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| **ACADEMIC PLAN SESSION 2023-24**  **CLASS – 10**  **SUBJECT - SCIENCE** | | | | | |
| **Month** | **Chapter No.** | **No. of periods Required** | **Chapters to be covered** | **Content** | **Experiments /Activity** |
| **April** | 1  6 | 12  13 | Chemical Reactions and Equations  Life Processes | Chemical Equations , equations ,unbalanced chemical equations ,balanced chemical equations , types of chemical Reactions , Oxidation in everyday life  Livings beings ,Basic concepts of nutrition ,respiration ,transport and excretion in plants and animals | All the activities of chapter -1  Performing and observing the following reactions and classifying them into :  \*Combination Reactions  \*Decomposition Reactions  \*Displacement Reactions  Double Displacement Reactions   1. Action of water on quicklime 2. Action of heat on ferrous sulphate crystals 3. Iron nails kept in copper sulphate crystals 4. Reaction between sodium sulphate and barium chloride solutions   Preparing a temporary mount of a leaf peel to show stomata .  Experimentally show that carbon dioxide is given out during respiration |
| **April/May** | 10 | 09 | Light Reflection and Reflection | Reflection of light by curved surface ; Image formed by spherical mirrors ,centre of curvature ,principal axis , principal focus ,focal length ,mirror formula (derivation not required ) , magnification ,  Refraction ; Laws of refraction , refractive index  Refraction of light by spherical lens; Image formed by spherical lenses, lens formula, magnification, power of lens. | Determination of Focal length of ;   1. Concave mirror 2. Convex lens   By obtaining the image of a distant object  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. |
| **July** | 2 | 10 | Acids Bases and Salts | Definition in terms of furnishing H+ and OH- ions ,General properties, examples and uses neutralization , concept of PH scale , importance of PH in everyday life ; preparation and uses of NaOH , Bleaching powder , Baking soda ,Washing Soda and plaster of paris | Studying the properties of acids and bases (HCl and NaOH) . |
| 11 | 06 | Human Eye and Colourful World | Functioning of a lens in a Human eye, defects of vision and their correction, application of spherical mirror and lenses.  Refraction of light through a prism, dispersion of light, Scattering of light, application in daily life (excluding colour of the sun at sunrise and sunset). | Tracing the path of the rays of light through a glass prism . |
| 7 | 09 | Control and Coordination | Tropic movement in plants ; Introduction of plant hormones ; Control and coordination in animals ; Nervous System ;Voluntary, Involuntary and reflex action ;Chemical Coordination ;animal hormones |  |
| **August** | 3 | 8 | Metals and Non- metals | Properties of metals and non-metals; Reactivity series: Formation and properties of ionic compounds ;; Basic metallurgical processes ;Corrosion and its Prevention . | Observing the action of Zn, Fe, Cu and Al metals on the following salt solutions .  a-ZnSO4(aq)  b-FeSO4(aq)  c-CuSO4(aq)  d-Al2(SO4)3(aq)  Arranging Zn, Fe, Cu and Al in the decreasing order of reactivity based on the above result. |
| 8 | 11 | How do Organisms Reproduce | Reproduction in animals and plants (sexual and Asexual) reproductive health –need and method of family planning . Safe sex vs HIV/ AIDS .Child bearing and Women’s health . | Studying (a) binary fission in Amoeba .  (b) budding in Yeast and Hydra with the help of prepared sl8ides .  Identifying different parts of an embryo in a dicot seeds (Pea ,gram or red kidney bean ). |
| 12 | 8 | Electricity | Electric current, potential difference and electric current . Ohm’s Law ;Resistance ,Resistivity , Factors on which 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 application in daily life . Electric Power , Interrelation between P,V ,I and R . Magnetic effect of current : magnetic field , field lines , field due to current carrying conductor , field due to current carrying coil or solenoid ; Force on current carrying conductor ,Flemings Left Hand Rule , Direct current .Alternating current ; Frequency of AC .Advantage of AC over DC . Domestic electric circuits. | Studying the dependence of potential difference (v) across the resistors on the current (I) passing through it and determine its resistance . Also plotting a graph between V and I .  Determine the equivalent resistance of two resistors when connected in series and parallel. |
| **September** | **Periodic Test / Half yearly Examination** | | | | |
| **October** | 4 | 15 | Carbon and Its Compounds | Covalent bonding in carbon compounds , Versatile nature of Carbon . Homologous series. Nomenclature of Carbon Compounds containing functional groups (halo, alcohol , ketones ,aldehydes ,alkanes, alkenes and alkynes ), difference between saturated and unsaturated hydrocarbons . Chemical properties of carbon compounds ( combustion , Oxidation ,addition and substitution reactions ) Ethanol and Ethanoic acid ( only properties and uses ) Soaps and detergents . | Studying properties of acetic acid  Study of the comparative cleaning capacity of a sample of a soap in soft and hard water . |
| 9 | 7 | Heredity and Evolution | Heredity ;Mendel’s contribution – Law of inheritance of traits ; Sex determination : brief introduction . |  |
| 13 | 10 | Magnetic effect of electric current | . Magnetic effect of current : magnetic field , field lines , field due to current carrying conductor , field due to current carrying coil or solenoid ; Force on current carrying conductor ,Flemings Left Hand Rule , Direct current .Alternating current ; Frequency of AC .Advantage of AC over DC . Domestic electric circuits. |  |
| November | 15 | 08 | Our Environment | Eco- system , Environment Problems, Ozone depletion ,Waste production and their solutions . Biodegradable and non- biodegradable substances .  Revision of entire syllabus |  |
| **December**  **January**  **February** |  | | | **Revision and pre-Board – 1 examination**  **Revision and Pre-Board Examination -2**  **C B S E Board Examination** |  |