# SYLLABUS - 2023 - 2024

**Class - XI** **Sub - English**

**Prescribed Books :**

1) Hornbill (HB)
2) Snapshots (SS)

| Months | No. of Working Days | Book / Area | Topic / Chapter |
|---|---|---|---|
| **June &** | 14 + | **HB** | The Portrait of a Lady |
| **July** | 22 | **Reading** | Note Making with Summary Writing |
| | | **HB** | A Photograph (Poem) |
| | | **SS** | The Summer of a beautiful white Horse. |
| | | **Grammar** | Tenses |
| | | **Writing** | Poster |
| **Aug** | 22 | **HB** | We are not afraidto die all together<br>Laburnum Top (Poem) |
| | | **SS** | The Address |
| | | **Writing** | Speech Writing<br>Classified Advertisements |
| | | **Grammar** | Sentence Reordering |
| **Sept** | 21 | | **Revision + ASL** |
| | | **HB** | Discovering Tut : The Saga Continues |
| | | **Writing** | Classified Advertisements |



| Months | No. of Working Days | Book / Area | Topic / Chapter |
|---|---|---|---|
| **Oct** | 18 | **SS** | Mother's Day (Play) |
| | | **HB** | The voice of the Rain (Poem)<br>Childhood (Poem) |
| **Nov** | 16 | **HB** | The Adventure<br>Father to Son (Poem) |
| | | **Writing** | Debate Writing |
| | | **Grammar** | Clauses |
| **Dec** | 24 | **HB** | Silk Road |
| | | **SS** | Birth |
| | | **Grammar** | Sentence Reordering &<br>Sentence Transformation |
| **Jan** | 16 | **SS** | The Tale of Melon City (Poem) |
| | | **Writing** | Revision of Writing and Grammar |
| **Feb** | 21 | | **Project / ASL** |
| | | | **Revision** |

**Subject - Mathematics**

**Month wise Description of the Content :**

| Months | No. of Working Days | Content Description |
|---|---|---|
| **June** | 14 | **Set Theory**<br>Sets and their representation, Empty set, Finite and Infinite set, Equal sets, Subsets, Sub sets of set of real numbers especially intervals (with notations). Universal set, Venn-Diagrams. Union and Intersection of sets. Difference of sets, Complement of a set, Properties of complement.<br>**Supplementary article :** Power set |
| **July** | **22** | **Relations and Functions**<br>Ordered Pairs, Cartesian Product of sets, Number of elements in Cartesian Product of two Finite sets. Cartesian Product of the sets of reals with itself (Up to RX RX R), Definition of Relation. Pictorial Diagrams, Domain, Co-domain, and Range of a function Real valued Functions, Domain and Range Functions, Constant, Identity. Polynomial, Rational, Exponential, Modulus, signum Logarithmic and Greatest Integer Functions with their Graphs. Sum, Difference, Product and Quotient of functions.<br>**Trigonometric Functions**<br>Positive and Negative angles, Measuring angles in Radians and in Degrees and conversion from one measure to another. Definition of Trigonometric functions with the help of unit circle. Truth of the identity $Sin^2x + Cos^2x = 1$, for all $x$. Signs of Trigonometric functions, Domain and Range of Trigonometric |



| Months | No. of Working Days | Content Description |
|---|---|---|
| | | functions and their graphs. Expressing Sin $(x+y)$ and Cos $(x+y)$ in terms of $Sinx$, $Siny$, $Cosx$ and $Cosy$ and their simple applications, deducing identities related to $Sin2x$, $Cos\ 2x$, $tan\ 2x$, $Sin\ 3x$, $Cos\ 3x$ and $tan\ 3x$. Transformation formula.<br>**Supplementary article :** General solution of trigonometric equations of the type Siny = Sina, Cosy = Cosa and tany = tana. |
| **Aug** | **22** | **Complex Numbers**<br>Need for complex numbers to be motivated by inability to solve some of the quadratic equations, Algebraic Properties of complex numbers, Argand Plane.<br>**Supplementary article :** Polar representation of complex numbers.<br>**Linear Inequalities**<br>Linear Inequalities, Algebraic Solutions of Linear Inequalities in one variable and their representation on the number line.<br>**Supplementary article :** Graphical solution of Linear inequalities in two variables. Graphical method of finding a solution of system of linear inequalities in two variables.<br>**Permutations**<br>Fundamental Principal of Counting. Factorial n. Permutations, Derivation of formulae and their connections and Simple applications. |

| Months | No. of Working Days | Content Description |
|---|---|---|
| Sept. | 21 | **Combinations**<br>Combination, derivation of formulae and their connections and simple applications.<br>**Revision**<br>**Half Yearly Examination** |
| Oct | 18 | **Binomial Theorem**<br>History perspective, statement and proof of the binomial theorem for positive integral indices. Pascal's Triangle.<br>**Supplementary article :** General and middle term in binomial expansion, simple applications. Binomial expansion for any index with reference of special domain of convergence.<br>**Sequence and Series**<br>AM, GP, General term of a G.P. Sum of n terms of a G.P. infinite G.P. and its sum, G.M. Relation between AM and G.M.<br>**Supplementary article :** Formula for special sums as $\Sigma n$, $\Sigma n^2$ and $\Sigma n^3$ |
| Nov | 16 | **Straight Lines :**<br>Slope of a line and angle between two lines various forms of equations of a line; parallel to axis, point - slope form slope intercept form, two point or intercept form and Distance of a point from a line.<br>**Supplementary article :** Shifting of orgin, Normal form of straight line. General equation of a line Equation of family of lines passing through the point of intersection of two lines. |



| Months | No. of Working Days | Content Description |
|---|---|---|
| | | **Conic Section**<br>**Circle :**<br>Standard equation of circle, circle centered at origin and radius r, circle centered at a point other than the origin and a radius r, circle with extremities of a diameter, general form of the circle.<br>**Supplementary article :** Some standard result related with the circle.<br>**Parabola, Ellipse, Hyperbola :**<br>A pair of intersecting lines as a degenerated case of a conic section, Standard equations and simple properties of parabola, ellipse and hyperbola.<br>**Three Dimensional Coordinate Geometry :**<br>Coordinate axes and coordinate planes in three dimensions. Coordinates of point Distance between two points and section formula.<br>**Supplementary article :** Locus of points. |
| Dec | 24 | **Limits and Derivatives**<br>Derivative introduced as rate of change both as that of distance function and Geometrically intuitive idea of limit. Limits of Polynomials and rational functions, trigonometric, exponential and logarithmic functions. Definition of derivative relate it to scope of tangent of the curve, Derivative of sum, difference, product and quotient of functions. Derivative of Polynomial and Trigonometric functions. |

| Months | No. of Working Days | Content Description |
|---|---|---|
| Jan | 16 | **Statistics**<br>**Measures of dispersion :**<br>Range, Mean deviation variance and standard deviation of ungrouped / grouped data.<br>**Probability**<br>Random experiments, outcomes, Sample spaces, events, occurrence of events, 'not', 'and, and 'or Events, Exhaustive events, Mutually exclusive events, Axiomatic probability. Probability of an event, probability of 'not', 'and' 'or events. |
| Feb. | 21 | **Revision**<br>**Annual Examination** |

**1. List of Mathematics Activities before the Half Yearly Examination.**

i) To find the number of subsets of a given set and verity that if a set has 'n' number of elements then the total number of subsets is 2n.

ii) To find the values of the sine and cosine functions in second, third and fourth quadrant using their values in first quadrant.

iii) To plot the graph of $Sin\, x$ , $Sin\, 2x$, $2Sin\, x$ and $Sin\, (x/2)$ in the same cartesian plane.

iv) To interpret geometrically $i = \sqrt{-1}$ and its integral powers.

v) To obtain a quadratic function graphically with the help of linear functions.



**2. List of Maths Activities Post - Half Yearly Examination**

vi) To distinguish between a relation and a function.

vii) To verify for two sets A and B, $n(A \times B) = n(A) \times n(B)$ and the total number of relations from A to B is $2^{n(A) \times n(B)}$.

viii) To construct different types of conic sections.

ix) To find analytically the Limit of the function $f(x) = \frac{x^n - a^n}{x - a}$ at the point $x = a$.

x) Verification of the geometrical significance of derivantives.

Theory Paper : Full Marks 80

Practical Paper : Full Marks 20

**Total Marks 100**

**Sub - Physics**

| Months | No. of Working Days | Topics |
|---|---|---|
| **June** | **14** | **Ch-1 : Physical World Physics**<br>Scope and excitement; nature of physical laws; Physics, technology and society. (To be discussed as a part of introduction and integrated with other topics). |
| **July** | **22** | **Ch-2 : Units and Measurements Need for measurement :**<br>Units of measurement; systems of units, S.I. units, fundamental and derived units ; significant figures. Dimensions of physical quantities, dimensional analysis and applications.<br>**Ch-3 : Motion in a Straight Line :**<br>Elementary concepts of differentiation and integration for describing motion, Frame of reference, Motion in a straight line: Position-time graph, uniform and nonuniform motion, average speed and instantaneous velocity, uniformly accelerated motion, velocity-time and position-time graph, Relations for uniformly accelerated motion (graphical treatment). |
| **Aug** | **22** | **Ch-4 : Motion in a Plane :**<br>Scalars and vector quantities; position and displacement vectors, general vectors and their notations; equality of vectors, multiplication of a vector by a real number; addition and subtraction of vectors, unit vector; Resolution of a vector in a plane, rectangular components, Scalar and Vector products of vectors. Motion in a plane, Cases of |



| Months | No. of Working Days | Topics to be Covered |
|---|---|---|
| | | uniform velocity and uniform accelerated-projectile motion, Uniform circular motion.<br>**Ch-5 : Laws of Motion**<br>Intuitive concept of force, Inertia, Newton's first law of motion; momentum and Newton's second law of motion; Impulse; Newton's third law of motion. (Recapitulation only) Law of conservation of linear momentum and it's applications. Equilibrium of concurrent forces, Static and kinetic friction, laws of friction, rolling friction, lubrication. Dynamics of uniform circular motion : Centripetal force, examples of circular motion (vehicle on a level circular road, vehicle on a banked road). |
| **Sept** | **21** | **Revision and Half Yearly Exam**<br>**Ch-6 : Work, Energy and Power**<br>Work done by a constant force and variable force; kinetic energy, work-energy theorem, Power. Notion of Potential Energy, Potential Energy of a spring, conservative forces; - conservation of Mechanical energy (kinetic and potential energies); non-conservative forces: motion in a vertical circle; Elastic and inelastic collisions in one and two dimensions. |
| **Oct** | **18** | **Ch-7 : System of particles and Rotational Motion :**<br>Centre of mass of a two particle system, momentum conservation and Centre of Mass motion. Centre of mass of a rigid body; centre of mass of a uniform rod. /Moment of |

