

MONTHLY SYLLABUS

SESSION-2017-18

CLASS-X

SUBJECT : SCIENCE

MONTH	CONTENTS
April 2017	<p><u>CHAPTER 1: CHEMICAL REACTIONS</u></p> <p>Chemical equation, Balanced chemical equation implication of a balanced chemical equation, types of chemical reactions : Combination, decomposition, displacement, double displacement precipitation, neutralization, oxidation and reduction</p> <p style="text-align: center;">PRACTICAL 2</p>
	<p><u>CHAPTER 2: ACIDS, BASES AND SALTS</u></p> <p>Their definitions in terms of furnishing of H⁺ and OH⁻ ions, General properties, examples and uses, concept of p^H scale (Definition relating to logarithm not required), importance of p^H in everyday life; preparation and uses of sodium Hydroxide, Bleaching Powder, Baking Soda, Washing Soda and Plaster of Paris.</p> <p style="text-align: center;">PRACTICAL 1</p>
	<p><u>CHAPTER 12 : SOURCES OF ENERGY</u></p> <p>Different forms of energy, conventional and non-conventional sources of energy; Fossil fuels, Solar energy; biogas; Wind, Water and tidal energy Nuclear energy. Renewable versus non-renewable sources of Energy.</p>

<p>May 2017</p>	<p><u>CHAPTER 3: METALS AND NON METALS</u></p> <p>Properties of metals and non metals : Reactivity series; formation and properties of ionic compounds; Basic metallurgical processes; Corrosion and its prevention.</p> <p style="text-align: center;">PRACTICAL 3</p>
<p>July 2017</p>	<p><u>CHAPTER 6: LIFE PROCESSES</u></p> <p>‘Living Being’, Basic concept of nutrition respiration, transport and excretion in plants and animals.</p> <p style="text-align: center;">PRACTICAL 6, 7</p> <hr/> <p><u>CHAPTER 7: CONTROL AND CO-ORDINATION IN ANIMALS AND PLANTS</u></p> <p>Tropic movements in plants; Introduction of Plant hormones; Control and Co-ordination in animals; Nervous System; Voluntary, involuntary and reflexaction; Chemical Co-ordination; animal hormones.</p> <hr/> <p><u>CHAPTER 15- OUR ENVIRONMENT</u></p> <p>Eco-system, Environmental problems, Ozone depletion, Waste production and their solutions Biodegradable and non-biodegradable substances.</p>
<p>August 2017</p>	<p><u>CHAPTER 12: ELECTRICITY</u></p> <p>Electric current, potential difference and electric current. Ohm’s law; Resistance Resistivity, Factors on which the resistance of a conductor depends. Series combination of resistors, Parallel combination of resistors and its application in daily life. Heating effect of electric current and its applications in daily life. Electric power, Interrelation between P, V, I and R.</p>

	<p><u>CHAPTER 13: MAGNETIC EFFECTS OF CURRENT</u></p> <p>Magnetic field, field lines, field due to a current carrying conductor, field due to current carrying coil or solenoid; Force on current carrying conductor, Flemings Left Hand Rule, Electric Motor, Electromagnetic induction. Induced potential difference, Induced current. Fleming’s Right Hand Rule Electric Generator, Direct Current. Alternating current: Frequency of AC, Advantages of AC over DC. Domestic electric circuits.</p> <p><u>CHAPTER 16: MANAGEMNT OF NATURAL RESOURCES</u></p> <p>Conservation and Judicious use of natural resources. Forest and Wildlife; Coal and Petroleum conservation. Examples of people’s participation and conservation of natural resources. Big dams: advantages and limitations; alternatives, if any. Water harvesting, sustainability of natural resources.</p>
September 2017	<ul style="list-style-type: none"> • Revision of syllabus taught since April to August • Half yearly examination and Evaluation.
October 2017	<p><u>CHAPTER 4: CARBON AND ITS COMPOUNDS</u></p> <p>Covalent bonding in carbon compounds. Versatile nature of carbon. Homologus series. Nomenclature of carbon compounds containing functional groups (halogens, alcohol, ketones, aldehyde, alkanes and alkynes), difference between saturated hydrocarbons and unsaturated hydrocarbons. Chemical properties of carbon compounds (Combustion, oxidation, addition and substitution reaction). Ethanol and Ethanoic acid (only properties and uses), Soap and Detergent.</p> <p style="text-align: center;">PRACTICAL 8, 9</p>

