CBSE 12th Chemistry Practical Syllabus 2023-24

The experiments of CBSE 12th Chemistry Practical Syllabus 2023-24 have been divided into two sections: Section A and Section B. The experiments mentioned in Section B are mandatory. The details of both sections are listed below:

Section A

- **Surface Chemistry**

(a) Preparation of one lyophilic and one lyophobic sol

Lyophilic sol-starch, egg albumin, and gum

Lyophobic sol - aluminium hydroxide, ferric hydroxide, arsenious sulphide.

(b) Dialysis of sol-prepared in (a) above.

(c) Study of the role of emulsifying agents in stabilising the emulsion of different oils.

- **Chemical Kinetics**

(a) Effect of concentration and temperature on the reaction rate between Sodium Thiosulphate and Hydrochloric acid.

(b) Study of reaction rates of any one of the following:

(i) Reaction of Iodide ions with Hydrogen Peroxide at room temperature using different concentrations of Iodide ions.

(ii) Reaction between Potassium iodide (KIO_3) and Sodium Sulphite (Na_2SO_3) using starch solution as an indicator (clock reaction).

Also Read: CBSE Class 12 Deleted Syllabus 2023-24: For All Subjects

- **Thermochemistry (Any one of the following experiments)**

i) Enthalpy of dissolution of Copper Sulphate or Potassium Nitrate.

ii) Enthalpy of neutralisation of strong acid (HCl) and strong base (NaOH).

iii) Determination of enthalpy change during interaction (Hydrogen bond formation) between Acetone and Chloroform.

- **Electrochemistry**

Variation of cell potential in $Zn/Zn^{2+}||Cu^{2+}/Cu$ with change in concentration of electrolytes ($CuSO_4$ or $ZnSO_4$) at room temperature.

- **Chromatography**

i) Separation of pigments from extracts of leaves and flowers by paper chromatography and determination of Rf values.

ii) Separation of constituents in an inorganic mixture containing two cations only (constituents having significant differences in Rf values to be provided).

iii) Preparation of Inorganic Compounds

iv) Preparation of double salt of Ferrous Ammonium Sulphate or Potash Alum. Preparation of Potassium Ferric Oxalate.

- **Preparation of Organic Compounds (Preparation of any one of the following compounds)**

i) Acetanilide

ii) Di -benzalAcetone

iii) p-Nitroacetanilide

iv) Aniline yellow or 2 - Naphthol Aniline dye.

- **Tests for the functional groups present in organic compounds:**

Unsaturation, alcoholic, phenolic, aldehydic, ketonic, carboxylic, and amino (Primary) groups.

- **Characteristic tests of carbohydrates, fats, and proteins in pure samples and their detection in foodstuffs.**

- **Determination of concentration/ molarity of $KMnO_4$ solution by titrating it against a standard solution of:**

i) Oxalic acid,

ii) Ferrous Ammonium Sulphate

(Students will be required to prepare standard solutions by weighing themselves).

Section B - Qualitative Analysis (Mandatory)

Determination of one cation and one anion in a given salt.

Cation: Pb^{2+}, Cu^{2+} As^{3+}, $Aℓ^{3+}$, Fe^{3+}, Mn^{2+}, Zn^{2+}, Cu^{2+}, Ni^{2+}, Ca^{2+}, Sr^{2+}, Ba^{2+}, Mg^{2+}, NH_4^+

Anions: $(CO_3)^{2-}$, S^{2-}, $(SO_3)^{2-}$, $(NO_2)^-$, $(SO_4)^{2-}$, $Cℓ^-$, Br^-, I^-, PO_3^{-4}, $(C_2O_4)^{2-}$, CH_3COO^-,NO_3^-

(Note: Insoluble salts excluded)

PROJECT

Scientific investigations involving laboratory testing and collecting information from other sources. A few suggested Projects are listed below:

1. Study the presence of oxalate ions in guava fruit at different stages of ripening.
2. Study of quantity of casein present in different samples of milk.

3. Preparation of soyabean milk and its comparison with natural milk concerning curd formation, the effect of temperature, etc.
4. Study the effect of Potassium Bisulphate as a food preservative under various conditions (temperature, concentration, time, etc.)
5. Study of digestion of starch by salivary amylase and effect of pH and temperature on it.
6. Comparative study of the fermentation rate of the following materials: wheat flour, gram flour, potato juice, carrot juice, etc.
7. Essential oils are extracted from Saunf (aniseed), Ajwain (carum), and Illaichi (cardamom).
8. Study of typical food adulterants in fat, oil, butter, sugar, turmeric powder, chilli powder, and pepper.