

# DELHI PUBLIC SCHOOL

Bokaro Steel City

## TERM AND MONTHWISE SPLIT-UP SYLLABI OF CLASS – XI FOR THE SESSION 2018-2019

### Subject: English Core

**Text Book :** 1. Hornbill (HB)  
2. Snapshots (S.R)  
3. Extended Reading – Up from slavery (Convent Publication)

Month	W. D.	Book/Area	Unit/Chapter	Activities	Life Skill
June	15	HB	- The Portrait of a lady - A Photograph	Notice / advertisement/ letters to the editor. Smart Board for formats.	- Sharing, compassion, Empathy
		SR	The Laburnum Top The Summer	Art education teachers for inclusive/integrated teaching of 'Portrait's 'A Photograph' .Portrait making.	- Family bonding
July	22	HB	- We're Not Afraid to Die..... - The voice of the rain	Poster, letter making enquiries, registering complaints, Determiners Poster making to create awareness.	- Team work - Discipline, Professional ethics
		SR	- Browning Version - Discovering Tut.... - The summer of the Beautiful White Horse - The Address		- Honesty & Integrity
August	22	HB	- Landscape of the Soul - The Ailing Planet - Ranga's Marriage	Letters asking for and giving information, report writing, articles, speech, debate, note making, summary, tenses. Inclusive & Integrated (II World war) – History and Geography teachers are invited (Discovering Tut.... & Voice of the rain) ppt-cycle of rain. Recording of Tenses, Transformation of sentences, Editing	- Fostering Respect for Differences - Sensitivity to Environment - Humanity - Responsibility
		SR	- Albert Einstein		
September	19		Revision-1st Term	Letter to school and college authorities	

### **Half-Yearly Examination**

October	18	HB	- The Adventure - Silk Road - The Ghat....	- Application for job, clauses. - PPT: Einstein's inventions	Children of DPS, Bokaro taking care of environment through 'Paper Recycling', 'Birthday Sapling', 'Go Green Campaign' etc.
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November	16	HB SR	- Childhood - Mother's day	- Letters placing orders sending replies Modals. 'A play with a similar theme'
December	20	HB SR	- Father to son - Birth	Error correction, editing tasks, Poem writing on the theme of 'Filial Devotion'
January	16	SR	The Tale of Melon City	• PPT on great leaders' contribution in shaping our nation.
February	21		Revision – Term – II	Revision - Term - II

### Subject : Mathematics

**Prescribed Text Books:** 1. **Mathematics:** Textbook for Class XI, NCERT Publication.

- Reference Books:**
1. Mathematics class XI (volume I & II) by Manjeet Singh, Full Marks Pvt. Ltd.
  2. Mathematics, A text book for CBSE XI by Gupta and Bansal, Sultan Chand Educational Publishers.
  3. Mathematics XI by Dr R P Singh V K Global Publication Pvt. Ltd.

Month	WD	Topics to be taught	Values
June	15	<p><b>Sets:</b> Sets and their representations. Empty set. Finite and Infinite sets. Equal sets. Subsets.</p> <p>Subsets of a set of real numbers especially intervals (with notations). Power set. Universal set. Venn diagrams. Union and Intersection of sets. Difference of sets. Complement of a set. Properties of Complement of Sets.</p> <p><b>Relation:</b> Ordered pairs, Cartesian product of sets. Number of elements in the cartesian product of two finite sets. Cartesian product of the set of reals with itself (upto <math>\mathbb{R} \times \mathbb{R} \times \mathbb{R}</math>). Definition of relation, pictorial diagrams, domain, co-domain and range of a relation.</p> <p><b>Functions:</b> Function as a special type of relation. Pictorial representation of a function, domain, co-domain and range of a function. Real valued functions, domain and range of these functions, constant, identity, polynomial, rational, modulus, signum, exponential, logarithmic and greatest integer functions, with their graphs. Sum, difference, product and quotient of functions.</p>	<p>Team Work</p> <p>Sharing</p>
July	22	<p><b>Trigonometric Functions:</b> Positive and negative angles, Measuring angles in radians and degree and conversion from one measure to another. Definition of trigonometric functions with the help of unit circle. Truth of the identity <math>\sin^2 x + \cos^2 x = 1</math> for all real numbers. Sign of Trigonometric functions and sketch of their graphs,</p> <p>Expressing <math>\sin(x \pm y)</math> and <math>\cos(x \pm y)</math> in terms of <math>\sin x</math>, <math>\sin y</math>, <math>\cos x</math> and <math>\cos y</math>. Deducing the identities:</p> $\tan(x \pm y) = \frac{\tan x \pm \tan y}{1 \mp \tan x \cdot \tan y} \quad \cot(x \pm y) = \frac{\cot y \cdot \cot x \mp 1}{\cot y \pm \cot x}$ $\sin x + \sin y = 2 \sin \frac{x+y}{2} \cdot \cos \frac{x-y}{2} \quad \sin x - \sin y = 2 \cos \frac{x+y}{2} \cdot \sin \frac{x-y}{2}$ $\cos x + \cos y = 2 \cos \frac{x+y}{2} \cdot \cos \frac{x-y}{2} \quad \cos x - \cos y = -2 \sin \frac{x+y}{2} \cdot \sin \frac{x-y}{2}$ <p>Identities related to <math>\sin 2x</math>, <math>\cos 2x</math>, <math>\tan 2x</math>, <math>\sin 3x</math>, <math>\cos 3x</math>, <math>\tan 3x</math>. General solution of the trigonometric equation of the type <math>\sin \theta = \sin \alpha</math>, <math>\cos \theta = \cos \alpha</math>, <math>\tan \theta = \tan \alpha</math>.</p> <p><b>Principle of Mathematical Induction:</b> Process of the proof by induction, motivating the application of the method by looking at natural numbers as the least inductive subset of real numbers. The Principle of mathematical induction and their application.</p>	<p>Respect for law and order</p>
August	22	<p><b>Complex number and Quadratic Equation:</b> Need for complex numbers,</p>	<p>Discipline</p>

		<p>especially <math>\sqrt{-1}</math>, to be motivated by inability to solve some of the quadratic equation. Algebraic property of complex numbers. Argand plane and polar representation of complex numbers. Statement of fundamental theorem of algebra, solution of quadratic equations (with real coefficients) in complex number system. Square root of a complex number.</p> <p><b>Linear Inequalities:</b> Linear inequalities. Algebraic solutions of linear inequalities in one variable and their representation on the number line. Graphical solution of linear inequalities in two variables. Graphical method of finding a solution of system of linear inequalities in two variables.</p> <p><b>Limits and Derivatives:</b> 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 slope of tangent of a curve, derivative of sum, difference, product and quotient of functions. The derivative of polynomial and trigonometric functions.</p>	
September	01 06 09 03	<p>Derivatives(contd.)</p> <p>Revision for Half Yearly Exam.</p> <p><b>Half Yearly Examination</b></p> <p>Discussion of Half Yearly question paper</p>	
October	18	<p><b>Sequence and Series.</b> Arithmetic Progression (A.P.). Arithmetic Mean (A.M.) Geometric Progression (G.P.), general term of a G.P., sum of n terms of a G.P., Arithmetic and Geometric series, infinite G.P. and its sum, geometric mean (G.M.), relation between A.M. and G.M. Formula for the special sum: <math>\sum_{k=1}^{k=n} k, \sum_{k=1}^{k=n} k^2, \sum_{k=1}^{k=n} k^3</math></p> <p><b>Permutations and Combinations:</b> Fundamental principle of counting. Factorial n(n!). Permutations and combinations, derivation of formulae and their connections, simple applications.</p>	Team Work
November	16	<p><b>Binomial Theorem:</b> History, statement and proof of the binomial theorem for positive integral indices. Pascal's triangle, General and middle term in binomial expansion, simple applications.</p> <p><b>Probability:</b> Random experiments; outcomes, sample spaces (set representation). Events; occurrence of events, 'not', 'and' and 'or' events, exhaustive events, mutually exclusive events, Axiomatic (set theoretic) probability, connections with other theories studied in earlier classes. Probability of an event, probability of 'not', 'and' and 'or' events.</p>	Responsibility
December	20	<p><b>Straight Lines:</b> Brief recall of two dimensional geometry from earlier classes. Shifting of origin. 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 form, intercept form and normal form. General equation of a line. Equation of family of lines passing through the point of intersection of two lines. Distance of a point from a line.</p> <p><b>Conic Sections:</b> Sections of a cone: circles, ellipse, parabola, hyperbola; a point, a straight line and a pair of intersecting lines as a degenerated case of a conic section. Standard equations and simple properties of parabola, ellipse and hyperbola. Standard equation of a circle.</p>	
January	17	<p><b>Introduction to Three-dimensional Geometry:</b> Coordinate axes and coordinate planes in three dimensions. Coordinates of a point. Distance between two points and section formula.</p> <p><b>Statistics:</b> Measures of dispersion; Range, mean deviation, variance and standard deviation of ungrouped/grouped data. Analysis of frequency distributions with equal means but different variances.</p> <p><b>Mathematical Reasoning:</b> Mathematically acceptable statements. Connecting words/ phrases - consolidating the understanding of "if and only if (necessary and sufficient) condition", "implies", "and/or", "implied by", "and", "or", "there exists" and their use through variety of examples related to real life and Validating the statements involving the connecting words.</p>	
February	01	<p><b>Mathematical Reasoning (Contd.):</b> difference between contradiction,</p>	

