Class-9 chemistry

There will be one paper of **two hours** duration of 80 marks and Internal Assessment of practical work carrying 20 marks.

The paper will be divided into two sections,

Section I (40 marks) and Section II (40 marks).

Section I (compulsory) will contain short answer questions on the entire syllabus.

Section II will contain **six** questions. Candidates will be required to answer any **four** of these **six** questions.
Note: All chemical reactions should be studied with reference to the reactants, products, conditions, observations and the (balanced) equations.

Chemistry-1 The Language of Chemistry:

• Symbol of an element; valency; • Relative Atomic Masses

Chemistry-2 Chemical changes and reactions:

• Types of chemical changes. • Energy changes in a chemical change

Chemistry-3 Water:

• Water as a universal solvent. • Hydrated and anhydrous substances. • Drying and Dehydrating Agents • Soft water and Hard water

Chapter-4 Atomic Structure and Chemical bonding:

• Structure of an Atom, • Electrovalent and covalent bonding

Chapter-5 The Periodic Table:

• Dobereiner's Triads, Newland's law of Octaves,

Chapter-6 Study of the First Element -Hydrogen:

• Position of the non-metal (Hydrogen) in the periodic table and general…• The preparation and collection of hydrogen

•Industrial manufacture of hydrogen • Oxidation and reduction reactions

Chapter-7 Study of Gas Laws:

• The behaviour of gases under changes of temperature and pressure;..... • Relationship between Kelvin scale

Chapter-8 Atmospheric pollution:

• Acid rain • Global warming • Ozone depletion

INTERNAL ASSESSMENT OF PRACTICAL WORK

Candidates will be asked to observe the effect of reagents and/or of heat on substances supplied to them. The exercises will be simple and may include the recognition and identification of certain gases listed below.

Gases: Hydrogen, Oxygen, Carbon dioxide, Chlorine, Hydrogen chloride, Sulphur dioxide, Hydrogen sulphide, Ammonia, Water vapour, Nitrogen dioxide. Candidates are expected to have completed the following minimum practical work.

Simple experiments on:

1.Action of heat on the following compounds:

(a) copper carbonate, zinc carbonate

(b) washing soda, copper sulphate crystals

(c) zinc nitrate, copper nitrate, lead nitrate

(d) ammonium chloride, iodine, ammonium dichromate

Make observations, identify the products and make deductions where possible.

2. Action of dilute sulphuric acid on the following substances. (warm if necessary)

(a) a metal

(b) a carbonate

(c) a sulphide

(d) a sulphite

Make observations, identify the gas evolved and make deductions

3. Apply the flame test to identify the metal in the unknown substance.

(a) a sodium salt

(b) a potassium salt

(c) a calcium compound

4. Simple experiments based on hard water and soft water – identification of hardness – simple softening – by heating the temporary hard water, using washing soda and advantage of using detergents over soap in hard water.

5. Find out the sources of pollution of water bodies in the locality. Suggest preventive steps to control it