| Months | No. of Working Days | Topics |
|---|---|---|
| | | a force, Torque, Angular momentum, law of conservation of angular momentum and applications. Equilibrium of rigid bodies, rigid body rotation and equations of rotational motion, comparison of linear and rotational motions.<br>Moment of inertia, radius of gyration, values of moments of inertia for simple geometrical objects (no derivation). |
| **Nov** | **16** | **Ch-8 : Gravitation**<br>Kepler's laws of planetary motion, Universal law of gravitation, Acceleration due to gravity (recapitulation only) and its variation with altitude and depth.<br>Gravitational potential energy and Gravitational potential, Escape velocity, Orbital velocity of a satellite.<br>**Ch-9 : Mechanical Properties of Solids:**<br>Stress-strain relationship, Hooke's law, Young's Modulus, Bulk Modulus, Shear Modulus of rigidity, Poission's Ratio; Elastic Energy,<br>**Ch-10 : Mechanical Properties of Fluids:**<br>Pressure due to a fluid column; Pascal's law and its applications (hydraulic lift and hydraulic brakes), effect of gravity on fluid pressure/<br>Viscosity, Stoke's law, terminal velocity, streamline and turbulent flow, critical velocity, Bernoulli's theorem and its applications. |



| Months | No. of Working Days | Topics |
|---|---|---|
| **Dec** | **24** | **Ch-10 : Mechanical Properties of Fluids:**<br>Surface energy and surface tension, angle of contact, excess of pressure across a curved surface, application of surface tension ideas to drops, bubbles and capillary rise.<br>**Ch-11 : Thermal Properties of Matter :**<br>Heat, temperature (recapitulation only) thermal expansion; thermal expansion of solids, liquids and gases, anomalous expansion of water; specific heat capacity; Cp, Cv - Calorimetry; change of state - latent heat capacity. /Heat transfer-conduction, convection and radiation (recapitulation only), Thermal conductivity, qualitative ideas of Blackbody radiation, Wein's displacement Law, Stefan's law.<br>**Ch-12 : Thermodynamics.**<br>Thermal equilibrium and definition of temperature (Zeroth law of thermodynamics), Heat, work and internal energy. First law of thermodynamics, Isothermal and Adiabatic processes. Second law of thermodynamics: Reversible and irreversible processes. |
| **Jan** | **16** | **Ch-13 : Kinetic Theory of Gases**<br>Kinetic theory of gases, assumptions, Equation of state of a perfect gas,concept of pressure. Kinetic interpretation of temperature, rms speed of gas molecules; degrees of freedom, law of equipartition of energy (statement only) and appplication to specific heat capacities of Avogadro number. |

| Months | No. of Working Days | Topics |
|---|---|---|
| | | **Ch-14 : Oscillations :**<br><br>Periodic motion- time period, frequency, displacement as a function of time, periodic functions. Simple Harmonic Motion (S.H.M.) and its equation; phase; Oscillations of a spring- restoring force and force constant; energy in S.H.M., Kinetic and Potential energies; simple pendulum derivation of expression for its time period.<br><br>**Ch-15 : Wave motion -** Transverse and longitudinal waves, speed of travelling wave, Displacement relation for a progressive wave. Principle of superposition of waves, Reflection of waves, standing waves in strings and organ pipes, Beats. |
| **Feb.** | **21** | **Revision for Annual Examination** |



**Sub - Physics (Practicals)**

| Month | Experiments |
|---|---|
| **June/** | 1. To measure the internal diameter and depth of a given breaker / Calorimeter using vernier callipers and hence find its volume.<br>2. To measure the diameter of a given wire using a screw gauge.<br>3. To measure the thickness of a given sheet using a screw gauge.<br>4. To measure the radius of curvature of a given spherical surface by a spherometer.<br>5. To determine the mass of two different objects using a beam balance.<br>6. To find the weight of a given body using parallelogram law of vectors.<br>7. Using simple pendulum, plot L-T and L-$T^2$ graphs. Hence find the effective length of a second's pendulum using appropriate graph. |
| **Sept./** | 8. To study the relationship between force of limiting friction and normal reaction and to find the coefficient of friction between a block and a horizontal surface.<br>9. To find the force constant of a helical spring by plotting a graph between load and extension.<br>10. To study the relationship between temperature of a hot body and time by plotting a cooling curve.<br>11. To determine the surface tension of water by the capillary rise method.<br>12. To determine the coefficient of viscosity of a given viscous liquid by measuring the terminal velocity of a given spherical body.<br>13. To study the relation between frequency and length of a given wire under constant tension using sonometer.<br>14. To study the relation between length of a given wire and tension for constant frequency using sonometer.<br>15. To find the speed of sound in air at room temperature using a resonance tube by two resonance positions. |

## Sub - Chemistry

| Months | No. of Working Days | Topics |
|---|---|---|
| **June** | **15** | **Some Basic Concepts of Chemistry : Unit - I**<br>General Introduction : Importance & scope of Chemistry. Nature of matter, laws of chemical combination, Dalton's atomic theory: the concept of elements, atoms and molecules. Atomic and molecular masses, mole concept and molar mass, percentage composition, empirical & molecular formula. Chemical reactions, stoichiometry and calculations based on stoichiometry. |
| **July** | **22** | **Structure of Atom :**<br>Discovery of Electron, Proton and Neutron, atomic number, isotopes and isobars. Thomson's model and its limitations. Rutherford's model and its limitations, Bohr's model and its limitations, concept of shells and subshells, dual nature of matter and light, de Broglie's relationship, Heisenberg uncertainty principle, concept of orbitals, quantum numbers, shapes of s, p and d orbitals, rules for filling electrons in orbitals-Aufbau Principle, Pauli's exclusion principle and Hund's rule, Electronic Configuration of atoms, stability of half-filled and completely filled orbitals.<br>**Classification of Elements and Periodicity in Properties :** Significance of classification, brief history of the development of periodic table, Modern periodic law and the |



| Months | No. of Working Days | Topics |
|---|---|---|
| | | present form of periodic table, periodic trends in properties of elements- atomic radii, ionic radii, inert gas radii, Ionization enthalpy, electron gain enthalpy, electronegativity, valency. Nomenclature of elements with atomic number greater than 100. |
| **Aug** | **23** | **Chemical Bonding and Molecular Structure:**<br>Valence electrons, ionic bond, covalent bond, bond parameters, Lewis structure, polar character of covalent bond, covalent character of ionic bond, valence bond theory, resonance, geometry of covalent molecules, VSEPR theory, concept of hybridization, involving s, p and d orbitals and shapes of some simple molecules, molecular orbital theory of homonuclear diatomic molecules (qualitative idea only), Hydrogen bond. |
| **Sept** | **20** | **Revision and Half Yearly Examination**<br>**Organic Chemistry : Some basic Principles and Techniques :**<br>General introduction, classification and IUPAC nomenclature of organic compounds, Electronic displacement in a covalent bond : Inductive effect, electromeric effect, resonance & hyper conjugation. |
| **Oct** | **17** | **Organic Chemistry :**<br>Homolytic and heterolytic fission of a covalent bond: free radicals, carbocations, carbanions, electrophiles and nucleophiles, types of organic reactions, methods of purification, qualitative and quantitative analysis. |

| Months | No. of Working Days | Topics |
|---|---|---|
| | | **Hydrocarbons : -** Classification of Hydrocarbons Aliphatic Hydrocarbons : **Alkanes -** Nomenclature, isomerism, conformation (ethane only), physical properties, chemical reactions, free radical mechanism of halogenation, combustion and pyrolysis.<br><br>**Alkenes -** Nomenclature, structure of double bond (ethene), geometrical isomerism, physical properties, methods of preparation, chemical reactions: addition of hydrogen, halogen, water, hydrogen halides (Markovnikov's addition and peroxide effect), ozonolysis, oxidation, mechanism of electrophilic addition.<br><br>**Alkynes -** Nomenclature, Structure of triple bond (ethyne), physical properties, methods of preparation, chemical reactions: acidic character of alkynes, addition reaction of - hydrogen halogens, hydrogen halides and water. |
| **Nov** | **17** | **Aromatic Hydrocarbons :** Introduction, IUPAC nomenclature, benzene: resonance, aromaticity, chemical properties: mechanism of electrophilic substitution. Nitration, sulphonation, halogenation, Friedel Craft's alkylation and acylation, directive influence of functional group in monosubstituted benzene. Carcinogenicity and toxicity. |
| **Dec** | **23** | **Chemical Thermodynamics :** Concepts of System and types of systems, surroundings, work, heat, energy, extensive and intensive properties, state functions. First law of ther- |



| Months | No. of Working Days | Topics |
|---|---|---|
| | | modynamics - internal energy and enthalpy, measurement of $\Delta U$ and $\Delta H$ , Hess's law of constant heat summation, enthalpy of bond dissociation, combustion, formation, atomization, sublimation, phase transition, ionization, solution and dilution. Second law of Thermodynamics (brief introduction) introduction of entropy as a state function, Gibb's energy change for spontaneous and nonspontaneous processes. Third law of thermodynamics (brief introduction).<br><br>**Equilibrium :** Equilibrium in physical & chemical processes, Dynamic nature of equilibrium, law of mass action, equilibrium constant, factors affecting, equilibrium-Le Chatelier's principle, ionic equilibrium ionization of acids and bases, strong and weak electrolytes, degree of ionization, ionization of poly basic acids, acid strength, concept of pH, buffer solution, solubility product, common ion effect (with illustrative examples). |
| **Jan** | **17** | **Redox Reactions :** Concept of oxidation & reduction, redox reactions, oxidation number, balancing redox reactions in terms of loss and gain of electrons and change in oxidation number, application of redox reactions. |
| **Feb** | **21** | **Revision and Annual Examination** |

**Subject - Biology**

| Months | Unit | No. of Working Days | Topics / Chapters |
|---|---|---|---|
| **June** | I | **10** | **DIVERSITY IN LIVING ORGANISMS**<br>**Ch. 1. The Living World**<br>What is living ? Biodiversity; Need for classification; taxonomy and systematics; concept of species and taxonomical hierarchy; binomial nomenclature. |
| **July** | I&II | **22** | **Ch. 2. Biological Classification**<br>Five Kingdom Classification; Salient features and classification of Monera, Protista and Fungi into major groups; Lichens, Viruses and Viroids.<br>**Ch. 3. Plant Kingdom**<br>Salient features and classification of plants into major groups - Algae, Bryophyta, Pteridophyta, Gymnospermae.<br>**4. Animal Kingdom**<br>Basis of Classification; Salient features and classification of animals, non-chordates upto phyla level and chordates up to class level (salient features and distinguishing features of a few examples of each category).<br>**STRUCTURAL ORGANISATION IN PLANTS & ANIMALS**<br>**Ch. 5. Morphology of Flowering Plants**<br>Morphology and modifications; Morphology of different parts of flowering plants: root, stem, leaf, inflorescence, flower, fruit and seed. Description of family Solanaceae. |