	10 10	converse and contrapositive. Revision for Annual Examination <b>Annual Examination</b>	
March	23	<b>Result Analysis</b>	

### Subject: Physics

**Prescribed Text Books:** 1. Physics for Class-XI (NCERT)

2. Lab Manual Physics- XI - Arihant Prakashan

**Reference Books:**

1. New Era Physics - Class XI - Surinder Lal (G R Bathla Publications Pvt. Ltd)

2. Concept of Physics Vol. I & II – H.C. Verma (Bharti Bhawan )

3. Physics – Vol.I- Resnick, Halliday and Krane (John Wiley and Sons )

Month	W.Days	Contents	Suggestive/ Projects/ Activity/ Excursion
June	15	<p>Unit I: Physical World and Measurement: Physics - Scope and excitement; nature of physical laws; Physics, technology and society. Need for measurement: Units of measurement; systems of units; SI units, fundamental and derived units. Length, mass and time measurements; accuracy and precision of measuring instruments; errors in measurement; significant figures. Dimensions of physical quantities, dimensional analysis and its applications.</p> <p>Unit II: Kinematics: Frame of reference, Motion in a straight line: Position-time graph, speed and velocity. Elementary concepts of differentiation and integration for describing motion Uniform and non-uniform motion, average speed and instantaneous velocity. Uniformly accelerated motion, velocity time and position-time graphs, relations for uniformly accelerated motion (graphical treatment).</p>	<p>1. To measure diameter of a small spherical/cylindrical body using Vernier callipers.</p> <p>2. To measure internal diameter and depth of a given beaker/calorimeter using Vernier callipers and hence find its volume.</p>
July	22	<p>Scalar and vector quantities: Position and displacement vectors, general vectors and notation, equality of vectors, multiplication of vectors by a real number; addition and subtraction of vectors. Relative velocity. Unit vectors. Resolution of a vector in a plane – rectangular components. Scalar and Vector products of Vectors. Motion in a plane. Cases of uniform velocity and uniform acceleration – projectile motion. Uniform circular motion.</p> <p>Unit III: Laws of Motion: 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. Law of conservation of linear momentum and its 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 level circular road, vehicle on banked road).</p>	<p>3. To measure diameter of a given wire using screw gauge.</p> <p>4. To measure thickness of a given sheet using screw gauge.</p> <p>5. To measure volume of an irregular lamina using screw gauge.</p> <p>6. To determine radius of curvature of a given spherical surface by a spherometer</p>
August	22	<p>Unit IV: Work, Energy and Power: Work done by a constant force and a variable force; kinetic energy, work-energy theorem, power. Notion of potential energy, potential energy of a spring, conservative forces;</p>	<p>7. To determine the mass of two different objects using a beam balance.</p> <p>8. To find the weight of a given body using parallelogram law of vectors.</p>

		<p>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.</p> <p>Concept of Centre of Mass of discrete distribution of mass and its application.</p>	<p>9. Using a simple pendulum, plot L-T and L-T<sup>2</sup> graphs. Hence find the effective length of a second's pendulum using appropriate graph.</p> <p>10. 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.</p> <p>11. To find the downward force, along an inclined plane, acting on a roller due to gravitational pull of the earth and study its relationship with the angle of inclination (<math>\theta</math>) by plotting graph between force and <math>\sin \theta</math>.</p>
September	19	Revision + HY Exam + Question Paper Discussion	
October	18	<p><b>Unit V: Motion of System of Particles and Rigid Body:</b> Centre of mass of a rigid body; centre of mass of uniform rod. Moment of a force, torque, angular momentum, conservation of angular momentum with some examples. Equilibrium of rigid bodies, rigid body rotation and equation of rotational motion, comparison of linear and rotational motions; moment of inertia, radius of gyration. Values of M.I. for simple geometrical objects (no derivation). Statement of parallel and perpendicular axes theorems and their applications</p>	<p>1. To determine Young's modulus of elasticity of the material of a given wire.</p> <p>2. To find the force constant of a helical spring by plotting a graph between load and extension.</p> <p>3. To study the variation in volume with pressure for a sample of air at constant temperature by plotting graphs between P and V, and between P and 1/V.</p>
November	16	<p><b>Unit VI: Gravitation:</b> Kepler's laws of planetary motion. The universal law of gravitation. Acceleration due to gravity and its variation with altitude and depth. Gravitational potential energy; gravitational potential. Escape velocity, orbital velocity of a satellite. Geostationary satellites.</p> <p><b>Unit VII: Properties of Bulk Matter:</b> Elastic behaviour, Stress-strain relationship, Hooke's law, Young's modulus, bulk modulus, shear, modulus of rigidity, Poisson's ratio; elastic energy. Pressure due to a fluid column; Pascal's law and its applications (hydraulic lift and hydraulic brakes). Effect of gravity on fluid pressure. Viscosity, Stokes' law, terminal velocity, Reynolds' number, streamline and turbulent flow. Critical velocity, Bernoulli's theorem and its applications. Surface energy and surface tension, angle of contact, excess of pressure, application of surface tension ideas to drops, bubbles and capillary rise.</p>	<p>4. To determine the surface tension of water by capillary rise method.</p> <p>5. To determine the coefficient of viscosity of a given viscous liquid by measuring the terminal velocity of a given spherical body.</p> <p>6. To study the relationship between the temperature of a hot body and time by plotting a cooling curve</p>
December	20	<p><b>Unit VIII: Behaviour of Perfect Gas and Kinetic Theory:</b> Equation of state of a perfect gas, work done on compressing a gas. Kinetic theory of gases: Assumptions, concept of pressure. Kinetic energy and temperature; rms speed of gas molecules; degrees of freedom, law of equipartition of energy (statement only) and application to specific heat capacities of gases; concept of mean free path, Avogadro's number. Heat, temperature, thermal expansion; thermal expansion of solids, liquids, and gases. Anomalous expansion. Specific heat capacity: <math>C_p</math>, <math>C_v</math> – Calorimetry; change of state – latent heat.</p> <p><b>Unit IX: Thermodynamics:</b> Thermal equilibrium and definition of temperature (Zeroth law of Thermodynamics). Heat, work and</p>	<p>7. To determine specific heat capacity of a given (i) solid (ii) liquid, by method of mixtures.</p> <p>8. (i) To study the relation between frequency and length of a given wire under constant tension using sonometer. (ii) To study the relation between the length of a given wire and tension for constant frequency using sonometer.</p>

