

## SPLIT UP SYLLABUS

## SCIENCE (CLASS X)

| Month             | Expected No. of working Days | Branch of Science | Chapter No & Chapter  | Detailed Split-up   | Periods for class room Teaching | Computer Aided Teaching Periods | Total No. of Periods |
|-------------------|------------------------------|-------------------|---|---|---------------------------------|---------------------------------|----------------------|
| <b>First Term</b> |                              |                   |   |   |                                 |                                 |                      |
| April             | 24                           | Physics           | 12. 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 | 8                               | 2                               | 10                   |
|                   |                              | Chemistry         | 1. chemical reactions nature and behaviour                        | Chemical reactions : Chemical equation, Balanced chemical equation, implications of a balanced chemical equation, types of chemical reactions : combination, decomposition, displacement, double displacement,  | 6                               | 2                               | 8                    |
|                   |                              | Biology           | 6. Life processes   | Living Being. Basic concept of nutrition, respiration, transport and Excretion in plants and animals.   | 4                               | 2                               | 6                    |
| May & June        | 10                           | Physics           | 12. Electricity (Contd.)  | Heating effect of electric current and its applications in daily life. Electric power, Interrelation between P, V, I and R  | 3                               | 1                               | 4                    |
|                   |                              | Chemistry         | 1. chemical reactions nature and behaviour (Contd.)               | precipitation, neutralization, oxidation and reduction.   | 2                               | 1                               | 3                    |
|                   |                              | Biology           | 7. Control and co-ordination in animals and plants( Introduction) | Tropic movements in plants(Introduction)  | 2                               | 1                               | 3                    |
| July              | 25                           | Physics           | 13. Magnetic Effects of Currents                                  | 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. Electromagnetic induction  | 8                               | 2                               | 10                   |
|                   |                              | Chemistry         | 2. Acids, bases and salts   | Their definitions in terms of furnishing of H <sup>+</sup> and OH <sup>-</sup> ions, General properties, examples and uses, concept of pH scale(Definition relating to logarithm not required), importance of pH in everyday life                               | 6                               | 1                               | 7                    |

| Month     | Expected No. of working Days | Branch of Science | Chapter No & Chapter                               | Detailed Split-up  | Periods for class room Teaching | Computer Aided Teaching Periods | Total No. of Periods |
|-----------|------------------------------|-------------------|--|--|---------------------------------|---------------------------------|----------------------|
|           |                              | Biology           | 7. Control and co-ordination in animals and plants | Introduction to plant hormones; Tropic movements in plants<br>control and co-ordination in animals : nervous system;<br><u>voluntary, involuntary and reflex action</u>                    | 6                               | 2                               | 8                    |
| August    | 22                           | Physics           | 13. Magnetic Effects of Currents (Contd.)          | Induced potential difference, Induced current.<br>Fleming's Right Hand Rule, Direct current. Alternating current : frequency of AC. Advantage of AC over DC.<br>Domestic electric circuits | 6                               | 2                               | 8                    |
|           |                              |                   | 14. Sources of energy                              | Sources of energy : Different forms of energy, conventional and non-conventional sources of energy   | 2                               | 1                               | 3                    |
|           |                              | Chemistry         | 2. Acids, bases and salts (Contd.)                 | preparation and uses of sodium hydroxide, Bleaching powder, Baking soda, Washing soda and Plaster of Paris   | 4                               | 1                               | 5                    |
|           |                              | Chemistry         | 3. Metals and non metals                           | Properties of metals and non-metals, reactivity series,  | 2                               | 1                               | 3                    |
|           |                              | Biology           | 7. Control and co-ordination in animals and plants | chemical co-ordination: animal hormones.   | 2                               | 1                               | 3                    |
| September | 15                           | Physics           | 14. Sources of energy (Contd.)                     | Fossil fuels, Solar Energy, Bio Gas, Wind, Water and Tidal energy, Nuclear energy, Renewable versus Nonrenewable sources.  | 4                               | 1                               | 5                    |
|           |                              | Chemistry         | 3. Metals and non metals (Contd.)                  | formation and properties of ionic compounds, basic metallurgical processes, corrosion and its prevention.  | 3                               | 1                               | 4                    |
|           |                              | Biology /Chem/Phy |  | Revision   | 4                               | 2                               | 6                    |

| Month | Expected No. of working Days | Branch of Science | Chapter No & Chapter | Detailed Split-up | Periods for class room Teaching | Computer Aided Teaching Periods | Total No. of Periods |
|-------|------------------------------|-------------------|----------------------|-------------------|---------------------------------|---------------------------------|----------------------|
|-------|------------------------------|-------------------|----------------------|-------------------|---------------------------------|---------------------------------|----------------------|