| Months | Unit | No. of Working Days | Topics / Chapters |
|---|---|---|---|
| **Aug.** | II&III | **22** | **Ch. 6. Anatomy of Flowering Plants**<br>Anatomy and functions of different tissues and tissue systems in dicots and monocots.<br>**Ch.7. Structural Organisation in Animals**<br>Morphology, Anatomy and functions of different systems (digestive, circulatory, respiratory, nervous and reproductive) of frog.<br>**Cell : Structure and Functions**<br>**Ch. 8. Cell : The Unit of Life**<br>Cell theory and cell as the basic unit of life, structure of prokaryotic and eukaryotic cells; Plant cell and animal cell; cell envelope; cell membrane, cell wall; cell organelles - structure and function; endomembrane system- endoplasmic reticulum, ribosomes, golgi bodies, lysosomes, vacuoles; mitochondria, plastids, microbdodies; cytoskeleton, cilia, flagella, centrioles (ultrastructure and function); nucleus.<br>**Ch. 10. Cell Cycle and Cell Division**<br>Cell Cycle, mitosis, meiosis and their significance |
| **Sept** | | **21** | **REVISION &**<br>**HALF YEARLY EXAMINATION** |

| Months | Unit | No. of Working Days | Topics / Chapters |
|---|---|---|---|
| **Oct.** | Ⅲ | **18** | **Ch. 9. Biomolecules**<br>Chemical constituents of living cells: biomolecules, structure and function of proteins, carbohydrates, lipids, nucleic acids; Enzymes - types, properties, enzyme action, factors, classification, Co-factors. |
| **Nov.** | IV& V | **16** | **Plant Physiology**<br>**Ch. 13. Photosynthesis in Higher Plants**<br>Photosynthesis as a means of autotrophic nutrition; early experiments, site of photosynthesis, pigments involved in photosynthesis (elementary idea); photochemical and biosynthetic phases of photosynthesis; cyclic and non-cyclic photophosphorylation; chemiosmotic hypothesis; photorespiration; C3 and C4 pathways; factors affecting photosynthesis.<br>**Ch. 14. Respiration in Plants**<br>Exchange of gases; do plants breathe; cellular respiration - glycolysis, fermentation (anaerobic), TCA cycle and electron transport system (aerobic); energy relations - number of ATP molecules generated; amphibolic pathways; respiratory quotient. |



| Months | Unit | No. of Working Days | Topics / Chapters |
|---|---|---|---|
| | | | **Ch. 15. Plant - Growth and Development**<br>Seed germination; characteristics, measurements and phases of plant growht, growth rate; conditions for growth; differentation, dedifferentiation and redifferentiation; sequence of developmental processes in a plant cell; growth regulators - auxin, gibberellin, cytokinin, ethylene, ABA. |
| **Dec.** | **IV& V** | **24** | **Human Physiology**<br>**Ch. 17. Breathing and Exchange of Gases**<br>Introduction to respiratory organs in animals; Respiratory system in humans; mechanism of breathing and its regulation in humans - exchange of gases, transport of gases and regulation of respiration, respiratory volumes; disorders related to respiration - asthma, emphysema, occupational respiratory disorders.<br>**Ch. 18. Body Fluids and Circulation**<br>Composition of blood, blood groups, coagulation of blood; composition of lymph and its function; circulatory pathways; human circulatory system - Structure of human heart and blood vessels; cardiac cycle, cardiac output, ECG; double circulation; regulation of cardiac activity; disorders of circulatory system - hypertension, coronary artery disease, angina pectoris, heart failure. |

| Months | Unit | No. of Working Days | Topics / Chapters |
|---|---|---|---|
| | | | **Ch. 19. Excretory Products and their Elimination**<br>Modes of excretion - ammonotelism, ureotelism, uricotelism; human excretory system - structure and function; urine formation, osmoregulation; regulation of kidney function - renin - angiotensin, atrial natriuretic factor, ADH, diabetes inspipidus; micturition; role of other organs in excretion; disorders - uremia, renal failure, renal calculi, nephrities; dialysis and artificial kidney, kidney transplant. |
| **Jan** | V | **16** | **Ch. 20. Locomotion and Movement**<br>Types of movement - amoeboid, ciliary, flagellar, muscular; types of muscles; skeletal muscle, contractile proteins and muscle contraction; skeletal system and its functions; joints; disorders of muscular and skeletal systems- myasthenia g ravis, tetany, muscular dystrophy, arthritis, osteoporosis, gout.<br>**Ch. 21. Neural Control and Coordination**<br>Neuron and nerves; Nervous system in humans - central nervous system and peripheral nervous system; generation, conduction and transmission of nerve impulse. |



| Months | Unit | No. of Working Days | Topics / Chapters |
|---|---|---|---|
| | | | **Ch. 22. Chemical Coordination and Integration**<br>Endocrine glands and hormones; human endocrine system - hypothalamus, pituitary, pineal, thyroid, parathyroid, thymus, adrenal, pancreas, gonads; hormones of heart, kidney and gastrointestinal tract; mechansim of hormone action (elementary idea); role of hormones as messengers and regulators, hypo - and hyperactivity and related disorders; dwarfism, acromegaly, cretinism, goiter, exophthalmic goiter, diabetes, Addision's disease. |
| **Feb.** | | **21** | **REVISION & ANNUAL EXAMINATION** |

## PRACTICALS

**List of Experiments :**

1. Study and description of three locally available common flowering plants, one from each of the families Solanaceae, Fabacceae and including dissection and display of floral whorls, anther and ovary to show number of chambers (floral formulae and floral diagrams). Types of root (Tap and adventitious); types of stem (herbaceous and woody); leaf (arrangement, shape, venation, simple and compound).
2. Preparation and study of T.S. of dicot and monocot roots and stems (primary).
3. Study of osmosis by potato osmometer.

4. Study of plasmolysis in epidermal peels (e.g. Rhoeo/lily leaves or flashy scale leaves of onion bulb).
5. Study of distribution of stomata in the upper and lower surface of leaves.
6. Comparative study of the rates of transpiration in the upper and lower surfaces of leaves.
7. Test for the presence of sugar, starch, proteins and fats in suitable plant and animal materials.
8. Separation of plant pigments through paper chromatography.
9. Study of rate of respiration in flower buds/leaf tissue and germinating seeds.
10. Test for presence of urea in urine.
11. Test for presence of sugar in urine.
12. Test for presence of albumin in urine.
13. Test for presence of bile salts in urine.

**Study and observe the following (Spotting) :**

1. Parts of a compound microscope.
2. Specimens / slides / models and identification with reasons - Bacteria, Oscillatoria, Spirogyra, Rhizopus, mushroom, yeast, liverwort, moss, fern, pine, one monocotyledonous plant, one dicotyledonous plant and one lichen.
3. Virtual specimens / slides / models and identification features of - Amoeba, Hydra, liverfluke, Ascaris, leech, earthworm, prawn, silkworm, honeybee, snail, stgarfish, shark, rohu, frog, lizard, pigeon and rabbit.
4. Mitosis in onion root tip cells and animal cells (grasshopper) from permanent slides.
5. Different types of inflorescence (cymose and racemose).
6. Human skeleton and different types of joints with the help of virtual images / models only.





| Months | No. of Working Days | Unit / Topics |
|---|---|---|
| **June** | | **STATISTICS**<br>**Unit -1- Introduction**<br>**Topic :** What is economics, meaning scope and importance of Statistics in economics.<br>**Topics : Collection of data -** Sources of Data, Methods of collecting data, Census and NSSO.<br>**Topics :** Organisation of data : meaning and types of variables, frequency distribution.<br>**Topics :** Presentation of data : tabular and diagrammatic presentation of data (bar diagrams, pie, diagrams, polygon and ogive, time series graph).<br>**Micro Economics**<br>**Unit -1- Central problem and production possibility curve**<br>**Topic :** Central problem and production possibility curve.<br>**Topic :** Introduction to economics, micro and macro economics, central problems of an economy, production possibility curve and and application. Positive and normative economics. |
| **July** | | **MICRO ECONOMICS**<br>**Topic : Consumer behaviour : -** Cardinal and ordinal approach of utility, Law of Diminishing marginal utility, Consumer equilibrium single and more than one commodity, Indifference curve and budget line, Properties of IC, Consumer equilibrium under IC approach. |

| Months | No. of Working Days | Unit / Topics |
|---|---|---|
| | | **Topic : Demand and elasticity of demand :-** Demand Law, factors affecting Demand, market and individual demand, change in demand and change in quantity demanded, exceptions of demand, Elasticity of demand, methods of measuring elasticity, factors affecting elasticity, factors affecting elasticity of demand.<br>**STATISTICS**<br>**Unit -3- Measures of Central Tendency:** Mean (simple and weighted). |
| **Aug / Sept.** | | **STATISTICS**<br>**Topic : Measures of Central Tendency:** Median and Mode<br>**MICRO ECONOMICS**<br>**Topic : Producer Behaviour :-** Law of variable proportion, relation between TP, AP and MP, Cost - different cost curves and relation between TC, TVC, TFC, MC, AC, AVC, AFC, Explicit and Implicit cost curves.<br>**Revision for Half Yearly Examination** |
| **Oct** | | **MICRO ECONOMICS**<br>**Topic : Producer behaviour :** Supply and elasticity of supply, factors affecting supply, law of supply, change in supply / shift in the supply curve and change in quantity supplied / movement on the supply curve. |
| **Nov** | | **STATISTICS**<br>**Topic : Correlation :** Meaning, scatter diagram, measure of corrleation-Karl person and spearmans rank correlation.<br>**MICRO ECONOMICS**<br>**Topic : Producer behaviour :** shape of revenue curves in different markets. producer equiliberium - MR=MC approach. |



| Months | No. of Working Days | Unit / Topics |
|---|---|---|
| **Dec** | | **MICRO ECONOMICS**<br>**Topic : Main market forms :-** Perfect competion, Monopoly, Monopolistic competition, Oligopoly. Features and their implication.<br>**STATISTICS**<br>**Topic : Introduction to Index No.:-** Meaning, Types -wholesale price index, consumer price index and index of Industrial production, methods of index number, uses of index no., inflation index number. |
| **Jan** | | **MICRO ECONOMICS**<br>Simple application of demand and supply, market equilibrium and change in equilibrium, price ceiling and price floor. |