		internal energy. First law of thermodynamics. Isothermal and adiabatic processes. Second law of thermodynamics: Reversible and irreversible processes. Heat engines and refrigerators Heat transfer – conduction and thermal conductivity, convection and radiation. Qualitative ideas of Black Body Radiation, Wien’s displacement law, and Green House effect. Newton’s law of cooling and Stefan’s law.	
January	17	<b>Unit X: Oscillations and Waves:</b> Periodic motion – period, frequency, displacement as a function of time. Periodic functions. Simple harmonic motion (SHM) and its equation; phase; oscillations of a spring – restoring force and force constant; energy in SHM – kinetic and potential energies; simple pendulum – derivation of expression for its time period; free, forced and damped oscillations (qualitative ideas only), resonance. Wave motion. Longitudinal and transverse waves, speed of wave motion. Displacement relation for a progressive wave. Principle of superposition of waves, reflection of waves, standing waves in strings and organ pipes, fundamental mode and harmonics. Beats. Doppler effect	9. To find the speed of sound in air at room temperature using a resonance tube by two resonance positions.
February	21	RAY OPTICS: Ray Optics: Reflection of light, spherical mirrors, mirror formula, refraction of light, total internal reflection and its applications, optical fibres, refraction at spherical surfaces, lenses, thin lens formula, lens maker’s formula, magnification, power of a lens, combination of thin lenses in contact, refraction and dispersion of light through a prism. Scattering of light - blue colour of sky and reddish appearance of the sun at sunrise and sunset. Optical instruments: Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.  Revision + Annual Exam.	10 i) To find focal length of concave mirror, convex lens, convex lens and concave lens. ii) To determine angle of minimum deviation for a given prism by plotting a graph between angle of incidence and angle of deviation. iii) To determine refractive index of a glass slab using a travelling microscope.

**Important: Moral Value Questions to be discussed in each chapter stressing on Good behaviour in human interaction, Sharing, Compassion, Empathy, Discipline, Responsibility, Respect for law and order, Conflict resolution, Teamwork, Honesty and integrity Courteous behaviour, Fostering respect for difference, Sensitivity to environment etc. Other relevant parameters may also be discussed in each chapter**

### **Subject : Chemistry**

**Prescribed Textbook** : NCERT – Chemistry (XI) (Part I & II)

**Reference Books** : 1. New Course Chemistry (Pradeep Publication) by Pradeep Jain

2. ABC of Chemistry (Modern Publication) by S P Jauhar

3. New Era Chemistry (G. R. Bathla Publication) by O.P. Tondan and Virmani

<b>Mon th</b>	<b>W. D.</b>	<b>Contents (Chapter wise)</b>	<b>Suggestive Projects/ Activity</b>
June	15	<b>Chapter : Some Basic Concept of Chemistry - General</b> Introduction : Importance and scope of chemistry, Nature of matter, laws of chemical combination, Dalton’s atomic theory; concept of elements, atoms and molecules.	

Atomic and molecular masses. Mole concept and molar mass; percentage composition, empirical and molecular formula: chemical reactions, stoichiometry and calculations based on

Preparation of different models of an atom i.e. atomic model.

stoichiometry, Normality

**Chapter: Structure of Atom –**

Discovery of electrons, protons and , neutrons, atomic number, isotopes and isobars, Thomsons model and its limitations, Rutherford's model and its limitations, Bohr's model and its limitations, concept of shell and subshells, dual nature of matter and light, De-Broglie's relationship, Heisenberg uncertainty principle, concept of Orbitals, quantum numbers. Radioactivity (Primary Knowledge)

**Chapter: Structure of Atom - Contd.**

Concepts of orbitals quantum numbers Shapes of s, p, and d-orbitals, rules for filling electrons in orbitals, Aufbau principle, Pauli's exclusion principle, Hund's Rule. Electronic configuration of atoms. Stability of half filled and completely filled orbitals.

July 22

**Chapter: Classification of Elements and Periodicity in Properties -**

Preparation of periodic table on chart papers

Classification of elements and periodicity in properties: Signification of classification, brief history of the development of periodic table. Modern periodic law and the 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.

**Chapter: Chemical Bonding & Molecular Structure-**

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, shapes of some simple molecules.

**Chemical Bonding and Molecular structure: contd.**

Molecular Orbital Theory of homo-nuclear diatomic molecules (qualitative idea only) hydrogen bond.

Augu  
st +  
Sept. 01

**Chapter : States of Matter – Gases and Liquids**

Preparation of model of different molecules i.e. geometry of molecules.

Three states of matter, Intermolecular interactions, types of bonding, melting and boiling points, role of gas laws in elucidating the concept of the molecule, Boyle's law, Charles law, Gay Lussac's law, Avogadro's law, Ideal behaviour, deviation of gas equation, Avogadro's number, Ideal gas equation, deviation from ideal behaviour, Liquefaction of gases, Critical temperature, Kinetic energy and molecular speeds.

Solid state: Classification of solids based on different binding forces, molecular, ionic, covalent, metallic solids, amorphous and crystalline solids (elementary idea only). Unit cells in two dimensional and three dimensional lattices. Calculation of density of unit cell, packing in solids, packing efficiency, voids, no. of atoms per unit cell in a cubic unit cell, point defects electrical and magnetic properties. Bond theory of metals,

Determination of the rate of evaporation of different liquids.

		conductors, semi conductors, insulators, n-type and p-type semiconductors.	Structure of solids
		(elementary idea) <u>Liquid State</u> – Vapour pressure, viscosity and surface tension, (Qualitative idea only, no mathematical derivation).	
		<b>Chapter: Chemical Thermodynamics</b> - Concept of System and types of system, surroundings, work, heat-energy, extensive and intensive properties, state functions, First law of thermodynamics, internal energy and enthalpy, heat capacity and specific heat. 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 free energy change for spontaneous and non-spontaneous process. Criteria for equilibrium. Third Law of Thermodynamics(brief introduction).	Prepare Born-Haber Cycle on chart paper.
		Revision	
		<b>Half Yearly Examination</b>	
Sept.	05	<b>Chapter: Redox Reactions –</b>	Study of the rate of chemical reaction w.r.t. temp and concentration
+	+		
Oct.	18	Concept of oxidation and reduction, redox reactions, oxidation number, balancing redox reactions, in terms of loss and gain of electrons and change in oxidation number applications of redox reactions. Electrode potential, EMF of the Cell. SHE (Standard Hydrogen Electrode).	Find pH of different samples by pH paper
		Chapter: Equilibrium –	
		Equilibrium in physical and chemical processes, dynamic nature of equilibrium, law of mass action, equilibrium constant, factors affecting equilibrium, Le-Chatelier's principle.	Testing the hardness presence of iron fluoride, chloride etc. depending upon the regional variation in drinking water and study of causes of presence of these irons above permissible limit (if any)
		Ionic equilibrium – ionization of acids and bases, strong and weak electrolytes, degree of ionization, concept of pH, hydrolysis of salt (elementary idea), Buffer solutions, solubility product, common ion effect (examples).	
Nov	16	Chapter: Organic Chemistry –	Draw structure of diborane on chart paper.
		Some Basic concept - General introduction, methods of purification qualitative and quantitative analysis. Classification and IUPAC nomenclature of organic compounds. Electronic displacements in a covalent bond, Inductive effect. Electrometric effect. Resonance and hyper-conjugation, Homolytic and heterolytic fission of a covalent bond, free radicals, carbocations, carbanions, Electrophiles, nucleophiles, types of organic reactions.....	
Dec.	20	Chapter: Hydro carbons –	Chart showing +1 and –I effect.
		Classification of hydrocarbons Aliphatic Hydrocarbons: Alkanes - Nomenclature, isomerism, conformation (ethane only) Ethane: Physical properties, chemical properties, free radical	



mechanism of halogenations, combustion and pyrolysis.

Alkenes : Nomenclature, structure of double bond (ethene) physical properties, Geometrical isomerism, methods of preparation, chemical reactions; Addition of hydrogen halogen, water, hydrogen halides Markovnikov's rule, peroxide effect) Ozonolysis, oxidation, mechanism of electrophilic, addition.

Alkynes : Nomenclature, structure of bond (Ethyne)

Ethyne: physical properties, methods of preparation, chemical reactions, acidic nature of alkynes, Addition reactions of Hydrogen, Halogen, Hydrogen halide and water.

Aromatic Hydrocarbons: Introduction, IUPAC nomenclature; Benzene; resonance. Aromaticity: Chemical reactions: Mechanism of electrophilic substitution reactions, Nitration, sulphonation, Friedel craft's alkylation and acylation, Directive influence of functional group in monosubstituted benzene carcinogenicity and toxicity.

