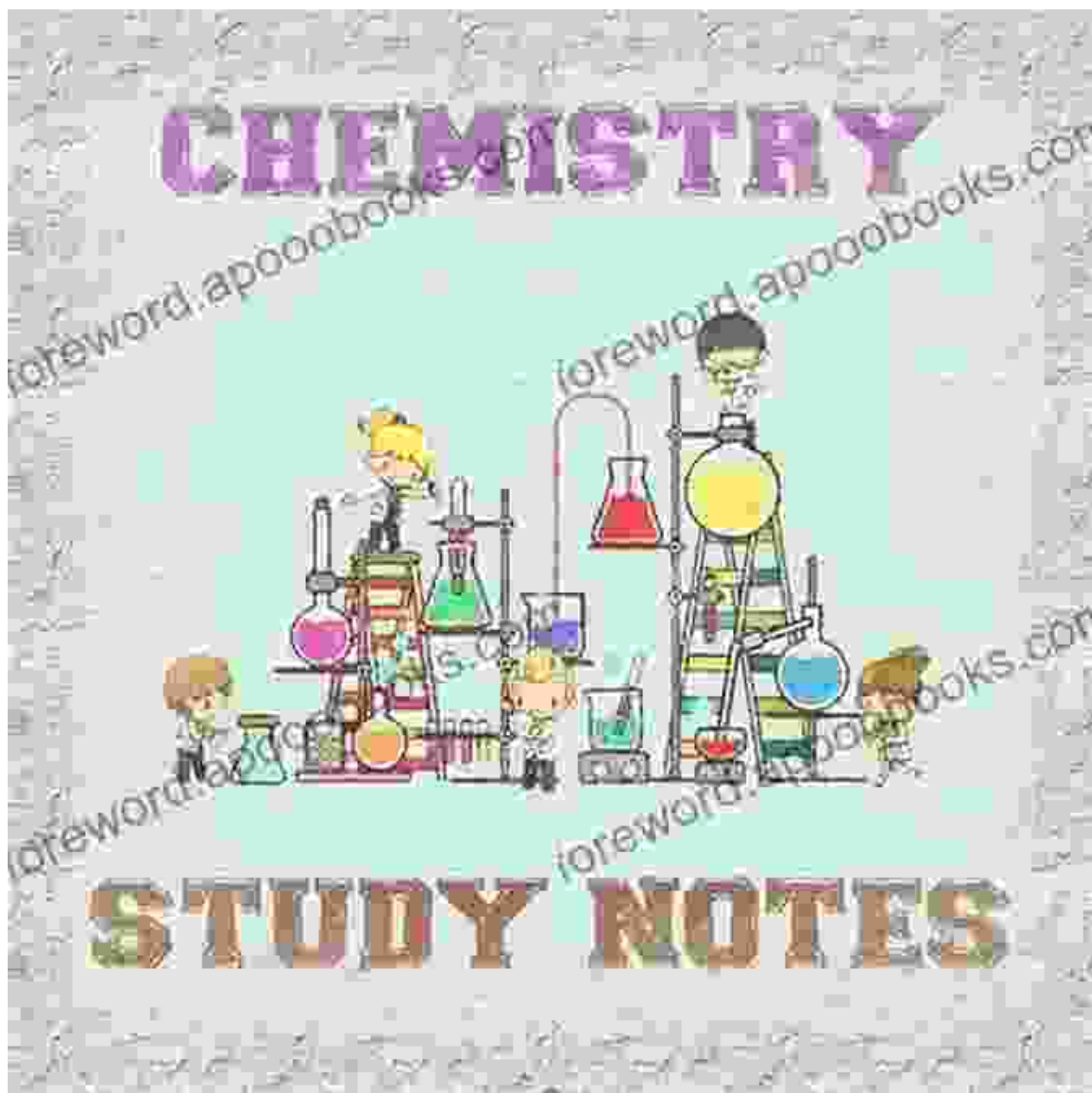


Class 11 Chemistry Notes Toppers Notes: Unveil the Secrets of Academic Success in Chemistry



Nomenclature

IONIC COMPOUNDS

- * An ionic bond is the transfer of electrons between a metal & a nonmetal, forming ions.
- * Metals become cations with a positive charge (ie. Na^+ , Ca^{2+} , Ga^{3+})
- * Nonmetals become anions with a negative charge (ie. Cl^- , O^{2-} , N^{3-})

CATION + ANION ROOT + IDE

NaCl \longleftrightarrow Sodium chloride
 MgO \longleftrightarrow Magnesium oxide

* Polyatomic ions are written as is, in case of cation or anion.