## SUB - PHYSICAL EDUCATION (048)

| Months | No. of Days | Unit No. | Topics |
|---|---|---|---|
| **June** | **14** | **1** | **Changing trends & career in Physical Education**<br>● Concept, Aims & Objectives of Physical Education.<br>● Development of Physical Education in India - Post Independence<br>● Changing trend in sports-playing surface, wearable gear and sports equipment, technological advancements<br>● Career Options in Physical Education<br>● Khelo - India Program and Fit - India Programme |
| **July** | **10** | **2** | **Olympism value Education**<br>● Olympism - Concept and Olympics values (Excellence, Friendship & Respect)<br>● Olympic Value Education - Joy of Effort, Fair Play, Respect for others, Pursuit of Excellence, Balance among body, Will & mind.<br>● Ancient and Modern Olympics<br>● Olympic - Symbol, Motto, Flag, Oath and Anthem<br>● Olympic Movement Structure - IOC, NOC, IFC, Other members |
| **July** | **11** | **5** | **Physical Fitness, Wellness and lifestyle**<br>● Meaning & Importance of Wellness, Health and Physical Fitness<br>● Components / Dimension of Wellness, Health and Physical Fitness |



| Months | No. of Days | Unit No. | Topics |
|---|---|---|---|
| | | | ● Traditional Sports & Regional Games for promoting wellness<br>● Leadership through Physical Activity and Sports<br>● Introduction to First Aid - PRICE |
| **Aug** | **11** | **6** | **Test, Measurement & Evaluation**<br>● Define Test, Measurements & Evaluation<br>● Importance of Test, Measurements and Evaluation in Sports<br>● Calculation of BMI, Waist - Hip Ratio, Skin fold measurement (3-site)<br>● Somato Types (Endomorphy, Measomorphy & Ectomorphy)<br>● Measurements of health-related fitness. |
| **Aug** | **22** | **7** | **Fundamentals of Anatomy, Physiology in Sports**<br>● Definition and Importance of Anatomy, Physiology in exercise and Sports<br>● Functions of Skeletal system, Classification of Bones & Types of Joints<br>● Properties and Functions of Muscles<br>● Structure and Functions of Circulatory System and Heart<br>● Structure of Respiratory System |
| **Sept** | **21** | **4** | **Physical Education & Sports for CWSN (Children with Special Needs-Divyang)**<br>● Concept of Disability and Disorder<br>● Types of Disability, its causes and nature (Intellectual disability, Physical Disability). |

| Months | No. of Days | Unit No. | Topics |
|---|---|---|---|
| | | | ● Disability Etiquettes<br>● Aims and objectives of Adaptive Physical Education<br>● Role of various professionals for children with special needs (Counsellor, Occupational Therapist, Physiotherapist, Physical Education Teacher, Speech Therapist & Special Educator) |
| **Oct** | **18** | **3** | **Yoga**<br>● Meaning & Importance of Yoga<br>● Introduction of Ashtanga Yoga<br>● Yogic Kriyas (Shat Karma)<br>● Pranayama and its types<br>● Active lifestyle and stress management through Yoga |
| **Nov** | **16** | **8** | **Fundamentals of Kinesiology and Biomechanics in Sports**<br>● Definition & Importance of Kinesiology and Biomechanics in Sports<br>● Principles of Biomechanics<br>● Kinetics and Kinematics in Sports<br>● Types of Body Movement - Flexion, Extension, Abduction, Rotation, Circumduction, Supination & Pronation<br>● Axis and Planes - Concept and its application in body movements |



| Months | No. of Days | Unit No. | Topics |
|---|---|---|---|
| **Dec** | **24** | **9** | **Psychology & Sports**<br>● Definition & Importance of Psychology in Physical Education & Sports<br>● Developmental Characteristics at different stages of Development;<br>● Adolescent problems & their Management<br>● Team Cohesion and Sports;<br>● Introduction to Psychological Attributes: Attention, Resilience, Mental Toughness. |
| **Jan** | **16** | **10** | **Training and Doping in Sports**<br>● Concept and Principles of Sports Training<br>● Training Load : Overload, Adaption and Recovery<br>● Warming-up & Limbering Down - Types, Method & Importance<br>● Concept of Skill, Technique, Tactics & Strategies<br>● Concept of Doping and its disadvantages |

**SUB - COMPUTER SCIENCE**

| Months | No. of Working Days | Topic to be covered |
|---|---|---|
| June | 14 | **Unit-I : Computer Systems and Organization**<br>● **Basic computer organization :** Introduction to Computer System, Hardware, Software, Input device, Output device, CPU, memory (Primary, Cache and Secondary), units of memory (bit, byte, KB, MB, GB, TB, PB)<br>● **Types of Software :** System Software (Operating systems, System utilities, Device drivers), programming tools and language translators (assembler, compiler and interpreter), application software.<br>● **Operating System (OS) :** Functions of the operating system, OS user interface.<br>● **Boolean Logic :** NOT, AND, OR, NAND, NOR, XOR, NOT, truth tables and De Morgan's laws, Logic circuits.<br>● **Number System :** Binary, Octal, Decimal and Hexadecimal number system; conversion between number systems.<br>● **Encoding Schemes :** ASCII, ISCII, and Unicode (UTF8, UTF32) |



| Months | No. of Working Days | Topic to be covered |
|---|---|---|
| July | 22 | **Unit-II : Computational Thinking and Programming - I**<br>● **Introduction to Problem-Solving :** Steps for Problem-solving (Analyzing the problem, developing an algorithm, coding, testing, and debugging), representation of algorithms using flowchart and pseudocode, decomposition.<br>● **Familiarization with the basics of Python Programming :** Introduction to Python, Features of Python, executing a simple "hello world" program, execution modes: interactive mode and script mode, Python character set, Python tokens (keyword, identifier, literal, operator, punctuator), variables, concept of I-value and r-value, use of comments.<br>● **Knowledge of data types :** Number (integer, floating point, complex), boolean, sequence (string, list, tuple), None, Mapping (dictionary), mutable and immutable data types.<br>● **Operators:** arithmetic operators, relational operators, logical oprators, assignment operators, augmented assignment operators, identity operators (is, is not), membership operators (in, not in). |

| Months | No. of Working Days | Topic to be covered |
|---|---|---|
| | | ● **Expressions, statement, type conversion, and input/ouput :** precedence of operators, expression, evaluation of an expression, type-conversion (explicit and implicit conversion), accepting data as input from the console and displaying output.<br>● Errors-syntax errors, logical errors, and run-time errors<br>● Flow of Control: introduction, use of indentation, sequential flow, conditional and iterative flow.<br>● Conditional statements : if, if-else, if-elif-else, flowcharts, simple programs: e.g.: absolute value, sort 3 numbers and divisibility of a number. |
| **Aug** | **22** | **Unit-II : Computational Thinking and Programming - I**<br>● Iterative Statement: for loop, range(), while loop, flowcharts, break and continue statements, nested loops, suggested programs: generating pattern, summation of series, finding the factorial of a positive number, etc.<br>● Strings: introduction, string operations (concatenation, repetition, membership and slicing), traversing a string using loops, built-in functions/methods-len(), capitalize(), title(), lower(), upper(), count(), find(), index(), endswitch(), startswitch(), isalnum(), isalpha(), |



| Months | No. of Working Days | Topic to be covered |
|---|---|---|
| | | isdigit(), islower(), isupper(), isspace(), Istrip(), restrip(), strip(), replace(), join(), partition(), split(). |
| **Sept** | **21** | **Revision + Half Yearly Examination** |
| **Oct** | **18** | **Unit-II : Computational Thinking and Programming - I**<br>● **Lists :** Introduction, indexing, list operations (concatenation, repetition, membership and slicing), traversing a list using loops, built-in functions/ methods-len(), list(), append(), extend(), insert(), count(), index(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum(); nested lists, suggested programs: finding the maximum, minimum, mean of numeric values stored in a list; linear search on list of numbers and counting the frequency of elements in a list.<br>● **Tuples :** introduction, indexing, tuple operations (concatenation, repetition, membership and slicing); built-in functions/methods- len(), tuple(), count(), index(), sorted(), min(), max(), sum(), tuple assignment, nested tuple; suggested programs: finding the minimum, maximum, mean of values stored in a tuple; linear search on a tuple of numbers, counting the frequency of elements in a tuple. |

| Months | No. of Working Days | Topic to be covered |
|---|---|---|
| Nov | 16 | **Unit-II : Computational Thinking and Programming - I**<br>● **Dictionary :** Introduction, accessing items in a dictionary using keys, mutability of a dictionary (adding a new term, modifying an existing item), traversing a dictionary, built-in functions / methods - len (), dict(), keys(), values(), items(), get(), update(), del(), del, clear(), fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), sorted() ; Suggested programs: count the number of times a character appears in a given string using a dictionary, create a dictionary with names of employees, their salary and access them.<br>● **Introduction to Python modules :** Importing module using 'import' and using from statement, importing math module (pi, e, sqrt(), ceil(), floor(), pow(), fabs(), sin(), cos(), tan() ; random module (random(), randint(), randrange()), statistics module (mean (), median(), mode()). |
| Dec | 20 | **Unit-III : Society, Law and Ethics**<br>● Digital Footprints.<br>● Digital Society and Netizen: net etiquettes, communication etiquettes, social media étiquettes.<br>● Data Protection: Intellectual property rights (copyright, patent, trademark), |



| Months | No. of Working Days | Topic to be covered |
|---|---|---|
| | | violation of IPR (plagiarism, copyright infringement, trademark infringement), open source software and licensing (Creative Commons, GPL and Apache).<br>● Cyber Crime: definition, hacking, eavesdropping, phishing and fraud emails, ransomware, cyber trolls, cyber bullying.<br>● Cyber safety: safely browsing the web, identity protection, confidentiality.<br>● Malware : viruses, trojans, adware<br>● E-waste management : proper disposal of used electronic gadgets.<br>● Information Technology Act (IT Act)<br>● Technology and society: Gender and disability issues while teaching and using computers. |
| Jan | 16 | **Revision** |

## Sub - Informatics Practices (065)

| Months | No. of Working Days | Topic |
|---|---|---|
| **June** | **14** | **Unit-1 : Introduction to Computer System**<br><br>Introduction to computers and computing : evolution of Computing devices, components of a computer system and their interconnections, Input/ Output devices.<br><br>**Computer Memory :** Units of memory, types of memory - primary and secondary, data deletion, its recovery and related security concerns.<br><br>**Software :** Purpose and types - system and application software, generic and specific purpose software. |
| **July** | **22** | **Understanding Programming Logic :** Algorithm & Flowchart. |
| **Aug** | **22** | **Unit-2 : Introduction to Python**<br>Basic of Python programming, Python interpreter - interactive and script mode, the structure of a program, indentation, identifiers, keywords, constants, variables, types of operators, precedence of operators, data types, mutable and immutable data types, statements, expressions, evaluation of expressions, comments, input and output statements, data type conversion, debugging. Control statements : if-else, for loop, while loop. |
| **Sept** | **21** | **Lists :** list operations - creating, initializing, traversing and manipulating lists, list methods and built-in-functions: len(), list(), append(), extend(), insert(), count(), find(), |



| Months | No. of Working Days | Topic |
|---|---|---|
| | | remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum().<br><br>**Dictionary :** concept of key-value pair, creating, initializing, traversing, updating and deleting elements, dictionary methods and built-in functions: dict(), len(), keys(), values(), items(), update(), del (), clear() |
| **Oct** | **12** | **Unit-3 : Database concepts and the Structured Query Language :**<br><br>**Database Concepts :** Introduction to database concepts and its need, Database Management System.<br><br>**Relational data model :** concept of domain, tuple, relation, candidate key, primary key, alternate key.<br><br>Advantages of using Structured Query Language, Data Definition Language (DDL) Data Query Language and Data Manipulation Language (DML) Introduction to MySQL, creating a database using MySQL, Data Types.<br><br>**Data Definition :** CREATE, DATABASE, CREATE TABLE, DROP, ALTER.<br><br>**Data Query :** SELECT, FROM, WHERE with relational operators, BETWEEN, logical operators, IS NULL, IS NOT NULL.<br><br>**Data Manipulation :** INSERT, DELETE, UPDATE. |

| Months | No. of Working Days | Topic |
|---|---|---|
| Nov | 16 | **Unit-4 : Introduction to the Emerging Trends :**<br>Artificial Intelligence, Machine Learning, Natural Language Processing, Immersive experience (AR, VR), Robotics, Big data and its characteristics, Internet of Things (IoT), Sensors, Smart cities, Cloud Computing and Cloud Services (SaaS, laaS, PaaS); Grid Computing, Block chain technology. |
| Dec | 24 | **Project Work** |
| Jan | 14 | **Revision** |