### **Chapter: Hydrogen –**

Position of hydrogen in periodic table, occurrence, isotopes, preparation, properties and uses of hydrogen; hydrides, ionic covalent and interstitial, Water Physical and chemical properties of water; heavy water, hydrogen peroxide, preparation, reaction and structures hydrogen as a fuel.

Jan 17 Chapter: S-Block elements (Alkali and Alkaline - earth metals) Chart of free radical mechanism.

Group-I and Group-II Elements :

General introduction, electronic configuration, occurrence, anomalous behaviour of the relationship, trends in variation of properties, (i.e. Ionization energy, atomic and ionic radii), trends in chemical reactivity with O<sub>2</sub>, H<sub>2</sub>, H<sub>2</sub>O and Halogens; uses, Preparation and properties of some important compounds (i.e. NaHCO<sub>3</sub>, Na<sub>2</sub>CO<sub>3</sub>, NaCl, NaOH) biological importance of Na and K (Sodium and Potassium) Calcium Oxide and Calcium Carbonate, Industrial uses of lime and limestone, biological importance of Mg and Ca.

Chapter: Some p – Block Elements.

General introduction of p-block elements.

Group – 13 elements – General introduction, electronic configuration, Occurrence, variation of properties, oxidation states, trends in chemical properties, anomalous properties of first element in the group.

Boron – Physical and chemical properties, some important compounds, Borax, Boric acid, Boron hydrides, Aluminium, uses reaction with acid and alkalis.

Group 14 Elements: General introduction, electronic configuration, occurrence, variation of properties, oxidation states, trends in Properties anomalous behaviour of first elements.

Project work

Carbon : Catenation, allotropes, physical and chemical properties, uses of important compounds; oxides

Based on green chemistry as an alternate tool for reducing pollution.

Important compounds of silicon tetrachloride, silicones, silicates and Zeolites,

p-block: Group 15 elements

General introduction, electronic configuration, occurrence, oxidation states, trends in physical and chemical properties.

Nitrogen: Preparation, properties and uses, compounds of nitrogen, preparation and properties of ammonia and nitric acid. Oxides of nitrogen (structure only)

Chart making regarding the structure of compounds of nitrogen and phosphorus.

Phosphorus – preparation and properties of phosphine, halides ( $\text{PCl}_3$ ,  $\text{PCl}_5$ ) and oxoacids

Chapter: Environmental Chemistry : Environmental pollution - air, water and soil pollution.

Chemical reaction in atmosphere, smog, major atmospheric pollutants; acid rain, ozone and its reaction, effects of depletion of ozone layer, green house effect and global warming. Pollution due to industrial wastes, green chemistry as an alternative tool for reducing pollution, strategies for control of environmental pollution.

Feb 21 Revision.

Annual Examination

## Practical

### List of practicals :

<u>Month</u>	<u>Content</u>
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### Evaluation Scheme for Examination

1.	Volumetric Analysis	08 marks
2.	Salt Analysis	08 marks
3.	Content based Experiments	06 marks
4.	Class record/ viva project work	08 marks
	Total	<u>30 marks</u>

#### A) Qualitative Estimation :

- i) Using chemical balance
- ii) Preparation of standard solution of oxalic acid
  - iii) Determination of strength of a given solution of NaOH by titrating it against standard solu<sup>n</sup>. of oxalic acid.
- iv) Preparation of standard solution of sodium carbonate.
  - v) Determination of strength of a given solution of hydrochloric acid by titrating it against standard sodium carbonate solution.

#### Qualitative Analysis :

- i) Determination of one Cation and one Anion in the given salt.

Cations:  $\text{Pb}^{+2}$ ,  $\text{Cu}^{+2}$ ,  $\text{As}^{3+}$ ,  $\text{Al}^{+3}$ ,  $\text{Fe}^{+3}$ ,  $\text{Mn}^{+2}$ ,  $\text{Ni}^{+2}$ ,  $\text{Zn}^{+2}$ ,  $\text{Co}^{+2}$ ,  $\text{Ba}^{+2}$ ,  $\text{Ca}^{+2}$ ,  $\text{Sr}^{+2}$ ,  $\text{Mg}^{+2}$ ,  $\text{NH}_4^+$

Anions :  $\text{CO}_3^{2-}$ ,  $\text{S}^{2-}$ ,  $\text{SO}_3^{2-}$ ,  $\text{NO}_3^-$ ,  $\text{Cl}^-$ ,  $\text{Br}^-$ ,  $\text{I}^-$ ,  $\text{PO}_4^{3-}$ ,  $\text{C}_2\text{O}_4^{2-}$ ,  $\text{CH}_3\text{COO}^-$ .

(Note: Insoluble Salts excluded)

ii) Detection of Nitrogen, sulphur and chlorine in the organic compounds.

## Project

Scientific investigations involving laboratory testing and collecting information from other sources.

A few suggested projects:

- Checking the bacterial contamination in drinking water by testing sulphide ion.
- Study of the methods of purification of water.
- Testing the hardness, presence of iron, fluoride, chloride etc. Depending upon the regional variation in drinking water and study of causes of presence of these ions above permissible limit (if any)
- Investigation of the foaming capacity of different washing soaps and the effect of addition of sodium carbonate on it.
- Study the acidity of different samples of tea leaves.
- Determination of the rate of evaporation of different liquids.
- Study the effect of acids and bases on the tensile strength of fibers.
- Study of acidity of fruit and vegetable juices.

Note: Any other investigatory project, which involves about 10 periods of work, can be chosen with the approval of the teacher.

### Recommended Textbooks

1. Chemistry Part – I, Published by NCERT
2. Chemistry Part – II, Published by NCERT

## Subject : Biology

**Prescribed Text Book** : Biology – A Text book of Class XI (NCERT)

- Reference Books** :
1. Elementary Biology for Class XI (Trueman's Publications)
  2. A Text Book of Biology for Class XI (Pradeep Publications)
  3. Illustrated Biology (Sultan Chand Publications)
  4. Objective Biology – Vol I & II (Dinesh Publications)
  5. GRB-Objective Biology
  6. Practical NoteBook for Class XI (Saraswati Publication)

Month	W. Days	Topics to be taught	Activity
June	15	<b>Unit III – Cell structure and Functions :</b> <b>Chapter – 8 :</b> <u>Cell – The unit of life</u> – Cell theory, prokaryotic and eukaryotic cell organization, cell organelles- structure and function, Endomembrane system, cytoskeleton, cilia, flagella, centriole, Nucleus; detailed structural and functional account. <b>Chapter – 10 :</b> <u>Cell cycle and Cell Division</u> : Mitosis , meiosis and significance.	1. Study the parts of a compound microscope. 2. Study of plasmolysis in epidermal peels (e.g. Rhoeo leaves) 3. Study of mitosis in onion root tip cells and animal cells (grasshopper) from permanent slides.
July	22	<b>Chapter – 10 :</b> <u>Cell cycle and Cell Division</u> Meiosis and significance (contd.) <b>Chapter – 9 :</b> <u>Biomolecules</u> : Primary and secondary metabolites, Micromolecules – nature of bonds linking monomers in a polymer, Macromolecules- carbohydrates, proteins, lipids. Nucleic acids, concept of metabolism, Enzymes- structure, properties, classification and enzyme action.	4. To test the presence of sugar, starch, protein & fat in suitable plant and animal materials.
August	22	<b>UNIT-II – Structural Organisation in Plants and Animals</b> <b>Chapter – 5 :</b> Morphology of flowering plants. Root, stem, leaf, inflorescence, flower, fruit, seed. Semi technical description of a typical flowering plant. Important families (Fabaceae, Solanaceae, Liliaceae) (to	5. Study of different modifications in roots, stems and leaves. 6. Study and identification of different types of inflorescence. (cymose and racemose). 7. Study and describe three locally

