KOTHARI INTERNATIONAL SCHOOL
GRADE: 10
SESSION 2024-25
SUBJECT: SCIENCE
SUBJECT CODE: 086

S. No	TERM	MONTH	TOPIC	SUBJECT ENRICHMENT/ACTIVITIES
1.	**PERIODIC ASSESSMENT 1(cycle)** **30% of the Term 1 syllabus** **(PA1- 15th April to 13th May)**	**March** **Working Days – 16**	1. CHEMICAL REACTIONS AND EQUATIONS Chemical Equation, Balanced chemical equation, types of chemical reactions: combination, decomposition, displacement, double displacement, precipitation, neutralization, oxidation and reduction. 2. LIFE PROCESSES "living being". Basic concepts of Nutrition	To perform and observe the following reactions and classify them into: (i) Combination reaction (ii) Decomposition reaction (iii) Displacement reaction (iv) Double displacement reaction 1) Action of water on quick lime 2) Action of heat on ferrous sulphate crystals 3) Iron nails kept in copper sulphate solution. 4) Reaction between sodium sulphate and barium chloride solutions

		APRIL **Working Days -20**	1. LIFE PROCESSES- CONTD “living being". Basic concepts of Nutrition and Respiration, Transportation and excretion in plants and animals. 2. ELECTRICITY 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 applications in daily life. Heating effect of Electric current and its applications in daily life. Electric Power, Inter relation between P, V, I and R.	To prepare a temporary mount of a leaf peel to show stomata. To show experimentally that carbon dioxide is given out during respiration. To study the dependence of potential difference (V) across a resistor on the current (I) passing through it and determine its resistance. Also plot a graph between V and I. To determine the equivalent resistance of two resistors when connected in series and parallels

		MAY **Working Days -20**	1. LIGHT – REFLECTION AND REFRACTION Reflection of light, Spherical mirrors, Image formation by spherical mirrors, Representation of images formed by spherical mirrors using ray diagrams, Sign convention for reflection by spherical mirrors, Mirror formula and magnification Refraction of light, Refraction through a rectangular glass slab, Refractive index, Refraction by spherical lenses, Image formation by lenses, Image formation in lenses using ray diagrams, Sign convention for spherical lenses, Lens formula and magnification, Power of a lens. 2. HUMAN EYE AND COLOURFUL WORLD Refraction of light through a prism, Dispersion of white light by a glass prism, Atmospheric refraction Scattering of light. Functioning of a lens in human eye, defects of vision and their corrections, applications of spherical mirrors and lenses. Refraction of light through a prism, dispersion of light, scattering of light, applications in daily life. (excluding colour of the sun at sunrise and sunset)	To determine the focal length of: i) Concave mirror ii) Convex lens by obtaining the image of a distant object. To trace 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 To find the image distance for varying object distances in case of a convex lens and draw corresponding ray diagrams to show the nature of image formed. To trace the path of the rays of light through a glass prism

2.	**<u>PERIODIC ASSESSMENT 2</u>** **50% of the total syllabus** **(PA2 – 15 TH JULY – 12TH AUGUST)**	**JULY** **Working Days -22**	<u>1. CONTROL AND CO-ORDINATION</u> and plants: Tropic movements in plants; Introduction of plant hormones; Control and co-ordination in animals: Nervous system; Voluntary, involuntary and reflex action; Chemical co-ordination: animal hormones <u>2. ACIDS, BASES AND SALTS</u> Their definitions in terms of furnishing of H + and OH - ions, General properties, examples and uses, concept of pH scale (Definition relating to logarithm not required), importance of pH in everyday life; preparation and uses of sodium hydroxide, Bleaching powder, Baking soda, washing soda and Plaster of Paris. <u>3. METALS AND NON-METALS:</u> Properties of metals and non-metals; Reactivity series; Formation and properties of ionic compounds; Basic metallurgical processes; Corrosion and its prevention	To find the pH of the following samples by using pH paper/universal indicator: a) Dilute Hydrochloric Acid b) Dilute NaOH solution c) Dilute Ethanoic Acid solution d) Lemon juice e) Water f) Dilute Sodium Bicarbonate solution To study the properties of acids and bases (HCl & NaOH) by their reaction with: a) Litmus solution (Blue/Red) b) Zinc metal c) Solid sodium carbonate To observe the action of Zn, Fe, Cu and Al metals on the following salt solutions: a) $ZnSO_4$ (aq) b) $FeSO_4$ (aq) c) $CuSO_4$ (aq) d) $Al_2(SO_4)_3$ (aq) ii) Arrange Zn, Fe, Cu and Al (metals) in the decreasing order of reactivity based on the above result.

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3.	**HALF YEARLY** **80% of the total syllabus** **(MID TERM– 8 TH SEPT – 20TH SEPT)**	**SEPTEMBER** **Working Days- 20**	1. OUR ENVIRONMENT Eco-system, Environmental problems, Ozone depletion, waste production and their solutions. 1. Heredity and evolution: Heredity; Mendel's contribution- Laws for inheritance of traits: Sex determination: brief introduction (topics excluded - evolution; evolution and classification and evolution should not be equated with progress)	
4.		**OCTOBER** **Working Days- 19**	Magnetic effects of electric current: Magnetic effects of current: Magnetic field, field lines, field due to a current carrying conductor, field due to current carrying coil or solenoid; Force on current carrying conductor, Fleming's Left Hand Rule, Direct current. Alternating current: frequency of AC. Advantage of AC over DC. Domestic electric circuits.	To study the dependence of potential difference (V) across a resistor on the current (I) passing through it and determine its resistance. Also plot a graph between V and I. To determine the equivalent resistance of two resistors when connected in series and parallels

5.	**PERIODIC ASSESSMENT 3** **20 % of the remaining syllabus** **(PA3-06th Nov. to 30th Nov.)**	**NOVEMBER** **Working Days- 21**	<u>Magnetic effects of electric current</u>: CONTD ; Force on current carrying conductor, Fleming's Left Hand Rule, Direct current. Alternating current: frequency of AC. Advantage of AC over DC. Domestic electric circuits.	
4.	**<u>PREBOARD 1</u>** **100 % of the total syllabus** **(PB-1-15th Dec. to 30th Dec.)**	**December** **Working Days- 22**	Revision & Examination	
6.	**<u>PREBOARD 2</u>** **100 % of the total syllabus** **(PB-2-10th Jan. to 24th January 2025)**	**JANUARY** **Working Days -15**	Revision & Examination	