, 3 K L M	3
3.	Oxygen	O	8	2, 6 K, L	2
4.	Magnesium	Mg	12	2, 8, 2 K L M	3
5.	Potassium	K	19	2, 8, 8, 1 K L M N	4
6.	Calcium	Ca	20	2, 8, 8, 2 K L M N	4
7.	Nitrogen	N	7	2, 5 K L	2
8.	Phosphorus	P	15	2, 8, 5 K, L, M	3
9.	Helium	He	2	2 K	1
10.	Hydrogen	H	1	1 K	1

Work sheet page 74

Write the chemical formula of the following compounds:

1. Al_2O_3
2. NaCl
3. $MgSO_4$
4. $(NH_4)_2SO_4$
5. $ZnCO_3$
6. $KHSO_3$
7. $Ca(HCO_3)_2$
8. AlN
9. CuCl
10. $Fe_2(SO_4)_3$
11. MnO_2
12. $Pb(OH)_2$
13. AgBr
14. $AgNO_3$

15. NH_4NO_3

Page 75 objective questions and answer

A. Tick the correct choice

1. d
2. c
3. d
4. b
5. c
6. b

B. write true or false

1. true
2. false
3. true
4. true
5. false
6. true
7. true
8. true
9. true
10. false

C. Name The Following Compounds.

1. Phosphorus Pentoxide
2. Phosphorus trichloride
3. Carbon monoxide
4. Sulphur trioxide
5. Carbon tetra chloride
6. Sulphur dioxide
7. Ammonia
8. Hydrogen sulphide
9. Nitrogen dioxide
10. Hydrogen chloride
11. Methane
12. Copper sulphate
13. Gold chloride
14. Zinc phosphate

D. Match the following

Coloumn A	Coloumn B
1.	c
2.	d
3.	b
4.	a
5.	f
6.	e

E. Answer the following questions

- Elements
- Hydrogen and Nitrogen
- Compounds
- J.J Berzelius
- Ozone
- Atomicity is defined as the number of atoms present in a molecule of an element.
- Significances of chemical formula
 - Chemical formula represents the name of the substances
 - It represents one molecule of the substances
 - It gives the name of atoms of the elements
 - It gives number of atoms of each of the elements
 - It gives molecular mass expressed in grams.
- 2O represents two atoms of oxygen.
O₂ represents one molecule of oxygen.
- A radical is a positively or negatively charged component of a compound consisting of a single atom or a group of atoms.
- When an atom loses electron, it becomes positively charged ion which is known as cation. E.g. Na²⁺
When an atom gains electron it becomes negatively charged in which is known as anion.
- Dalton's atomic theory:
 - Matter is made up of tiny particles called atoms.
 - Atoms are indivisible
 - Atoms cannot be created or destroyed
 - Atoms of the same elements are identified in mass and other properties.
 - Atoms of different elements differ in their masses and properties.
- J.J. Berzelius introduced the modern system of naming elements by their symbols, there are
 - Some elements are named on the basis of the first two letters which were already chosen E.g. Co for cobalt.
 - Some elements were named on the basis of Latin names E.g. K for potassium Latin name is Kalium.
- If any metallic elements show more than one valency then it is known as variable valency.
Example: Fe³⁺ (Ferric)
Fe²⁺ (Ferrous)

F. Select the odd one giving reason.

1. Compound as it is not part of an atom.
2. Calcium, it is not a Latin name of element where others are Latin names.
3. Bromine, it is a liquid non-metal.
4. Rubidium, it is a radioactive element, whereas others are normal elements.
5. Oxide, the valency is -2, whereas the others are having valency -1.

Write the formula of the following salts by criss-cross method

	FORMULAS BY CRIS
1. Lead nitrate	$Pb(NO_3)_2$
2. Zinc hydroxide	$Zn(OH)_2$
3. Copper sulphate	$CuSO_4$
4. Potassium sulphate	K_2SO_4
5. Ferrous sulphate	$FeSO_4$
6. Sodium bisulphate	$NaHSO_4$
7. Copper nitrate	$Cu(NO_3)_2$
8. Aluminium oxide	Al_2O_3
9. Ammonium phosphate	$(NH_4)_3PO_4$
10. Silver sulphide	Ag_2S
11. Potassium chlorate	$KClO_3$
12. Mercury (II) bromide	$HgBr_2$
13. Copper (II) nitrate	$Cu(NO_3)_2$
14. Iron (III) chloride	$FeCl_3$

Study the table and charts from page number 63,69,72,73

Compiled by Mr. Jesse Rante and Mr. L.B. Quiah