		be dealt along with the relevant practical of practical syllabus).	available common flowering plants-one from each of Fabaceae, Solanaceae and Liliaceae.
		<b>Chapter – 6 : <u>Anatomy of Flowering Plants</u> – Tissues, tissues system, anatomy of dicot and monocot plant.</b>	
		<b>Chapter–7 <u>Structural Organisation in Animals</u>– Animal tissues-- Important features, location and types of different animal tissues.</b>	8. Preparation and study of T.S. of dicot and monocot roots and stems(primary)
			9. Study of tissues and diversity in shapes and sizes of plant tissues through temporary/permanent slides.
			10. Study of distribution of stomata in upper and lower surface of leaf .
			11. Study of tissues and diversity in shapes and sizes of animal tissues through temporary/permanent slides
September	19	<b>Chapter–7 :</b> <b><u>Structural Organisation in Animals</u>–</b> Animal tissues (contd.) <b>Revision</b> <b>Half Yearly Examination</b> Discussion of question paper <b>Chapter–7 :</b> Organ system of cockroach (digestive, circulatory, respiratory, nervous and reproductive ) (a brief account only).	
October	18	Chapter–7 : Organ system of cockroach (contd). Unit I – Diversity in the Living World : Chapter – 1 : The Living World – What is living, biodiversity Chapter – 2 : Biological classification: Need for classification, three domains of life, Taxonomy and systematics, concept of species, binomial nomenclature, Tools for study of taxonomy, Five kingdom classification, salient features of Monera, Protista, Fungi into major groups, Lichens, Virus and Viroids. Chapter – 3 : Plant Kingdom – features and classification of plants into major groups - Algae, Bryophytes, Pteridophytes, Gymnosperms & Angiosperms. Chapter – 4 : Animal Kingdom – Salient features and classification – non chordates upto Phylum level & chordate upto class level.)	12.To study the external features of cockroach. 13. Study of specimen / slides and identification with reasons bacteria, algae, fungi , moss, fern ,pine, one monocot and dicot plant and lichen. 14. Study of specimen / slides and identification with reasons museum specimen belonging to different animal phyla.
November	16	Chapter – 4 : Animal Kingdom – contd. Classification of chordates Unit IV – Plant Physiology Chapter – 11 : Transport in Plants – Movement of water, gases and nutrients, cell to cell transport, plant water relations, long distance transport of water, uptake and translocation of mineral nutrients, transport of food, mass flow hypothesis. Chapter – 12 : Mineral Nutrition – Essential macro and micro nutrients and their role , deficiency symptoms, nitrogen cycle and nitrogen metabolism. Chapter – 13 : Photosynthesis in higher plants: site of Photosynthesis, role of pigments (elementary idea), photochemical and biosynthetic phase, cyclic and noncyclic photophosphorylation, chemiosmotic hypothesis, photorespiration, C3 and C4 pathways, factors	15. Study of imbibition in seeds/raisins. 16.Study of osmosis by potato osmometer. 17. To observe and comment on the experimental set up to show suction due to transpiration 18. Compare the rates of transpiration in upper and lower surface of leaves. 19. To separate plant pigments through

		affecting photosynthesis. Chapter – 14 : Respiration in plants : cellular respiration – glycolysis,, fermentation (anaerobic)	paper chromatography.
Decem ber	20	Chapter – 14 : Respiration in plants-contd. ETS, energy relations-number of ATP molecules generated , amphibolic pathway, Respiratory Quotient. Chapter – 15 : Plant growth and development : seed germination, phases of plant growth, growth rate, conditions of growth, differentiation, dedifferentiation, redifferentiation sequence of developmental processes in a plant cell, growth regulators – types, seed dormancy, vernalisation, Photoperiodism. Unit V – Human Physiology Chapter – 16 : Digestion and Absorption : alimentary canal and digestive glands, role of enzymes and gastro intestinal hormones, peristalsis, digestion absorption and assimilation of different nutrients, egestion ,nutritional(PEM) & digestive disorders. Chapter – 17 : Breathing and respiration: Respiratory organs in animals(recall only),respiratory system in human, mechanism of breathing, exchange and transport of gases, regulation of respiration, respiration volumes, respiratory disorders. Chapter – 18 : Body fluids and Circulation : Composition of blood, blood groups, coagulation of blood, lymph and its function.	20. To study anaerobic respiration . 21. To study rate of respiration in flower buds/leaf tissue and germinating seeds.  22. To study photo tropism in plants.  23. To observe and comment on the experimental set up to show effect of apical bud removal.
Januar y	17	Chapter – 18 : Body fluids and Circulation : (contd.) Human circulatory system, cardiac cycle, cardiac output, ECG, double circulation Regulation of cardiac activity, disorders. Chapter – 19 : Excretory Products and their Elimination : Modes of excretion, human excretory system, mechanism of urine formation, regulation of kidney function, role of other organs in excretion, disorders. Chapter – 20 : Locomotion and Movement : Types of movement, ciliary, flagellar and muscular, skeletal muscles-contractile proteins and mechanism of muscle contraction, skeletal system, joints, disorders of muscular and skeletal system. Chapter – 21 : Neural Control and Co-ordination: Neuron and nerves, Nervous system –CNS, PNS, ANS, generation and conduction of nerve impulse, reflex action, sensory perception, sense organs – structure and function of eye and ear. Chapter – 22 : Chemical Coordination and Regulation: Different types of endocrine glands and hormones, role of hormones as regulators and messengers.	24. To test the presence of urea, sugar, albumin and bile salts in urine.  25. To study the features of Human skeleton and joints.
Februa ry	21	Chapter – 22 : Chemical Coordination and Regulation:( contd.)Mechanism of hormone action (elementary idea), disorders. Revision. Annual Examination	

## **Subject : Computer Science**

**Text Book :-**Computer Science with C++ By Sultan Chand Publication

Month	W. Days	Topics to be covered
Jun	15	<u>Computer Fundamental</u> – Concept of Booting Use of operating system

		<p><u>Software Concept</u> – System software, Application software, Utility software Compiler, Interpreter &amp; assembler, Need of Utility software Function of OS, Types of OS.</p> <p><u>Computer Organization</u> : Commonly used CPU and CPU related terminology, Types of Memory Cache, Buffer, RAM, ROM</p> <p><u>Number system</u> : binary, octal and hexadecimal</p> <p>Programming Methodology and types of programming error</p>
July+Aug	22+22	<p><u>Introduction to C++ programming</u>- Data types, variables and constant, operators and Expression. <u>Flow of Control</u>: Conditional statements, if-else, nested if, switch case, nested switch-case, <u>Data Structure (Array)</u> - Initialization and declaration of array. Inputting array elements , accessing array elements Declaration, Initialization of a string, string manipulation, string and character related library functions. Programming –Flow of control, Array</p>
Sept	19	<b>Revision for Half yearly Exam &amp; Practical exam.</b>
October	18	Declaration, initialization of 2D array/string, Programming based on array
November	16	<u>User defined Functions</u> : Defining a function, function prototype, Invoking/calling a function, passing argument to a function, scope rules of function and variable, Local and Global variables, function, Mathematical function
December	20	<u>Structure-</u> Structure definition, nested structure, passing structure to function, Returning structure from function, use of typedef, macro
January + February	17 + 21	<b>Programming practice &amp; revision Practical exam &amp; Final exam</b>

## **Subject : Informatics Practices**

**Text Book :-**Informatics Practices By Reeta Sahu

Month	W. Days	Topics to be covered	
June	15	<p><b><u>Hardware Concepts:</u></b> Computer organization (basic concepts): CPU, Memory (RAM and ROM), I/O devices, communication bus, ports (serial, parallel, network, phone); <b><u>Input devices:</u></b> Keyboard, Mouse, Light pen, Touch Screens, Graphics Tablets, Joystick, Microphone, OCR, Scanner, Smart Card reader, Barcode reader, Biometric sensor, web camera; <b><u>Output Devices:</u></b> Monitor/Visual Display Unit (VDU), LCD screen, Television, Printer (Dot Matrix Printer, Desk jet/ Inkjet/ Bubble jet Printer, Laser Printer), Plotter, Speaker; <b><u>Secondary Storage Devices:</u></b> Floppy Disk, Hard Disk, Compact Disk, Magnetic Tape, Digital Versatile Disk (DVD), USB Drive, Memory cards - Comparative properties <b><u>Software Concepts:</u></b></p>	