| Months | No. of Working Days | Ch. | Topic |
|---|---|---|---|
| June | 10 | 1 | **Evolution and Fundamentals of Business**<br>History of trade and commerce in India; Indigenous Banking system, Rise of intermediaries, Transport, Trading communities, Merchant Corporations, Major Trade Centres, Major Imports & Exports, position of Indian sub-continent in the World economy.<br>Business - Meaning and Characteristics. Business, Profession and Employment - Concept, Objectives of Business, Classification of Business activities - Industry and Commerce. Industry - types: Primary, secondary, tertiary- Meaning and sub groups. Commerce - Trade (types - internal, external; wholesale and retail) and auxiliaries to trade; (banking, insurance, transportation, warehousing, communication and advertising) meaning.<br>Business risk - concept. |
| July | 24 | 2 | **Forms of Business Organisation :**<br>Sole Proprietorship-Concept, merits and limitations. Partnership - Concept, types, merits and limitations. Registration of partnership firm, partnership deed, types of partners. Discuss types of partners - Active, Sleeping, Secret, Nominal and partner by Estoppel. |

| Months | No. of Days | Term | Topics |
|---|---|---|---|
| | | | Hindu undivided family business : Concept.<br>Cooperative societies - concept, merits and limitations, types. Company - concept, merits and limitations; types: private, public and one person company - concept. Formation of company - stages, important documents to be used in formation of a company.<br>Choice of form of business organisation. |
| **Aug** | 22 | 3 | **Public, Private and Global Enterprises :**<br>Public sector and Private sector enterprises - Concept. Forms of Public Sector enterprises: Departmental Undertakings, Statutory Corporations and Government Company - Features, merits and limitations.<br>Global Enterprises - Features, Public Private Partnership concept. |
| | | 4 | **Business Services :** Meaning and types. Banking- Types of bank accounts - Savings, current, recurring, fixed deposit and multiple option deposit account. Banking services with particular reference to Bank Draft, Bank Overdraft, Cash Credit, e-Banking-meaning, types of digital payments. Insurance - Principles, Types - Life, Health, Fire and Marine insurance - Concept.<br>Postal services - Mail, Registered Post, Parcel, Speed Post, Courier - meaning. |



| Months | No. of Days | Term | Topics |
|---|---|---|---|
| **Sept** | 21 | | **Revision**<br>**Half - Yearly Examinations :** |
| | | 5 | **Emerging Modes of Business :**<br>e-Business- concept, Scope, benefits. |
| **Oct** | 18 | 6 | Social Responsibility of Business and Business Ethics Concept of Social responsibility, Case for social responsibility, Responsibility towards owners, investors, consumers, employees, government and community. Role of business in environment protection.<br>Business Ethics : Concept & Elements. |
| | | 7 | **Sources of Business Finance :**<br>Business Finance : Concept and importance - Owners' Funds-Equity shares, Preference shares, Retained earnings. |
| **Nov** | 16 | 7 | **Continuation of Ch - 7**<br>**Borrowed funds :** Debentures and Bonds, Loan from Financial institution and commercial banks, public deposits, Trade credit. |
| | | 8 | **Small business and Entrepreneurship Development ED :** Concept and Need, process of Entrepreneurship Development : Start up India Scheme, ways to funds Start up, Intellectual Property Rights and Entrepreneurship. |
| **Dec** | 24 | 8 | **Continuation of Ch - 8**<br>Small scale enterprise - Definition as per MSMED Act, 2006. |

| Months | No. of Days | Term | Topics |
|---|---|---|---|
| | | | Role of small business in India with special reference to rural areas. Government schemes and agencies for small scale industries: NSIC and DIC with special reference to rural, backwards areas. |
| | | 9 | **Internal Trade :** Meaning and types of services rendered by a wholesaler and retailer. |
| | | | **Winter Break :** |
| | | | Project work for Practial |
| **Jan** | 16 | 9 | **Continuation of Ch - 9**<br>Types of retail trade - itenerant and small scale fixed shop retailers. |
| | | | Large scale retailers - Departmental stores, Chain stores - concept. |
| | | 10 | **International Trade :** Concept and Benefits to the nation and business firms. Export trade -meaning & procedure, Import Trade - meaning & procedure. Documents involved in International Trade, indent, letter of Credit, shipping order, shipping bills, mate's receipt (DA/DP) World Trade Organisation : meaning & objective. |
| **Feb** | 21 | | **Revision**<br>**Annual Examinations** |





| Months | No. of Days | Term | Topics |
|---|---|---|---|
| **June** | 14 | **I** | **PART- A : FINANCIAL ACCOUNTING**<br>**Introduction to Accounting**<br>● Accounting - concept, objectives, advantages and limitations, types of accounting information; users of accounting information and their needs. Qualitative Characteristics of Accounting Information. Role of Accounting in Business.<br>● Basic accounting Terms - Business trasaction, capital, drawings. Liabilities (Non Current and Current). Assets (Non Current, Current); Fixed assets (Tangible and Intangible), Expenditure (Capital and Revenue), Expenses, income, profits, gains, loss, Purchases, sales, Goods, stock, Debtor, Creditor, voucher, discount (Trade discount and cash discount). |
| **July** | 22 | | **Theory Base of Accounting :**<br>● Fundamental Accounting assumptions: GAAP-CONCEPT<br>● Business entity, money measurement, Going Concern, Accounting Period, Cost Concept, Dual Aspect, Revenue Recognition, Matching : Full Discolosure, Consistency, Conservatism, Materiality and Objectivity. |

| Months | No. of Days | Term | Topics |
|---|---|---|---|
| | | | • System Accounting. Basis of Accounting : cash basis and accrual basis.<br>• Accounting Standards: Applicability in IndAS<br>• Goods and Services Tax (GST) : Characteristics and Objective.<br>**Recording of business Transactions:**<br>• Voucher and Transactions: Source Documents and Vouchers, preparation of Vouchers, Accounting Equation Approach: Meaning and Analysis, Rules of Debit and Credit.<br>• Recording of Transactions- Books of Original |
| **Aug** | 22 | | **Entry Journal**<br>• Special purpose books :<br>• Cash book: simple, cash book with bank column and petty cashbook<br>• Purchases book.<br>• Sales book<br>• Purchases return book<br>• Sales returns book. |
| **Sept** | 21 | | **Note : Including trade discount, freight and cartage expenses for simple GST calculation.**<br>• Ledger: Format, Posting from Journal and Subsidiary books, Balancing of accounts. |



| Months | No. of Days | Term | Topics |
|---|---|---|---|
| | | | **Bank Reconciliation Statement :**<br>• Need and preparation.<br>**Depreciation, Provisions and Reserves :**<br>• Depreciation : Concept, Features, Causes, factors<br>• Other similar terms : Depletion and Amortisation<br>• Methods of Depreciation :<br>i) Straight Line Method (SLM)<br>ii) Written Down Value Method (WDV)<br>**Note : Excluding change of method**<br>• Difference between SLM and WDV; Advantages of SLM and WDV<br>• Accounting treatment of depreciation<br>i) Charging to asset account<br>ii) Creating provision for depreciation/accumulated depreciation account<br>• Provisions and Reserves : Difference<br>• Types of Reserves :<br>i) Revenue Reserve<br>ii) Capital Reserve<br>iii) General Reserve<br>iv) Specific Reserve<br>v) Secret Reserve<br>Difference between capital and revenue reserve |

| Months | No. of Days | Term | Topics |
|---|---|---|---|
| | | II | **Accounting for Bills of Exchange** |
| **Oct** | 18 | | • Bill of exchange and Promissory Note : Definition, Specimen, Feautres, Parties.<br>• Difference between Bill of Exchange and Promissory Note<br>• Terms in Bill of Exchange :<br>i) Term of Bill<br>ii) Accommodation bill (Concept)<br>iii) Days of Grace<br>iv) Date of maturity<br>v) Discounting of Bill<br>vi) Endorsement of Bill<br>vii) Bill after due date<br>viii) Negotiation<br>ix) Bill sent for collection<br>x) Dishonour of bill<br>• Accounting Treatment<br>Note : excluding accounting treatment for accommodation bill Trial balance and Rectification of Errors<br>• Trial balance : objectives and preparation<br>(Scope : Trial balance with balance method only) |



| Months | No. of Days | Term | Topics |
|---|---|---|---|
| | | | • Errors : types-errors of omission, commission, principles, and compensating; their effect on Trial Balance.<br>Detection and rectification of errors; preparation of suspense account. |
| **Nov** | 16 | II | **PART- B : FINANCIAL ACCOUNTING**<br>**Unit 3 : Financial Statements of Sole Proprietorship**<br>**Financial Statements**<br>• Meaning, objectives and importance; Revenue and Capital Receipts; Revenuje and Capital Expenditure; Deferred Revenue Expenditure.<br>• Balance Sheet : need, grouping and marshalling of assets and liabilities. Preparation.<br>• Adjustments in preparation of financial statements with respect to closing stock, outstanding expenses, prepaid expenses, accrued income, income received in Advance, depreciation, bad debts, provision for doubtful debts, provision for discount on debtors, Abnormal loss, goods taken for personal use/staff welfare, interest on capital and managers commission. |

| Months | No. of Days | Term | Topics |
|---|---|---|---|
| | | | • Preparation of Trading and Profit and Loss account and Balance Sheet of a sole proprietorship with adjustments.<br>**Incomplete Records**<br>• Features, reasons and limitations.<br>• Ascertainment of Profit / Loss by Statement of Affairs method. |
| **Dec** | 24 | | **Unit 4 : Computers in Accounting**<br>• Introduction to computer and accounting information system {AIS}: Introduction to computers (elements, capabilities, limitations of computer system). |