**Second Term**

|          |    |           |  |  |   |   |   |
|----------|----|-----------|--|--|---|---|---|
| October  | 16 | Physics   | 10. Light: Reflection & Refraction           | Reflection of light by curved surfaces, Images formed by spherical mirrors, centre of curvature, principal axis, principal focus, focal length, mirror formula (Derivation not required), magnification  | 4 | 1 | 5 |
|          |    | Chemistry | 4. Carbon & its Compounds                    | Carbon compounds : 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),                      | 4 | 1 | 5 |
|          |    | Biology   | 8. Reproduction                              | Reproduction in animals and plants (asexual and sexual),   | 5 | 1 | 6 |
| November | 22 | Physics   | 10. Light: Reflection & Refraction ( contd.) | Refraction ,Laws of refraction, Refractive index, Refraction of light by spherical lenses, Image formed by spherical lenses Lens Formula, (Derivation not required), Magnification ,Power of a lens.   | 6 | 1 | 7 |
|          |    | Chemistry | 4. Carbon & its Compounds (Contd.)           | 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), soaps and detergents. | 5 | 1 | 6 |
|          |    | Biology   | 8. Reproduction( contd.)                     | reproductive health-need and methods of family planning, Safe sex vs HIV/AIDS. Child bearing and women's health.   | 3 | 1 | 4 |

| Month    | Expected No. of working Days | Branch of Science | Chapter No & Chapter                             | Detailed Split-up  | Periods for class room Teaching | Computer Aided Teaching Periods | Total No. of Periods |
|----------|------------------------------|-------------------|--|--|---------------------------------|---------------------------------|----------------------|
|          |                              | Biology           | 9. Heredity and Evolution                        | Heredity; Accumulation of variations, Mendel's contribution- Laws for inheritance of traits: Sex determination.  | 4                               | 1                               | 5                    |
| December | 17                           | Physics           | 11. Human eye & Colourful World                  | Functioning of a lens in human eye, Defects of vision and their correction, Applications of spherical mirrors & lenses.  | 4                               | 1                               | 5                    |
|          |                              | Chemistry         | 5. Periodic classification of elements           | Need for classification, Modern periodic table,  | 5                               | 1                               | 6                    |
|          |                              | Biology           | 9. Heredity and Evolution (Contd.)               | Brief introduction Basic concepts of evolution   | 5                               | 1                               | 6                    |
| January  | 25                           | Physics           | 11. Human eye & Colourful World ( contd.)        | <i>Refraction of light through a prism, dispersion of light, scattering of light, applications in daily life</i>   | 5                               | 1                               | 6                    |
|          |                              | Chemistry         | 5. Periodic classification of elements ( contd.) | gradation in properties, valency, atomic number, metallic and non-metallic properties  | 6                               | 2                               | 8                    |
|          |                              | Biology           | 9. Heredity and Evolution (Contd.)               | Basic concepts of evolution (Contd.)   | 7                               | 2                               | 9                    |
|          |                              | Biology           | 15. Our environment                              | Eco-system, Environmental problems, Ozone depletion, waste production and their solutions. Biodegradable and non-biodegradable substances  | 2                               | 0                               | 2                    |
| February | 22                           | Physics           | <b>Revision</b>                                  | Physics & Biology  | 5                               | 1                               | 6                    |
|          |                              | Chemistry         | <b>Revision</b>                                  | Chemistry & Biology  | 6                               | 0                               | 6                    |
|          |                              | Biology           | 15. Our environment (Contd.)                     | Biodegradable and non-biodegradable substances   | 2                               | 0                               | 2                    |
|          |                              | Biology           | 16. Management of natural resources              | Conservation 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.<br>Regional environment : Big dams : advantages and limitations; alternatives, if any. Water harvesting. Sustainability of natural resources. | 6                               | 2                               | 8                    |

| Month | Expected No. of working Days | Branch of Science | Chapter No & Chapter | Detailed Split-up | Periods for class room Teaching | Computer Aided Teaching Periods | Total No. of Periods |
|-------|------------------------------|-------------------|----------------------|-------------------|---------------------------------|---------------------------------|----------------------|
|-------|------------------------------|-------------------|----------------------|-------------------|---------------------------------|---------------------------------|----------------------|