	<p><u>CHAPTER 5: PERIODIC CLASSIFICATION OF ELEMENTS</u></p> <p>Need for classification, Early attempts at classification of elements (Dobereiner's Traids, Newland's Law of Octaves, Mendeleev's Periodic Table), Modern Periodic table, gradation in properties, Valency, atomic number, metallic and non-metallic properties.</p> <hr/> <p><u>CHAPTER 8: REPRODUCTION</u></p> <p>Reproduction in animals and plants (asexual and sexual) reproductive health need and method of family planning. Safe sex vs HIV / AIDS. Child bearing and women's health.</p> <p style="text-align: center;">PRACTICAL 12, 15</p>
November	<p><u>CHAPTER 9: HEREDITY AND EVOLUTION</u></p> <p>Heredity; Mendel's contribution – Laws of inheritance of traits: Sex determination: brief introduction; Basic concepts of evolution.</p> <hr/> <p><u>CHAPTER 10: LIGHT REFLECTION AND REFRACTION</u></p> <p>Reflection of light by curved surfaces, Images formed by spherical mirrors, centre of curvature, Principle axis, Principal focus focal length, mirror formula (Derivation not required), magnification, uses of spherical mirrors, Refraction; Laws of refraction, refractive index. Refraction of light by spherical lens; Image formed by spherical lenses; Lens formula (Derivation not required); magnification. Power of a lens, uses of spherical lenses</p> <p style="text-align: center;">PRACTICAL 10, 11, 14</p> <hr/> <p><u>CHAPTER 11: HUMAN EYE AND COLOURFUL</u></p>

	<p><u>WORLD</u></p> <p>Functioning of a lens in human eye, defects of vision and their corrections application of spherical mirrors and lenses. Refraction of light through prism, dispersion of light, scattering of light, applications in daily life.</p> <p style="text-align: center;">PRACTICAL 13</p>
December 2017	<ul style="list-style-type: none"> • Revision of Term I & Term 2 syllabus • Value based questions. • MCQ – Multiple Choice Questions.
January 2018	<ul style="list-style-type: none"> • Revision of Term I & Term 2 syllabus • Mock test • Revision for Support Material
February 2018	<ul style="list-style-type: none"> • Revision of Term I & Term 2 syllabus • Pre board Exam
March 2018	<ul style="list-style-type: none"> • Annual Examination
	LIST OF PRACTICALS
Practical 1	<p>Finding the p^H of the following samples by using p^H paper/ universal indicator:</p> <ul style="list-style-type: none"> a) Dilute Hydrochloric Acid. b) Dilute NaOH Solution c) Dilute Ethanoic Acid Solution d) Lemon Juice

	<p>e) Water</p> <p>f) Dilute Sodium Bicarbonate Solution.</p> <p>Studying the properties of acids and bases (HCl & NaOH) by their reaction with:</p> <p>a) Litmus solution (Blue/ Red)</p> <p>b) Zinc Metal</p> <p>c) Solid Sodium Carbonate</p>
Practical 2	<p>Performing and observing the following reactions and classifying them into:</p> <p>a) Combination reaction</p> <p>b) Decomposition reaction</p> <p>c) Displacement reaction</p> <p>d) Double displacement reaction</p> <p>(i) Action of water on quick lime</p> <p>(ii) Action of heat on ferrous sulphate crystals</p> <p>(iii) Iron nails kept in copper sulphate solution.</p> <p>(iv) Reaction between sodium sulphate and barium chloride solutions.</p>
Practical 3	<p>Observing the action of Zn , Fe, Cu and Al metals on the following salt solutions:</p> <p>(a) Zn SO₄ (aq)</p> <p>(b) Fe SO₄ (aq)</p> <p>(c) Cu SO₄ (aq)</p> <p>(d) Al₂ (SO₄)₃ (aq)</p> <p>Arranging Zn, Fe, Cu and Al (metals) in the decreasing order of</p>

	reactivity based on the above result.
Practical 4	Studying the dependence of potential difference (v) across a resistor on the current (I) passing through it and determine its resistance. Also plotting a graph between V and I.
Practical 5	Determination of the equivalent resistance of two resistors when connected in series and parallel.
Practical 6	Preparing a temporary mount of a leaf peel to show stomata.
Practical 7	Experimentally show that carbon dioxide is given out during respiration.
Practical 8	Study to the following properties of Acetic Acid. (ethanoic acid): <ul style="list-style-type: none"> (i) Odour (ii) Effect on litmus (iii) Solubility in water (iv) Reaction with sodium Hydrogen Carbonate
Practical 9	Study of the comparative cleaning capacity of a sample of soap in soft and hard water.
Practical 10	Determination of the focal length of : <ul style="list-style-type: none"> (i) concave mirror (ii) Convex lens By obtaining the image of a distance object.
Practical 11	Tracing the path of a ray of light passing through a rectangular glass slab for different angles of incidence. Measure the angle of incidence, angle of refraction, angle of emergence and interpret the result.

Practical 12	Studying (a) Binary fission in Amoeba and (b) Budding in yeast with the help of prepared slides.
Practical 13	Tracing the path of the rays of light through a glass prism.
Practical 14	Finding the image distance for varying object distance in case of a convex lens and drawing corresponding ray diagrams to show the nature of image formed.
Practical 14	Identification of the different parts of an embryo of a dicot seed (Pea, gram or red kidney bean).