**Sub - Fine Art (Painting) Code No. 049**

| Months | Theory/ Practical | Topics |
|---|---|---|
| **June** (06Days) | **Theory** | Introduction of Fine Arts. Its different branches, medium and scope. Principles of Composition, Method and Materials. What is painting ? **Element of composition:-** Point, Line, Form, Colour, Tone, Texture and Space. **Principal of composition**:- Unity, Harmony, Balance, Rhythm, Emphasis, Proportion. |
| | **Practical** | Introduction of Method and material, Pencil shading fixed point view, Drawing, Sketching & Colouring.<br>**Subjects of composition :-** Still life study. |
| **July** (22Days) | **Theory** | Difference between Painting, Graphics, Sculputre, Commercial Art, Design and its different types. Concept of Colour Wheel. Pre-Historic Rock-Paintings Introduction period, location and study and appreciation of different Pre-historic Paintings. Bhimbetka rock shelters. **Eg.-** Wizard's Dance, A Roaring Animal. |
| | **Practical** | Pencil shading, Pen & ink and water colour. What is design ? Simple exercises of Basic Design in variation of geometric and Rhythmic shapes in gemetrical and decorative design and colour to understand design as organised visual arrangements. Different types of design, Monocrome painting, Use of Primary, Secondary Tertiary, Contrast, Cool and warm colour combinations. |

| Months | Theory/ Practical | Topics |
|---|---|---|
| | | **Subjects of compostition :-** Vegetable, Foliage, and daily used object, Nature and object study, Geometrical form objects, natural form life plants and flower, Decorative and ornamental design. |
| **Aug.** (23Days) | **Theory** | Art of Indus Valley Civilization - Introduction period, location. (i) Harappa & Mohanjodaro (Now in Pakistan) (ii) Ropar, Lothal, Ramgpur, Alamgipur, Kali Banga Banawali and Dholavira (In India). Study and appreciation of different Sculptures and Terracotta's of Indus Valley Civilization. **Eg.-** Dancing Girl, Male Torso, Mother Goddess. Study and appreciation of different Seal and decorative earthen wares of Indus Valley Civilization. **Eg.-** Bull, Jar. |
| | **Practical** | What is composition, Black and white and colour composition, Sketching, Shading and Water colour (transparent & opaque). **Subjects of composition:-** Portrait study, Human figure study with colour compositions, Village life, Landscape with human figure. |
| **Sept.** (20Days) | **Theory** | Buddhist, Jain and Hindu Art. General Introduction to Art and Sculptures of Mauryan. |
| | **Practical** | Concept of perspective, colour perspective, perspective with composition, What is landscape? Use of linear & aerial perspective. **Subjects of composition:-** Landscape with different tree, reflection, water fall, mountain; City-scape, Living room & drawing room with perspective drawing. |



| Months | Theory/ Practical | Topics |
|---|---|---|
| **Oct** (17Days) | **Theory** | Buddhist, Jain and Hindu Art. General Introduction to Art and Sculptures during Mauryan, Shunga, Kushana (Gandhara and Mathura) style and Gupta period. **Eg.-** Lion Capital, Chauri Bearer, Sanchi Stupa, Bodhisattva head, Seated Buddha from Katra Tila, Seated Buddha from Sarnath, Jain Tirthankar. |
| | **Practical** | Wax resistance technique, Mixed medium technique, Composition with human figure using different textures. **Subjects of composition:-** Different birds and animals composition, Dream or fantasy imaginative composition, Rainy day. |
| **Nov.** (17Days) | **Theory** | Introduction to Ajanta. Location, Period, No. of Caves, Chaitya and Vihar. Study of different Painting and Sculptures, Subject matter and technique etc. of Ajanta. **Eg.** Padmapani Bodhisatava, Mara Vijay. Artistic aspects of Indian Temple sculpture ($6^{th}$ century AD to $13^{th}$ century AD) and study of different Temple. Introduction to Temple Sculptures. Later Mural Tradition. **Eg.-** Descent of Ganga, Ravana shaking Mount Kailash, Trimurti Lakshmi Narayan / Kandariya Mahadev Temple, Cymbal Player, Mother and Child. Dakshinamurty of Vijayanagar. |
| | **Practical** | Flower study with white and white flower, landscape painting with mixed medium technique, wax resistance technique with landscape painting, Colourful background and monochrome foreground painting with landscape. **Subjects of composition:-** Study room, Any festival, Park, Any Social theme. |

| Months | Theory/ Practical | Topics |
|---|---|---|
| **Dec.** (23Days) | **Theory** | Introduction to Indian Bronzes method of casting (solid & Hollow). Study and appreciation of following and study of following different South Indian Bonzes. **Eg.-** Nataraj, Devi (Uma). |
| | **Practical** | Method material and technique of water colour and acrylic colour and oil colour. Transparent water colour, opaque water colour and tempera water colour. Block painting and illusion.<br>**Subjects of composition:-** Illusionistic painting, opitical illusionistic painting, 3D painting, block painting, block design and outdoor study, Architectural drawings. |
| **Jan.** (17Days) | **Theory** | Artistic aspects of the Indo-Islamic architecture-introduction, study and appreciation & study of different Mughal architectures. **Eg.-** Qutab Minar, Gol Gumbad. |
| | **Practical** | Composition making with different elements in any medium.<br>**Subjects of composition:-** Human figure with composition, Winter day, festival, market, city life, village life, Practical Exam. |
| **Feb.** (21Days) | **Theory** | **Revision for Final Examination.** |
| | **Practical** | Practical Exam :- Portfolio presentation with 15 painting with record of the entire year's performance from sketch to finished Art work, Pencil shading, pen & ink work, Landscape painting, Human figure composition, Still life painting, Human figure drawing & sketch, Portrait painting, Imaginative painting. And other compositions according to your syllabus. |



| Months | Theory/ Practical | Topics |
|---|---|---|
| **Materials Required for Practical** | | Pen, pencil eraser, shading pencil set, marker (thin and bold), pastel colour, Artist water colour, Synthetic hair brushes-1set, big bowl, big colour palette, rough cloth, A/3 size drawing copy, A/3 size chart papers (unrolled), file board, shading pencil, oil pastel, marker, paint brush pen, Acrylic colours. Pen ink brush, News paper, Paper clip, Drawing board- Navneet, Portfolio of your art works. |
| **Practical Exam** | | **Paper-I-** Pencil shading- Still life study, Nature study, Foliage study, Object study.<br>**Paper- II -** Colourful composition with human figure, daily life, village life, urban life, drawing room, rainy day, festival, market, city life, fantasy & dream, cultural & social events, bird and animal with human figure.<br>**Paper- III -** Portfolio Assessment. |

## Sub - Fine Art (Graphics) Code No. 050

| Months | Theory/ Practical | Topics |
|---|---|---|
| **June** (06Days) | **Theory** | Introduction of Fine Arts. Its different branches, medium and scope. Principles of Composition, Method and Materials. What is Painting ? **Element of composition :-** point, line, form, colour, tone, texture and space. **Principal of composition :-** Unity, Harmony, Balance, Rhythm, Emphasis Proportion. |
| | **Practical** | Introduction of Method and Material, Pencil Shading fixed point view, Drawing, Sketching & Colouring. Introduction Graphics- Linocut, Relif Printing, Etching, Lithography silk screen.<br>**Subjects of composition :-** Still life study. Folk & Traditional Design. |
| **July** (22Days) | **Theory** | Difference between Painting, Graphics, Sculputre, Commercial Art, Design and its different types. Concept of Colour Wheel. Pre-Historic Rock-Paintings introduction, period, location and study and appreciation of different Pre-historic Paintings. Bhimbetka rock shelters. **Eg.-** Wizard's Dance, A Roaring Animal. |
| | **Practical** | Human figure Drawing, Proportion, Object drawing, Perspective, Craft making. Black and white compositions, Different textures. |



| Months | Theory/ Practical | Topics |
|---|---|---|
| | | What is design ? Simple exercises of basic design in variation of geometric and rhythmic shapes in geometrical and decorative designs and colours to understand designs as organised visual arrangements. Different types of design, Monocrome Painting, Use of Primary, Secondary, Tertiary, Contrast, Cool and warm colour combinations.<br>**Subjects of composition:-** Vegetable, Foliage, and daily used object, Scenery, Landscape, Flowers. |
| **Aug.** (23Days) | **Theory** | Art of Indus Valley Civilization. Introduction, period, location (i) Harappa & Mohanjodaro (Now in Pakistan) (ii) Ropar, Lothal, Rangpur, Alamgipur, Kali Bagan, Banawali and Dholaviera (In India). Study and appreciation of different Sculptures and Terracotta's of Indus Valley Civilization. **Eg.-** Dancing Girl, Male Torso, Mother Goddess. Study and appreciation of different Seal and decorative earthen wares of Indus Valley Civilization. **Eg.-** Bull, Jar |
| | **Practical** | Colour and Colour Composition, Colour Wheel, Black and White Composition, Potato Print, Craft making, Stencil, Colour and Mono colour / Black & White Layouts.<br>**Subjects of composition:-** Fruits, Vegetables, Still life, Portrait, Human figures. |

| Months | Theory/ Practical | Topics |
|---|---|---|
| **Sept.** (20Days) | **Theory** | Buddhist, Jain and Hindu Art. General Introduction to Art and Sculptures of Mauryan. |
| | **Practical** | Linocut, Woodcut, Black and White compositions, Print making, Technique of Writing Artist's Proof (A/P), no. of prints (1/6), Medium, Subject, Name Class Sec. in prints. Hanging prints and Technique of wrapping prints and MDF in News-paper to take home for drying. |
| **Oct** (17Days) | **Theory** | Buddhist, Jain and Hindu Art. General Introduction to Art and Sculptures during Mauryan, Shunga, Kushana, (Gandhara and Mathura) style and Gupta period. **Eg.-** Lion Capital, Chauri Bearer, Sanchi Stupa, Bodhisattva head, Seated Buddha from Katra Tila, Seated Buddha from Sarnath, Jain Tirthankar. |
| | **Practical** | Woodcut printing in black and white, using different textures. Print Making, Print quality- Pay special attention to print quality and neatness (no extra spot or impression) even border side & backside of the print & surrounding areas. All prints should be neat and clean always.<br>**Subjects of composition:-** Composition with flowers, birds, animals. |



| Months | Theory/ Practical | Topics |
|---|---|---|
| **Nov.** (17Days) | **Theory** | Introduction to Ajanta- Location, period, No. of Carves, Chaitya & Vihar. Study of different Painting and Sculptures, subject matter & technique etc. of Ajanta. **Eg.** Padmapani Bodhisatava, Mara Vijay.<br>Artistic aspects of Indian Temple sculpture ($6^{th}$ to $13^{th}$ Century AD) and study of different Temple. Introduction to Temple Sculptures. Later Mural Tradition. **Eg.-** Descent of Ganga, Ravana shaking Mount Kailash, Trimuti, Lakshmi Narayan / Kandariya Mahadev Temple, Cymbal Player, Mother and Child, Dakshinamurty of Vijayanagar. |
| | **Practical** | Coloured printing in Woodcut using Registration methods.<br>**Subjects of composition:-** Composition with human figures, portraits; Village life, City life etc. |
| **Dec.** (23Days) | **Theory** | Introduction to Indian Bronzes method of casting (solid and hollow). Study and appreciation of following and study of following different South Indian Bronzes. **Eg.-** Nataraj, Devi (Uma). |
| | **Practical** | Colography, Silk screen printing introduction - Method Material and technique, Monochrome compositions for Silkscreen.<br>**Subjects of composition:-** Festival, Market, Daily life etc. |

| Months | Theory/ Practical | Topics |
|---|---|---|
| **Jan** (17Days) | **Theory** | Artistic aspects of the Indo-Islamic architecture introduction, study and appreciation & study of different Mughal architectures. **Eg.-** Qutab Minar, Gol Gumbad. |
| | **Practical** | **Portfolio making -** Finishing, mounting and file preparation, with record of the entire year's performance from layout to finished Art work. The selected prints (from Linocuts/Woodcuts/Paper- cardboard / Colography Prints) prepared.<br>**Practical Exam.** |
| **Feb.** (21Days) | **Theory** | **Revision for Final Examination.** |
| | **Practical** | **Practical Exam:-** Portfolio presentation with 10 best Graphics work. Black and white layout, tracing on MDF, cutting & creating different textures, printing, writing Artist's Proof & signature in prints. Submit two identifical prints along with layout for your final exam. |
| **Materials Required for Practical** | | **June-Sept.** : Small poster colour set of 6 colours, Artists water colour box (Camel), Good synthetic Brushes-1set, Bowl, Palette, Drawing copy A/3 size or 1/4th Thick chart paper, A/3 size plastic leaf file, Shading Pencil set, Rough Clothes, in a big carry bag. Write your names in all.<br>**October to February** : Poster colour set of 6 colours, 5 MDF Board, 1 Linocut, Linocut Tools, Carbon Paper, Big Paper knife cutter, Few bushes, Pencil, Small steel bowl-1, Tarpine oil-1L (keep at |



| Months | Theory/ Practical | Topics |
|---|---|---|
| | | home), Few chart papers (Cut in 1/4th size unrolled), Big spoon, Waste clothes small pieces, Fevicol tube, Old news Papers, Apron, in a big carry bag. Few file board for mounting Portfolio. |
| **Practical Exam** | | **Half Yearly Exam :**<br>**(Paper-I)** Pencil shading- Still life study, Nature study, Foliage study etc.<br>**(Paper- II)** Colourful composition with human figures, flowers, bird, animal etc.<br>**Annual Exam :**<br>**Paper- I -** Layout making with black and white poster colour on given subject (original composition). Transforming layout on MDF Board.<br>**Paper- II -** Print making process. Prints should be identical. All prints should be of good quality, neat and clean. In Practical Exam submit one identical prints along with layout on given topic. For extra prints use own papers.<br>**Paper- III -** Portfolio with selected 10 Prints.<br>**Viva / Oral** on Method material, Fundamentals of art, History of Art. |