| Practicals |   |           |   |   |  |  |   |
|------------|---|-----------|---|---|--|--|---|
| First Term |   |           |   |   |  |  |   |
| April      | 4 | Physics   | 5. Ohm's Law verification                               | 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 |  |  | 1 |
|            |   | Chemistry | 1. To find the pH                                       | To find the pH of the following samples by using pH paper/universal indicator:  |  |  | 1 |
|            |   | Biology   | 8. To observe the structure of stomata                  | To prepare a temporary mount of a leaf peel to show stomata. ( Demonstration and Hands on Experiment)   |  |  | 2 |
| July       | 4 | Physics   | 6. To verify Law of Series combination of resistances   | To determine equivalent resistance of 2 resistors when connected in series.   |  |  | 1 |
|            |   | Chemistry | 2. To study the properties of acids and bases           | To study the properties of acids and bases (HCl & NaOH)   |  |  | 2 |
|            |   | Biology   | 9. Light is essential for photosynthesis                | To show experimentally that light is necessary for photosynthesis.  |  |  | 1 |
| August     | 4 | Physics   | 7. To verify Law of Parallel combination of resistances | To determine equivalent resistance of 2 resistors when connected in parallel.   |  |  | 1 |
|            |   | Chemistry | 3. Classification of chemical reactions                 | To perform, classify and observe the chemical reactions   |  |  | 2 |
|            |   |           | 4. Reactivity series                                    | To observe the action of Zn, Fe, Cu and Al metals   |  |  |   |
|            |   | Biology   | 10. Release of CO <sub>2</sub> during Respiration       | To show experimentally that carbon dioxide is given out during respiration.   |  |  | 1 |

| Month              | Expected No. of working Days | Branch of Science | Chapter No & Chapter                                | Detailed Split-up   | Periods for class room Teaching | Computer Aided Teaching Periods | Total No. of Periods |
|--------------------|------------------------------|-------------------|---|---|---------------------------------|---------------------------------|----------------------|
| <b>Second Term</b> |                              |                   |   |   |                                 |                                 |                      |
| October            | 4                            | Physics           | 4. focal length of concave mirror & convex lens     | To determine the f of concave mirror & convex lens by obtaining image of distant object   |                                 |                                 | 1                    |
|                    |                              | Chemistry         | 1. properties of acetic acid                        | To study the following properties of acetic acid  |                                 |                                 | 2                    |
|                    |                              | Biology           | 6. Reproduction in organisms                        | To study (a) binary fission in Amoeba, and (b) budding in yeast with the help of prepared slides  |                                 |                                 | 1                    |
| November           | 4                            | Physics           | 5. Refraction through a glass slab                  | Refraction through a glass slab for different angles of incidence   |                                 |                                 | 2                    |
|                    |                              | Chemistry         | 2. saponification                                   | To study saponification reaction for preparation of soap  |                                 |                                 | 1                    |
|                    |                              | Biology           | 10. Reproduction in organisms                       | To identify the different parts of an embryo of a dicot seed ( Pea, gram or red kidney bean).   |                                 |                                 | 1                    |
| December           | 4                            | Physics           | 7. Refraction through a glass prism                 | To trace the path of light through a glass prism  |                                 |                                 | 1                    |
|                    |                              | Chemistry         | 3. To compare cleaning capacity of a sample of soap | To study the comparative cleaning capacity of a sample of soap in soft and hard water.  |                                 |                                 | 1                    |
|                    |                              | Biology           | 9. Evidences of Evolution                           | To study homology and analogy with the help of models/charts of animals and models/charts/specimens of plants.                              |                                 |                                 | 2                    |
| January            | 3                            | Physics           | 8. Nature of image of a convex lens.                | To find the image distance for varying object distances in case of convex lens and to draw ray diagrams to show the nature of image formed. |                                 |                                 | 1                    |
|                    |                              | Chemistry         | revision  | revision  |                                 |                                 | 1                    |
|                    |                              | Biology           | revision  | revision  |                                 |                                 | 1                    |
| February           | 3                            | Physics           | Practicals revision with test                       | Practicals revision with test   |                                 |                                 | 1                    |
|                    |                              | Chemistry         | Practicals revision with test                       | Practicals revision with test   |                                 |                                 | 1                    |
|                    |                              | Biology           | Practicals revision with test                       | Practicals revision with test   |                                 |                                 | 1                    |