		<p>Operating systems, Need for operating system, major functions of Operating System, Memory Management , Security of system: sources of attack and possible damages, virus and related entities - worms,</p> <p>Propagation of these entities, virus detection using a tool, Desktop security, Digital certificates, Digital signature, cookies, firewall, password, file access permissions</p>	
July	8	<p><b>Types of Software:</b> System Software, Utility Software, Application Software and Developer Tools</p> <p><b>System Software:</b>  General Purpose Application Software: Word Processor, Presentation Tool, Spreadsheet Package, Database Management System;  Specific Purpose Application software (for example: Inventory Management System, Purchasing System, Human Resource Management System, Payroll System, Financial Accounting, Hotel Management and Reservation System.</p> <p><b>Developer Tools:</b> Compilers and Interpreters, Integrated Development Environment</p> <p><b>IT APPLICATIONS</b></p> <ul style="list-style-type: none"> <li>• <b>e - Governance</b> - Definition, e-Governance websites; their salient features and societal impacts</li> <li>• <b>e - Business</b> - Definition, e-Business websites, their salient features and societal impacts</li> <li>• <b>e - Learning</b> - Definition; Benefits to students (Learners), Teachers (Trainers) and School (Institution) Management; e-Learning websites and their salient features and societal impacts</li> </ul> <p><b>Database Management System</b>  Introduction to database concepts: Relation/Table, <b>Key</b> - Primary Key, Candidate key, Alternate key;  Introduction to MySQL(ANSI SQL 99 standard commands)  Introduction to database concepts: Relation/Table, attribute/fields, Tuple / Rows;  <b>Data Types</b> - Number, Character and Date</p>	
	14	<p><b>Classification of SQL Statements:</b>  DDL – CREATE, DROP;  SELECT, INSERT,</p>	
August	10	<p>DML - UPDATE, DELETE;  SQL SELECT Statement (working with demo/already existing tables): SELECT statement, Selecting All the Columns, Selecting Specific Column, Using Arithmetic Operators, Operator Precedence, Defining and using Column Alias, Duplicate rows and their Elimination (DISTINCT keyword), Displaying Table Structure (DESC command); SELECT Statement Continued: Limiting Rows during selection (using WHERE clause), Working with Character Strings and Dates, Working with NULL values; Using Comparison operators - =, &lt;, &gt;, &lt;=, &gt;=, &lt;&gt;, BETWEEN, IN, LIKE(%), <b>Logical Operators</b> AND, OR, NOT; Operator Precedence;  ORDER BY Clause, Sorting in Ascending/Descending Order, Sorting By Column Alias Name, Sorting On Multiple Columns;  <b>Getting started with Programming using IDE</b>  Introduction, Rapid Application Development using IDE - Integrated Development Environment; Familiarization of IDE using basic Interface components; Basic component handling methods/attributes  <b>Programming Fundamentals</b>  Data Types: Concept of data types; Built-in data types - byte, short, int, long, float, double, char, String (or any object),</p>	

		Boolean; Concept of a Class and Instance as user-defined datatypes.	
	12	<p><b>Variables:</b> Need to use variable, Declaring Variables, Variable Naming Convention, Assigning value to Variables.</p> <p><b>Swing Controls:</b></p> <ol style="list-style-type: none"> <li>JTextField</li> <li>JLabel</li> <li>JTextArea</li> <li>Jbutton</li> </ol>	
Sept	19	<b>Revision for Half yearly Exam &amp; Practical exam.</b>	
October	18	<p><b>Control Structures:</b> Assignment Statement Decision Structure - if, if-else, switch; Looping Structure- while, do-while, for;</p> <p><b>Swing Controls:</b></p> <ol style="list-style-type: none"> <li>JRadioButton</li> <li>JCheckBox</li> <li>JPanel</li> </ol> <p><b>Case Study</b></p>	
November	16	<p><b>Swing Controls:</b></p> <ol style="list-style-type: none"> <li>JList</li> <li>JComboBox</li> </ol> <p><b>Case Study</b></p> <p><b>Functions in MySQL:</b> <b>String Function -</b> CHAR(), CONCAT(), INSTR(), LCASE(), LEFT(), LOWER(), LENGTH(), LTRIM(), MID(), RIGHT(), RTRIM(), SUBSTR(), TRIM(), UCASE(), UPPER(). <b>Mathematical Functions -</b> POWER(), ROUND(), TRUNCATE(). <b>Date and Time Functions -</b> CURDATE() , DATE(), MONTH(), YEAR(), DAYNAME(), DAYOFMONTH(), DAYOFWEEK(), DAYOFYEAR(), NOW(), SYSDATE(). Manipulating Data of a Table/Relation: Inserting New Rows, Inserting New Rows with Null Values, Inserting NUMBER, CHAR and DATE Values, Update Statement to Change Existing Data of a Table, Updating Rows in A Table, Delete statement - removing row/rows from a Table; Creating Table using CREATE TABLE, ALTER TABLE for adding a new column, using naming conventions for column names</p>	
December	20	<p>Manipulating Data of a Table/Relation: Inserting New Rows, Inserting New Rows with Null Values, Inserting NUMBER, CHAR and DATE Values, Update Statement to Change Existing Data of a Table, Updating Rows in A Table, Delete statement - removing row/rows from a Table; Creating Table using CREATE TABLE, ALTER TABLE for adding a new column, using naming conventions for column names</p> <p><b>Programming Guidelines:</b> Choice of Expressions and Names, , Comments, use of Indentation; Documentation and Program Maintenance; Debugging programs: Syntax Errors, Run-Time Errors, Logical Errors;</p>	



		Problem Solving Methodology and Techniques: Understanding of the problem, Identifying relevant information, top-down development approach	
January + February	17 + 21	<b>Programming practice &amp; revision</b> <b>Practical exam &amp; Final exam</b>	

**Subject :- Economics**

**Text Books :** NCERT

**Reference Book :** V.K. Publication

Month	W.D.	Topics	Learning Objective, Anecdotes & Value education
June	15	1. <u>Introduction of Micro Economics</u> , distinction between Micro & Macro. <u>Central problems of an economy</u> – what, how and for whom, PPC and opportunity cost. Distinguish between positive and normative perspectives. 2. <u>Consumers behaviour and demand</u> – Consumer's equilibrium – through utility and indifference curve, condition of consumer's equilibrium. Demand – Meaning and factors affecting demand, market and individual demand, change in demand.	Understand the concept of micro and macro <b>Economic value:</b> Distribution of resources in different goods to get maximum satisfaction
July	22	3. <u>Elasticity of demand</u> – Meaning and factors affecting elasticity of demand and measurement of price elasticity – (a) Percentage change method 4. Statistics : Introduction <ul style="list-style-type: none"> <li>• Meaning and Scope</li> <li>• Importance</li> </ul> 5. Collection, Organization and Presentation of data. <ul style="list-style-type: none"> <li>• primary and secondary sources</li> <li>• Frequency distribution</li> <li>• Tabular presentation</li> </ul> <b>6.Collection:</b> Sources of data- Primary and Secondary; how basic data is collected; method of collecting data; some important sources of secondary data; censuses of India and National Sample Survey Organisation <b>Organization of data:</b> Meaning and types of variables; Frequency Distribution <b>Presentation of data:</b> Tabular presentation and Diagrammatic presentation of data: 7. (i) Geometric forms (bardiagram and pie diagram), (ii) frequency Diagram (histogram, polygram and ogive) and (iii) Arithematic line graph (time series graph).	Anecdotes- A video clip of interview of a job applicant
Aug.	22	8. <u>Production Behaviour and Supply</u> – <u>Production function</u> : Total Product, Average and Marginal Product, Returns to a factor, 9. Statistical Tools and Interpretation : <ul style="list-style-type: none"> <li>–Mean</li> <li>–Median</li> <li>–Mode (simple and weighted mean)</li> </ul>	
Sept.	10+6+3	Revision <b>Half Yearly Examination</b>	
Oct.	18	Cost and Revenue : Short run costs – relations, Producer's equilibrium - Meaning and their relationship, Marginal cost approach. TR and TC approach.  10. <u>Supply</u> : Meaning and determinants of supply, market and individual supply schedule, Movement along and shift in supply curve, Price elasticity of supply. Measurement of price	Preparation of individual and market supply schedule on a chart paper along with the diagram

		elasticity of supply. 11. <u>Forms of Market and Price determination</u> – Meaning of market, Perfect competition – Meaning and features,	
Nov.	16	Market equilibrium and determination of equilibrium price, Effects of shifts in demand and supply. Non competitive Markets – Monopoly, Oligopoly and Monopolistic competition – their meaning and features. 12.. Measures of Dispersion : i) range ii) quartile deviation, iii) mean deviation and standard deviation iv) coefficient of quartile deviation, v) coefficient of mean deviation, vi) coefficient of variation vii) Lorenz Curve: Meaning and its application.	Inclusive Teaching Mr. G Mariappan would brief the students about Measures of dispersion
Dec.	20	13. Correlation i) Meaning ii) Scatter diagram iii) Measures of correlation – Karl Pearson's Method (two variables ungroup data) iv) Spearman's rank correlation.	
Jan.	17	14. Introduction to Index Number – i) meaning & type ii) wholesale Price index, iii) consumer price index and index of industrial production, uses of index number; Inflation and index numbers. Revision	
Feb.	21	Revision <b>Annual Examination</b>	