* Transition metals without a fixed charge have (II), (III), (IV), etc. attached to the cation with deduced charge.

$\text{Ni}_3(\text{PO}_4)_2$ \longleftrightarrow nickel(II) phosphate
 FeCl_2 \longleftrightarrow iron(II) chloride
 $(\text{NH}_4)_2\text{CO}_3$ \longleftrightarrow ammonium carbonate

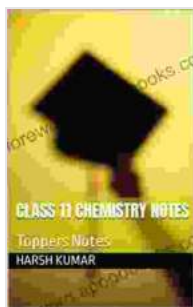


CHAPTER

01

SOME BASIC CONCEPTS OF CHEMISTRY

- **Matter** is substance which has mass and occupies space, e.g., water, air, box, table, etc.
- **State of Matter** Solid, liquid and gaseous state represent three different states of matter. Gaseous matter at very high temperatures consists gaseous ions and free electron and is referred to as the plasma state, i.e., fourth state of matter.
- **Homogenous**: These have uniform composition throughout, e.g., elements and compounds. Mixture can also be homogenous.
- **Heterogeneous**: These do not have uniform composition, e.g., mixture of iron filings and sulphur powder.
- **Element**: It is a substance which cannot be further divided by chemical methods. It is a pure substance and consists of only one kind of atoms. They are metals, non-metals and metalloids (resemble both metal and non-metal), e.g., Fe, Al, Ni, Au, Ag are metals; C, S, N, I₂ are non-metals; B, Si, As, Se are metalloids. They are pure substances.
- **Compound**: It is a pure substance made up of two or more elements combined together in fixed ratio, e.g., NaCl, FeS, CuSO₄, H₂O, etc. Its components cannot be separated by simple physical methods.
 - (a) **Organic compounds**: They are compound containing carbon and few other elements like H, N, S, halogens, phosphorus, oxy generic, e.g., sugar, urea, glucose, etc.
 - (b) **Inorganic compounds**: They are made up of two or more elements and obtained from minerals and ores, e.g., NaCl, KCl, CaCO₃, etc.
- **Mixture**: It consists of two or more elements or compounds in any ratio. Its components can be separated by simple physical methods. It can be homogenous (e.g., solution of salt in water, sugar in water). It can be heterogeneous, e.g., smoke and particles in air, air, etc. Homogeneous mixture is also called solution.
- **Separation of Mixtures**: Mixtures are separated into its components depending upon the property of components in which they differ.
 - (a) **Filtration**: It is used to separate suspended (insoluble) component from a soluble component. The soluble component is left behind in the filter paper. Soluble component can be obtained by evaporation.
 - (b) **Simple Distillation**: It is used for separation of miscible liquids which differ in their boiling points appreciably, e.g., benzene and toluene can be separated by simple distillation.
 - (c) **Fractional Distillation**: It is used for separation of miscible liquids which differ in their boiling points appreciably, e.g., benzene and toluene can be separated by simple distillation.
- **Molecules**: They are identifiable parts of matter consisting of two or more atoms of the same element or of different elements combined in a definite ratio.
- **Atomicity**: It is defined as the number of atoms present in a molecule.
- **Monatomic**: They consist of only one



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Enhanced typesetting	: Enabled
Print length	: 98 pages



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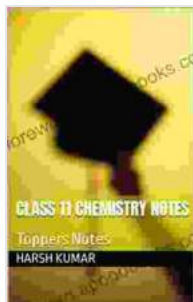
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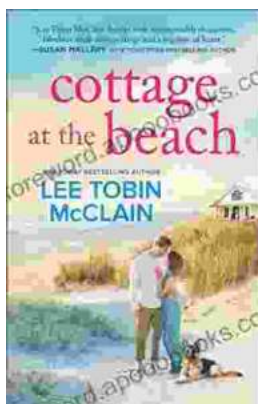
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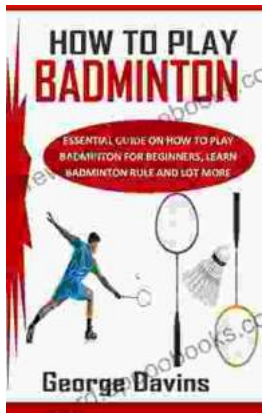
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