## Sub - History

| Months | No. of Days | Topic and Sub Topics | Monday Test/ Ability Test |
|---|---|---|---|
| **June** | 14 | The Scope and Use of History Need to Study Introduction to World Hisotry | |
| **July** | 22 | **Section - I - Early Societies**<br>**Introduction**<br>1. From the Beginning of Time<br>Focus : Africa, Europe Till 15000 BCE<br>a) Views on the origin of of human beings<br>b) Early Societies<br>c) Historians' views on present-day gathering-hunting societies<br>* Introduction to Ancient cave sites in India and early settlements in India<br>2. Writing and City Life<br>Focus : Iraq, 3rd Millennium BCE<br>a) Growth of Townsw<br>b) Nature of early urban socieities<br>c) Historians' Debate on uses of writing<br>* Introduction to other major Ancient civilisations an overview into Indus valley civilisation | 24.07.2023<br>Monday Test<br>Ancient Mesopotamia<br>31.07.2023<br>Ability Test<br>Ancient Civilis-ations |



| Months | No. of Days | Topic and Sub Topics | Monday Test/ Ability Test |
|---|---|---|---|
| **Aug** | 22 | **Section - II - Empiries**<br>**Introduction**<br>3. An Empire across Three Continents<br>Focus : Roman Empire, 27 BCE to 600 CE<br>a) Political Evolution<br>b) Economic Expansion<br>c) Religion-culture foundation<br>d) Late Antiquity<br>e) Historians' views on the institution of slavery<br>**5. Nomadic Empires**<br>Focus : the Mongol, 13th to 14th century<br>a) The nature of nomadism<br>b) Formation of empires<br>c) Conquests and relations with other States<br>d) Historians' views on nom-adic societies and state formation | |
| **Sept** | 21 | **Half Yearly Examination** | |
| **Oct** | 18 | **Section - III- Changing Traditions**<br>**Introduction**<br>6. Three Orders | 16.10.2023<br>Ability Test<br>Roman Empire |

| Months | No. of Days | Topic and Sub Topics | Monday Test/ Ability Test |
|---|---|---|---|
| | | Focus : Western Europe, 13th-16th Century<br>a) Feudal Society and Economy<br>b) Formation of states<br>c) Church and Society<br>d) Historians' views on decline of feudalism.<br>* International Debate on "Indian Feudalism"<br>**7. Changing Cultural Traditions**<br>Focus on Europe,14th to 17th Century<br>a) New ideas and new trends in literature<br>b) Relationship with earlier ideas<br>c) The contributiion of West Asia<br>d) Historians' view points on the validity of<br>e) the notion 'Europena Renaissance' | Monday Test<br>An Empire across three continuents/<br>The Central Islamic Lands |
| **Nov** | 24 | **10. Displacing Indigenous people**<br>Focus on North America and Australia, 18th - 20th Centruy<br>a) European colonists in North America and Australia | 18.12.2023<br>Monday Test<br>Three orders/ changing cultural Traditi-ons |



| Months | No. of Days | Topic and Sub Topics | Monday Test/ Ability Test |
|---|---|---|---|
| | | b) Formation of white settler societies<br>c) Displacement and repre-ssion of local people<br>d) Historians' viewpoints on the impact of European Settlement on indigenous<br>* Effects of Colonialism in India<br>**11. Paths of Modernization***<br>Focus on East Asia, late 19th and 20th Century<br>a) Militarization and economic growth in Japan<br>b) China and the Communist<br>c) Historians' Debate on the Meaning of Modernization | |
| **Dec** | 16 | Path to Modernisation Continuation | |
| **Jan** | | **Revision** | |

## Subject - Political Science

| Months | No. of Days | Chapter |
|---|---|---|
| **June** | 14 | **Book 1 - Chapter 1 - Constitution**<br>● Constituion : The<br>● Philosophyand Making of the<br>● Constitution, Fundamental Rights and Duties<br>● Directive Principles of State Policy<br>● Amendments |
| **July** | 22 | **Continuation of Chapter 1**<br>**Book 1 Ch - 2 Election and Representation**<br>● Election and Democracy<br>● Election System in India<br>● Electoral Reforms<br>**Book 2 Ch-1 Political Theory**<br>● What is Politics<br>● Politics Vs Political Theory<br>● Importance of Political Theory |
| **Aug** | 22 | **Book 1 - Chapter 3 - Legislature**<br>● Why do we need a Parliament ?<br>● Unicameral / Bicameral Legislature<br>● Functions and Power of the Parliament<br>● Parliamentary Committees<br>● Parliamentary Officials : Speaker, Deputy Speaker<br>● Parliamentary Secretary |



| Months | No. of Days | Chapter |
|---|---|---|
| | | **Book 2 - Chapter 2 - Liberty**<br>● Liberty Vs Freedom<br>● Negative and Positive Liberty |
| **Sept** | 21 | ● **Revision for Half Yearly**<br>● **Half Yearly Exams** |
| **Oct.** | 18 | **Book 1 - Chapter 4 - Executive**<br>● Parliamentary Executive in India :<br>The President<br>● The Prime Minister and the Council of Ministers<br>● Permanent Executive : Bureaucracy |
| **Nov.** | 16 | **Book 1 - Federalism**<br>What is Federalism ?<br>Evolution & Growth of the Indian Federalism: Quasi Federalism, Cooperative Federalism & Competitive Federalism.<br>**Book 1 - Chapter 5 - Judiciary**<br>● Why do we need an Independent Judiciary ?<br>● Structure and Jurisdiction of the Judiciary<br>● Judicial Review<br>● Judicial Activism<br>● Judicial Over - reach<br>**Book 1 - Chapter 5 - Local Government**<br>● 73rd and 74th Constitutional Ammendment |

| Months | No. of Days | Chapter |
|---|---|---|
| | | **Book 2 - Chapter 3 - Equality**<br>● What is Equality ?<br>● Significance of Equality<br>● Various Dimension of Equality<br>● How can we promote Equality ? |
| **Dec.** | 23 | **Book 2 - Chapter 4 - Justice**<br>● What is Justice ?<br>● Hisotry of Rights<br>● Kind of Rights<br>● Human Rights<br>**Book 2 - Rights**<br>What are rights? Where do Rights come from ? Legal Rights and the State. Kinds of Rights. Human Rights.<br>**Book 2 - Citizenship**<br>What is citizenship? Citizen and Citizenship, Citizen and Nation, Global Citizenship |
| **Jan.** | 17 | **Book 2 - Nationalism**<br>Nations and Nationalism, Variants of National-ism, Nationalism, Pluralism and Multiculturalism.<br>**Book 2 - Secularism**<br>What is Secularism? What is Secular State ? The Western and the Indian perspectives to Secularism. Salient Features of Indian Secularism. |
| **Feb.** | 21 | **Revision**<br>**Annual Exams** |



**Project Work 20 Marks**

**Details of Project Work**

1. The Project work will be of 20 Marks.
2. Out of 20 marks, 10 marks are to be allotted to vivavoce and 10 marks for project work.
3. For Class XI, the evaluation for 20 marks project works should bed one by the internal examiner.
4. The project can be individual / pair / group of 4-5 each. The Project can be made on any of the topics given in the syllabus of a particular class.
5. The suggestive list of activities for project work is as follws : - Role play, skit, Presentation, Model, Field Survey, Mock Drills / Mock Event etc.
6. The teacher should give enough time for preparation of the Project Work. The topics for Project work taken up by the student must be discusssed by the teacher in classroom.

**SUB - SOCIOLOGY**

TGT SOCIAL SCIENCE Introducing Sociology

| Months | No. of Working Days | Chapters |
|---|---|---|
| **June** | **14** | **Section - I - Chapter - 1 Sociology and Society**<br>• Introducing Society:Individuals and Collectivities<br>• Plural Perspectives and inequalities<br>• Emergence of Society<br>• Nature and Scope<br>• Relationship to other disciplines |
| **July** | **22** | **Chapter -2 Terms, Concepts and their use in Sociology**<br>• Social groups and Society<br>• Status and Role<br>• Social Stratification<br>• Society and Social Control<br>**Chapter - 3- Understanding Social Institutions**<br>• Family, Marriage and Kinship<br>• Work and Economic Life<br>• Political Institutions<br>• Religion as a Social Institution<br>• Education as a Social Institution |



| Months | No. of Working Days | Chapters |
|---|---|---|
| **Aug** | **22** | **Chapter - 4 - Culture and Socialization**<br>• Culture, Values and Norms<br>• Dimensions of Culture<br>• Socialisation : Conformity, conflict and the shaping of personality<br>**Chapter - 5 - Doing Sociology : Research Methods (Non Evaluative)**<br>• Objectivity and Subjectivity<br>• Methods : Participant observation, Survey<br>• Tools and Techniques : observation, Interview, Questionaire<br>• The significance of field work in Anthropology and Sociology |
| **Sept** | **21** | **Revision and Half Yearly Exam**<br>**Unit - II - Understanding Sociology** |
| **Oct** | **18** | **Chapter - 7 - Social Change and Social Order in Rural and Urban Society**<br>• Social Change : Types : Causes and Consequences<br>• Social Order : Domination, Authority and Law, Contestation, Crime and Violence<br>• Village, Town and City : Changes in Rural and Urban Society. |
| **Nov** | **16** | **Chapter - 9 - Introducing Western Sociologists**<br>• Karl Marx on Class Conflict<br>• Emile Durkheim, Division of Labour<br>• Max Weber : Interpretive Sociology, Ideal type and Bureaucracy |