### Subject : Business Studies

**Text books** : Business Studies – N.C.E.R.T.

**Reference book** : Business Studies – Poonam Gandhi

Month	Chapter	Topics	Projects & Anecdotes/ Videos
June (15)	<b><u>Part-A : Foundation of Business</u></b> • <b>Unit – 1 : Nature and Purpose of Business –</b>	<ul style="list-style-type: none"> <li>Eco &amp; Non-eco activities – e.g. &amp; differences</li> <li>Concept &amp; characteristics of business</li> <li>Business, profession and employment – distinctive features &amp; comparison.</li> <li>Objectives of business – organizational, social &amp; individual</li> <li>Classification of business activities - Industry, Trade and Commerce, their characteristics &amp; comparison</li> <li>Auxiliaries to trade</li> <li>Business Risks: Meaning types &amp; causes</li> <li>Role of profit in business.</li> </ul>	<p>Students will be asked to identify the different objectives being followed by their school.</p> <p>Video of Dhirubhai Ambani as a successful businessman will be shown</p> <p>The students will be asked to identify the form of business org. they would recommend in different situations.</p>
July (22)	• <b>Unit – 2 : Forms of Business Organisation</b>	<ul style="list-style-type: none"> <li>Sole Proprietorship – meaning, features, merits and limitations.</li> <li>Partnership – meaning, types, registration, merits, limitations, type of partners. partnership deed</li> <li>Joint Hindu Family Business - meaning, features, merits and limitations.</li> <li>Co-operative Societies – types, merits and limitations.</li> <li>Company – Private &amp; Public- Features, merits &amp; limitations</li> </ul>	<p>The role of Indian Railways through video clipping</p>

	<ul style="list-style-type: none"> <li>● Choice of form of business organizations</li> <li>● Starting a business – Basic factors.</li> </ul>	
	<ul style="list-style-type: none"> <li>● Private sector &amp; Public sector enterprises</li> <li>● Forms of organizing public sector undertakings</li> <li>● Departmental undertakings – features, merits &amp; limitations</li> <li>● Statutory Corporations – features, merits &amp; limitations</li> </ul>	
	<ul style="list-style-type: none"> <li>● Government Company – features, merits &amp; limitations</li> <li>● Changing role of public sector</li> <li>● Global enterprises - meaning merits &amp; limitations.</li> <li>● Public private partnership, features, merits</li> <li>● Joint ventures – meaning, merits &amp; demerits</li> </ul>	
August (22)	<ul style="list-style-type: none"> <li>● <b>Unit – 4 : Business Services</b></li> </ul> <ul style="list-style-type: none"> <li>● Nature &amp; types of business services.</li> <li>- Banking – types of banks and bank accounts, function of commercial banks, e-banking, RTGS, NEFT &amp; Pay Order.</li> <li>- Insurance – principles, types : life, fire and marine.</li> <li>- Postal and Telecom services (UPC, Speed Post, Registered Post, courier) &amp; mail.</li> <li>- Saving schemes (NSC, KVP, PPF, MIS)</li> </ul>	<p><b>Bank official</b> will be called to brief the students about the different services being offered by banks. Anecdote on communication</p>
	<ul style="list-style-type: none"> <li>● <b>Unit – 5 : Emerging Modes of Business –</b></li> </ul> <ul style="list-style-type: none"> <li>● E-business – meaning, scope and benefits, resources required for successful e-business implementation, On-line transactions, payment mechanism, safety and security of business transactions.</li> <li>● Outsourcing – concept, need and scope of BPO and KPO</li> <li>● Smart cards and ATMs – meaning and utility</li> </ul>	<p><b>Inclusive –</b> Computer teacher will be asked to brief the students about the do's and don'ts of internet.</p>
Sept. (19)	<p>Revision of all chapters for Half-Yearly Exam.</p> <ul style="list-style-type: none"> <li>● Concept of social responsibility</li> <li>● Case for social responsibility.</li> <li>● Responsibility towards different interest groups - owners, investors, employees, consumers, government, public and community.</li> <li>● Business and environmental protection</li> <li>● Business ethics: concept and elements.</li> </ul>	<p>Students will be asked to identify the different social obligations being discharged by business org. today to polish their image. Video on SR</p>
Oct. (18)	<ul style="list-style-type: none"> <li>● <b>Unit – 6 : Social Responsibilities of Business &amp; Business Ethics</b></li> </ul> <ul style="list-style-type: none"> <li>- Preference shares - features, advantages &amp; limitations</li> <li>- Debentures - features, advantages and limitations</li> <li>- Public deposits - features, advantages and limitations</li> <li>- Retained Profits - features, advantages and limitations</li> <li>- Loan from Financial Institutions</li> <li>- Loan from Commercial Banks</li> <li>- Trade credit.</li> <li>- ADR's, GDR's, IDR's &amp; ICD</li> <li>● Factors affecting sources of funds</li> </ul>	
Nov (16)	<ul style="list-style-type: none"> <li>● <b>Unit – 9 :</b></li> </ul> <ul style="list-style-type: none"> <li>● Small scale Industry as defined by MSMED Act, 2006</li> </ul>	

**Small Business**

- Role of small business in rural India
- Problems of small business in India.
- Government assistance and special schemes for industries in rural, backward and hilly areas.  
DIC & NSIC
- Entrepreneurship Development : concept, characteristics and need – Process, Start up scheme and ways
- Intellectual Property Rights and Entrepreneurship
- **Main documents used in Internal Trade**
- **Terms of Trade**
- GST (Goods and Services Tax) : Concept and key features

Project work to be submitted on different issues related to syllabus

● **Unit – 11 : International Trade**

- Meaning and characteristics of External Trade
- Its Advantages and disadvantages
- Basic information about ways of entering into International Business
- Import procedure
- Export Procedure
- International trade institutions and agreements
- Meaning, role, functions & objectives of WTO

Jan (17)

● **Unit – 11: International Trade (cont.)**

Feb. (21)

Revision of all chapters for annual exams

**Subject: Accountancy**

**Prescribed Book: NCERT**

**Reference Book: T.S.Grewal**

Month	Day s/Period	Chapters and topic	Project/ smart board/ inclusive teaching
June + July	15+ 22	<p><b><u>PART A: FINANCIAL ACCOUNTING - 1</u></b></p> <p><b><u>Unit - I: Theoretical framework</u></b></p> <p><b>Introduction to accounting</b></p> <p>*Accounting objectives, advantages and limitations, types of accounting information, users of accounting information and needs.</p> <p>*Basic accounting terms</p> <p>*Theory base of accounting:</p> <ol style="list-style-type: none"> <li>a) Fundamental accounting assumptions</li> <li>b) Accounting principles and concepts</li> <li>c) AS &amp; IFRS</li> <li>d) Double entry system of accounting</li> <li>e) Bases of accounting</li> </ol> <p><b><u>Unit-II: Accounting Process</u></b></p> <p><b>Recording of transactions:</b></p> <ol style="list-style-type: none"> <li>a) Accounting equation.</li> <li>b) Rules of Debit and credit</li> <li>c) Format and recording of journal.</li> <li>d) Origin of transactions- source documents/ supporting vouchers</li> <li>e) Books of original entry</li> <li>f) Cash book: Simple cash book, double column, petty cash book</li> <li>g) Ledger: format and posting</li> <li>h) Subsidiary books: Purchase books, sales books purchase return and sales return books, journal proper.</li> <li>i) Trial balance: Objectives and preparation</li> </ol>	Smart Board

