

KOTHARI INTERNATIONAL SCHOOL

GRADE: 10

SUBJECT: SCIENCE SUBJECT CODE: 086

ANNUAL PLANNER (2021-22)

S.No	TERM	MONTH	TOPIC	SUBJECT ENRICHMENT
1.	<p><u>PRE MID TERM</u></p> <p><u>PERIOD</u> - (18thMarch -19st May)</p> <p>(30 % of annual syllabus to be completed)</p> <p><u>REVISION</u> - (20th May-28th May & 1st & 2nd July)</p> <p><u>ASSESSMENT 1</u>- (5th July-14th July)</p>	<p>MARCH</p> <p>Working Days -9</p>	<p><u>Chemical reactions and Equations:</u></p> <p>Chemical Equation, Balanced chemical equation, types of chemical reactions: combination, decomposition, displacement, double displacement, precipitation, neutralization, oxidation and reduction.</p>	<p><u>Science Lab Activities -</u></p> <ul style="list-style-type: none">• To perform and observe the following reactions and classify them into:<ol style="list-style-type: none">(i) Combination reaction(ii) Decomposition reaction(iii) Displacement reaction(iv) Double displacement reaction<ol style="list-style-type: none">1) Action of water on quick lime2) Action of heat on ferrous sulphate crystals3) Iron nails kept in copper sulphate solution.4) Reaction between sodium sulphate and barium chloride solutions• i) To observe the action of Zn, Fe, Cu and Al metals on the following salt solutions:<ol style="list-style-type: none">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.

	<p>APRIL Working Days -18</p>	<p>Life Processes: "living being". Basic concepts of Nutrition and Respiration, Transportation and excretion in plants and animals.</p> <p>Sources of energy: 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.</p> <p>Acids, Bases and Salts : 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.</p>	<ul style="list-style-type: none"> • To prepare a temporary mount of a leaf peel to show stomata. • To show experimentally that carbon dioxide is given out during respiration. • To find the pH of the following samples by using pH paper/universal indicator: <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> a) Litmus solution (Blue/Red) b) Zinc metal c) Solid sodium carbonate
	<p>MAY Working Days -18</p>	<p>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</p>	<ul style="list-style-type: none"> • 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.

			<p>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.</p> <p>Our Environment: Eco-system, Environmental problems, Ozone depletion, waste production and their solutions.</p>	<ul style="list-style-type: none"> To determine the equivalent resistance of two resistors when connected in series and parallels
2.	<p><u>MID TERM</u></p> <p><u>PERIOD</u> - (15thJuly- 3rd Sept)</p> <p>(75 % of annual syllabus to be completed)</p> <p><u>REVISION</u> - (6thSept- 17th Sept)</p> <p><u>ASSESSMENT 2</u> - (20thSept- 30th Sep)</p>	<p>JULY</p> <p>Working Days -21</p>	<p><u>Light</u></p> <p>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</p>	<ul style="list-style-type: none"> 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.
		<p>AUGUST</p> <p>Working Days -20</p>	<p><u>Control and Co-ordination in Animals and Plants:</u> Tropic movements in plants; Introduction to plant hormones; control and co-ordination in animals, nervous system; voluntary, involuntary and reflex action, chemical co-ordination: animal</p>	

			hormones. <u>Magnetic effects of electric current:</u> Magnetic field and field lines, Magnetic field due to a current carrying conductor, Force on a current carrying conductor in a magnetic field, Electromagnetic induction, Domestic electric circuits.	
		SEPTEMBER Working Days- 22	<u>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.	
3	<u>POST MID TERM</u> <u>PERIOD</u> – (1stOct–24th Nov) (100 % of annual syllabus to be completed) <u>REVISION</u> – (25th Nov–8thDec) <u>ASSESSMENT 3</u> – (10th Dec–21st Dec)	OCTOBER Working Days -16	<u>Carbon compounds:</u> Covalent bonding in carbon compounds. Versatile nature of carbon. Homologous series. Nomenclature of carbon compounds containing functional groups (halogens, alcohol, ketones, aldehydes, alkanes and alkynes), difference between saturated hydrocarbons and unsaturated hydrocarbons. Chemical properties of carbon compounds (combustion, oxidation, and addition and substitution reaction). Ethanol and Ethanoic acid (only properties and uses), soaps and detergents. Biodegradable and non-biodegradable, substances. <u>Reproduction:</u> Reproduction in animal and plants (asexual and sexual) reproductive health-need for and methods of family planning. Safe sex vs HIV/AIDS. Child bearing and women's health.	<ul style="list-style-type: none"> • To study the following properties of acetic acid (ethanoic acid): i) odour ii) solubility in water. iii) effect on litmus iv) reaction with sodium bicarbonate • To study the comparative cleaning capacity of a sample of soap in soft and hard water • To study (a) binary fission in Amoeba, and (b) budding in yeast with the help of prepared slides. • To identify the different parts of

			<p>The human eye and the colorful world The human eye, Defects of vision and their correction, Refraction of light through a prism, Dispersion of white light by a glass prism, Atmospheric refraction Scattering of light.</p>	<p>an embryo of a dicot seed (Pea, gram or red kidney bean).</p> <ul style="list-style-type: none"> To trace the path of the rays of light through a glass prism.
		<p>NOVEMBER Working Days – 18</p>	<p>Management of natural resources Management of natural resources. Conservation and judicious use of natural resources. Forest and wild life, coal and petroleum conservation. Examples of People's participation for conservation of natural resources. Water harvesting. Sustainability of natural resources.</p> <p>Periodic classification of elements: Need for classification, Modern Periodic table, gradation in Properties, valency, Atomic number, metallic and non-metallic properties</p> <p>Heredity and evolution: Heredity; Mendel's contribution- Laws for inheritance of traits: Sex determination: brief introduction; Basic concepts of evolution.</p>	<ul style="list-style-type: none"> To study homology and analogy with the help of models/chart of animals and plants models/chart/specimens of plant.
		<p>DECEMBER Working Days -22</p>		

5.	<p><u>PRE BOARD-1</u></p> <p>(100 % of annual syllabus)</p> <p><u>REVISION</u> – (22nd Dec–30thDec) (6th & 7th Jan)</p> <p><u>ASSESSMENT 4</u> - (10th Jan–21stJan)</p>	<p>JANUARY</p> <p>Working Days -15</p>		
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