| Months | No. of Working Days | Chapters |
|---|---|---|
| **Dec** | **24** | **Chapter - 10 - Indian Sociologists**<br>• G.S. Ghurye on Caste and Race<br>• D.P. Mukherjee on Tradition and Change<br>• A.R. Desai on the State<br>• M.N. Srinivas on the Village |
| **Jan** | **16** | **Revision + Project Work** |
| **Feb** | **21** | **Revision and Annual Exams** |





| Months | Practical/ Theory | Topics |
|---|---|---|
| **June** | **Theory** | A brief history of Indian dance, The concept of Nat Raj |
| | **Practi-cal** | Ablity to demonstrate the elementary steps Chauka No. 1 to No. 6 |
| **July** | **Theory** | Short notes on myths related to Kaliya Daman, Dashavatar, Vastra haran Cheer Haran and Neuni Chor (Makhan Chor) |
| | **Practi-cal** | Ability to demonstrate the elementary steps Tribhabga No. 1 to No. 4 |
| **Aug.** | **Theory** | A brief history of the Odissi dance tradition and development of style<br>a) From 1st / 2nd Century BC to the 1950s including the Mahari and Gotipua tradition.<br>b) The revival phase from the mid twentieth century to the beginning of the 21st Century. Revision for Half Yearly Exam |
| | **Practi-cal** | Learning of one Arasa in Chaturasa jati is ability to recite the sthayi ukuta of the Arasa by showing the matra by hand, **Revision for Half Yearly Exam** |
| **Sept.** | **Theory** | Definition of the terms : -<br>(a) Nroitta, Nritya and Natya<br>(b) Matra, Laya, Taal, Avartan and Vibhaga (anga) (c) Tandava and Lasya |
| | **Practi-cal** | Learing of Mangalacharan<br>(a) Demonstration of the Item<br>(b) Recitation with hands of the Ukutas of the Item<br>(c) Naming the Rag and tala the item is composed to |

| Months | Practical/ Theory | Topics |
|---|---|---|
| **Oct.** | **Theory** | Natyadharmi and Lokadharmi |
| | **Practical** | Learing of Mangalacharan :<br>(a) Identification of the hastas used in the item<br>(b) Identification and demonstration of the various components of the item. |
| **Nov.** | **Theory** | Brief explanation of the five segments of basic repertoire of Odissi<br>(a) Mangalacharan (b) Batu or Sthayi<br>(c) Pallavi (d) Abhinaya<br>(e) Mokshaya or any Tandava dance |
| | **Practical** | Mancha Pravesh, Pushpanjali, Bhumi Pranam, Ishta Deva Vandana, Trikhandi pranam or Sabha paranam. |
| **Dec.** | **Theory** | Ability to written the notation of the Sthyi Ukuta or Dharana of the three following taals 1. Ektaali 2. Rupak Taal 3. Triputa Taal Asanjukata and Samyukta Hasta Mudra from the Abhinaya Darpan. |
| | **Practical** | Explanation or Meaning of the sloka in the istha Deva vandana. Learing of Sthayi, Identification of the hasta, Paadabheda and bhangis used in the Item. Ricitation used hands ukutas if the item and Identificationi of the rag and tala the item composed to. |
| **Jan** | **Theory** | **Revision for Annual Yearly Exam** |
| | **Practical** | **Revision for Annual Yearly Exam** |



## Sub - Hindustani Music Vocal (Code No. 034)

| Months No. of Classes | Practical Topic | Theory Topic |
|---|---|---|
| **June** (02) | • Raag Bihag (Dhrut Khyal) | • Brief Study of the following :- Nada, Shruti, Swar, Saptak, Thaat, Jati, Laya, Taal.<br>• Simple elaboration of Raag Bihag<br>• Receitation of the kas of Dadra. |
| **July** (04) | • Taan of Raag Bihag<br>• Sargam of Raag Bhairavi | • Knowledge of the structure of Taanpura<br>• Description of Teen Taal along with Taal notation (Thah, Dugun, Chaugun) |
| **Aug** (03) | • Raag Bhairavi (Dhrut Khyal) with Taan<br>• Raag Bihag (Vilambitkhyal) | • Simple elaboration of Raag Bhairavi<br>• History of Dhrupad gayan.<br>• Life sketch and contribution of V.N. Bhatkhande. |
| **Sept** (02) | • **Revision** Devotion-alsong | • **Revision**<br>• Description of Keharwa Taal |

| Months No. of Classes | Practical Topic | Theory Topic |
|---|---|---|
| **Oct** (04) | • Folk Song | • Brief Study of the following<br>• Margi-Desi, Nibaddha Anibadda gaan, Raga, Swarmalika, Lakhshan geet.<br>• History of Khyal and Tarana |
| **Nov** (03) | • Raag Bhimpalasi (Dhrut Khyal) with Taan | • Brief study of various Bharanas<br>• Description of Ektaal (Thah, Dugun, Chaugun) |
| **Dec** (03) | • Raag Jounpuri (Dhrut Khyal) with Taan | • Brief study of Musical elements in Natya Shashtra and Brihaddeshi.<br>• Receitation of Sultaal |
| **Jan** (04) | • Dhrupad (Any Raag) | • Description of Chautaal (Thah, Dugun, Chaugun)<br>• Lifesketch and contribution of V.N. Bhatkhande and V.D. Paluskar |
| **Feb** (02) | • **Revision** | • **Revision** |





| Months | No. of Working Days | Topics / Subtopics |
|---|---|---|
| **June** | 14 | **B1. Geography as a Discipline**<br>• Geography as an integrating discipline, as a science of spatial attributes.<br>• Branches of Geography : Physical Geography and Human Geography, Biogeography<br>• Physical Geography and its Importance<br>**B2. India - Location**<br>• Size<br>• India and its Neighbours<br>**B3. Introduction to Maps**<br>• Essential of Map Making<br>• History of Map Making<br>• Maps - types<br>• Uses of Maps |
| **July** | 22 | **B1. The Origin and Evolution of the Earth**<br>• Early Theories.<br>• Modern Theories<br>• Evolution of the Earth<br>• Evolution of Lithosphere<br>• Evolution of Atmosphere and Hydrosphere<br>• Origin of Life |

| Months | No. of Working Days | Topics / Subtopics |
|---|---|---|
| | | **B1. Interior of th eEarth**<br>● Sources of Information about the Interior<br>● Earthquake<br>● Earthquake Waves<br>● Effects of Earthquake<br>● Structure of the Earth<br>● Volcanoes and Volcanic Landforms<br>**B2. Structure and Physiography**<br>● The Peninsular Block<br>● The Himalayas and other Peninsular Mountains<br>● Indo-Ganga-Brahmaputra Plain<br>● Physiography<br>**B3. Map Scale**<br>● Methods of Scale<br>● Conversion of Scale<br>❑ Human Activities (Extra Topic) |
| **Aug** | 22 | **B1. Distribution of Oceans and Continents**<br>● Continental Drift.<br>● Ocean Floor Configuration<br>● Distribution of Earthquakes and Volcanoes<br>● Concept of Sea Floor Spreading<br>● Plate Tectonics |



| Months | No. of Working Days | Topics / Subtopics |
|---|---|---|
| | | **B1. Geomorphic Processes**<br>● Geomorphic Processes<br>● Weathering<br>● Mass Movements<br>● Landslides<br>● Erosion and Deposition<br>● Soil Formation<br>**B1. Landform and their Evolution**<br>● Running Water<br>● Groundwater<br>● Glaciers<br>● Waves and Currents<br>● Winds<br>**B3. Latitude, Longitude and Time**<br>● Parallels of Latitudes<br>● Meridians of Longitude<br>● Longitude and Time<br>● International Date Line |
| **Sept** | 21 | **B2. Drainage System**<br>● Drainage Systems of India<br>● Extent of Usability of River Water<br>**Revision & Half Yearly Examination** |

| Months | No. of Working Days | Topics / Subtopics |
|---|---|---|
| Oct | 18 | **B1. Composition and Structure of Atmosphere**<br>● Composition of the Atmosphere<br>● Structure of the Atmosphere<br>● Elements of Weather and Climate<br>**B2. Climate**<br>● Unity and Diversity in the Monsoon Climate<br>● Factors Determining the Climate of India<br>● The Nature of Indian Monsoon<br>● The Rhythm of Seasons<br>● Traditional Indian Seasons<br>● Distribution of Rainfall<br>● Monsoons and Economic Life in India<br>● Global Warming<br>**B3. Map Projections**<br>● Need of Map Projection<br>● Elements of Map Projection<br>● Classification of Map Projections<br>● Constructing Some Selected Projections |
| Nov | 16 | **B1. Solar Radiation, Heat Balance and Temperature**<br>● Solar Radiation<br>● Terrestrial Radiation<br>● Heat Budget of the Planet Earth<br>● Temperature |



| Months | No. of Working Days | Topics / Subtopics |
|---|---|---|
| | | **B1. Atmospheric Circulations and Weather System**<br>● Atmospheric Pressure<br>● Forces Affecting the Velocity and Direction of Wind<br>● General Circulation of the Atmosphere<br>**B3. Topographical Maps**<br>● Methods of Relief Representation<br>● Contours<br>● Types of Slope<br>● Types of Landform<br>● Valley<br>● Identification of Cultural Features from Topographical Sheets<br>● Interpretation of Topographical Maps<br>● Map Interpretation Procedure |
| Dec | 24 | **B1. Water in the Atomosphere**<br>● Evaporation and Condensation<br>● Precipitation<br>● Types of Rainfall<br>● World Distribution of Rainfall<br>**B1. World Climate and Climate Change**<br>● Koeppen's Scheme of Classification of Climate<br>● Climate Change<br>● Global Warming |

| Months | No. of Working Days | Topics / Subtopics |
|---|---|---|
| | | **B2. Natural Vegetation**<br>● Types of Forests<br>● Forest Conservation<br>● Wildlife<br>● Wildlife Conservation in India<br>● Biosphere Reserves<br>**B3. Introduction to Remote Sensing**<br>● Stages in Remote Sensing<br>● Sensores<br>● Resolving Powers of the Satellites<br>● Data Products<br>● Interpretation of Satellite Imageries<br>● Elements of Visual Interpretation |
| **Jan** | 16 | **B1. Water (Oceans)**<br>● Hydrological Cycle<br>● Relief of the Ocean Floor<br>● Divisions of the Ocean Floors<br>● Minor Relief Features<br>● Temperature of Ocean Waters<br>● Salinity of Ocean Waters<br>**B1. Movements of Ocean Water**<br>● Waves<br>● Tides<br>● Ocean Currents<br>**B1. Biodiversity and Conservation**<br>● Biodiversity<br>● Loss of Biodiversity<br>● Conservation of Biodiversity |



| Months | No. of Working Days | Topics / Subtopics |
|---|---|---|
| | | **B2. Natural Hazards and Disasters**<br>● Classification of Natural Disasters<br>● Natural Disasters and Hazards in India<br>● Earthquakes<br>● Tsunami<br>● Tropical Cyclone<br>● Floods<br>● Droughts<br>● Landslides<br>● Disaster Management<br>● Conclusion |
| **Feb** | 21 | **Revision & Annual Examination** |

**B1 - Fundamentals of Physical Geography**

**B2 - India : Physical Environment**

**B3 - Practical Work in Geography Part - I**