		<p><b>Bank reconciliation statement:</b> Meaning, objectives and preparation of Bank reconciliation statement. B.R.S. with amended cash book.</p> <p><b>Ledger</b> - format, posting from journal, cash book and other special purpose books, balancing of accounts.</p> <p><b>Trial balance:</b> objectives and preparation (Scope: Trial balance with balance method only)</p> <p><b>Depreciation:</b> Concept, causes, needs and methods of calculating depreciation: straight line and diminishing balance method by charging to asset and by creating provision of depreciation account.</p> <p><b>Provision and reserves:</b> concepts and difference, objectives and types of reserves.</p>	Smart Board
August	22	<p><b>Accounting for bills of exchange:</b> Definition, features, importance, terms, difference from promissory notes. Accounting treatment i.e. Journal entries. Accommodation bill.</p> <p><b>Rectification of errors:</b> Types of errors, which can be detected from trial balance and which cannot be detected from trial balance. Rectification before preparation of trial balance and after preparation of trial balance and after preparation of final account.</p>	Smart Board
Sept	19	<b>Revision &amp; Discussion on Question paper</b>	
October	18	<p><b>Unit- III</b> <b>Financial statement of sole proprietorship:</b> Financial statement: objectives and importance. Preparation of Trading account with and without adjustment Adjustments in preparation of financial statements</p>	<ul style="list-style-type: none"> <li>Describe the meaning of financial statements and the purpose they serve.</li> <li>state the meaning of gross profit, operating profit and net profit and develop the skill of</li> <li>preparing trading and profit and loss account.</li> <li>explain the need for preparing balance sheet.</li> <li>understand the technique of marshalling of assets and liabilities.</li> <li>appreciate that there may be certain items other than those shown in trial balance which may need adjustments while preparing financial statements.</li> </ul>
November	16	<p>Preparation of profit and loss account with and without adjustment. Preparation of balance sheet.</p>	<ul style="list-style-type: none"> <li>Develop the knowledge and understanding to do adjustments for items and their presentation in financial statements like depreciation, closing stock, provisions etc.</li> <li>Develop the understanding of preparation of trading and profit and loss account and balance sheet.</li> </ul>
December	20	<p><b>Financial statement of incomplete records:</b> Meaning, features, distinctions. Preparation of statement of affairs and balance sheet</p>	<ul style="list-style-type: none"> <li>State the meaning of incomplete records and their uses and limitations.</li> <li>Develop the skill of computation of profit / loss using the statement of affairs method.</li> </ul>
January	17	<b>Project Work &amp; Revision</b>	
February	11	<b>Annual Examination</b>	

**Subject : Physical Education**

Month	No. Of w/days	Particulars
June/July	37	<p><b>Unit I . Changing Trends and Career in Physical Education</b></p> <ul style="list-style-type: none"> <li>• Meaning and definition of physical education</li> <li>• Aims and objectives of PE</li> <li>• Changing Trends in physical education</li> <li>• Various physical education courses available in India</li> <li>• Career option in physical education</li> <li>• Soft skills required for different careers</li> </ul> <p style="padding-left: 40px;">Inspirational Video Related to sports Personalities</p> <p><b>Unit II Olympic Movement</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Ancient and Modern Olympics (summer and winter)</li> <li><input type="checkbox"/> Olympic Symbols, Ideals, Objectives and Values</li> <li><input type="checkbox"/> International Olympic Committee</li> <li><input type="checkbox"/> Indian Olympic Association</li> <li><input type="checkbox"/> Dronacharya Award, Arjuna Award and Rajiv Gandhi Khel Ratna Award</li> <li><input type="checkbox"/> Organisational set-up of CBSE Sports and Chacha Nehru award</li> </ul> <p style="padding-left: 40px;">Inspirational Video Related to famous Olympians</p>
August/September	41	<p><b>Unit III. PHYSICAL FITNESS, WELLNESS &amp; LIFESTYLE</b></p> <ul style="list-style-type: none"> <li>• Meaning &amp; Importance Of Physical Fitness, Wellness &amp; Lifestyle</li> <li>• components of physical fitness</li> <li>• components of wellness</li> <li>• Components of Health Related Fitness</li> </ul> <p style="padding-left: 40px;">preventing Health threats through lifestyle change</p> <ul style="list-style-type: none"> <li>• Concept of Positive Lifestyle</li> </ul> <p>➤ <b>PRACTICAL</b></p> <p>Health and Fitness Activities - Medicine Ball/Thera Tube/Pilates/Rope Skipping Ball/Thera Tube/Pilates/Rope Skipping Inspirational Video Related to sports Activities</p> <p><b>Unit IV: Physical Education and sports for differently Abled</b></p> <ul style="list-style-type: none"> <li>▪ Aim and objectives of adaptive physical education</li> <li>▪ Organization promoting adaptive sports(Special Olympic Bharat, Paralympics, Deaflympics)</li> <li>▪ Concept and need of integrated physical education</li> <li>▪ Concept of inclusion, its need and implementation</li> </ul> <p>Role of various professionals for children with special needs (counsellor occupational Therapist, Physiotherapist, Physical education teachers, Speech Therapist and Special educator)</p> <p><b>Unit V. Yoga</b></p> <p style="padding-left: 40px;">Meaning and Importance of Yoga</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Elements of Yoga</li> <li><input type="checkbox"/> Introduction to - Asanas, Pranayam, Meditation and Yogic Kriya</li> <li><input type="checkbox"/> Yoga and concentration and related (Shukhasanas: Tadasanas: Padmasanas and Shashankasanas)</li> </ul> <p>Relaxation Techniques for improving Concentration –yog nidra</p> <p>➤ <b>PRACTICAL</b></p> <p>Physical Fitness: Shuttle Run 10 x 60mt. &amp; 12 min. Run/Walk</p>
October	18	<p><b>Unit VI – Physical Activity and leadership Training</b></p> <ul style="list-style-type: none"> <li>• Introduction to physical activity and leadership</li> <li>• Qualities and Role of a leader</li> <li>• Behavior change Stages for physical activity</li> <li>• (Pre -contemplation; Contemplation;</li> </ul>

		<p><b>Planning;Active;Maintenance</b></p> <ul style="list-style-type: none"> <li>• <b>Creating leaders through physical education</b></li> <li>• <b>Meaning and objectives of Adventure sports (Rock Climbing;Tracking;River Rafting;Mountaineering; surfing and para gliding</b></li> </ul> <p><b>Unit VII Test Measurement and Evaluation</b></p> <ul style="list-style-type: none"> <li>• <b>Define Test Measurement and evaluation</b></li> <li>• <b>Importance Of Test Measurement and evaluation In Sports</b></li> <li>• <b>Calculation Of BMI &amp; Waist - Hip Ratio</b></li> <li>• <b>Somato Types (Endomorphy, Mesomorphy and Ectomorphy</b></li> <li>• <b>Procedures Of Anthropometric Measurement – Height, Weight, Arm &amp; Leg Length And Skin Fold</b></li> </ul>
<b>November</b>	<b>16</b>	<p><b>Unit VIII Fundamentals Of Anatomy &amp; Physiology</b></p> <ul style="list-style-type: none"> <li>• <b>Define Anatomy, Physiology &amp; Its Importance</b></li> <li>• <b>Function Of Skeleton System, Classification Of Bones &amp; Types Of Joints</b></li> <li>• <b>Function &amp; Structure Of Muscles</b></li> <li>• <b>Function &amp; Structure Of Respiratory System</b></li> <li>• <b>Structure Of Heart &amp; Introduction To Circulatory System</b></li> <li>• <b>Oxygen Debt Second wind</b></li> </ul>
<b>December</b>	<b>20</b>	<p><b>Unit IX : Kinesiology Biomechanics &amp; Sports</b></p> <ul style="list-style-type: none"> <li>• <b>Meaning &amp; Importance of kinesiology Biomechanics In Phy. Edu. &amp; Sports</b></li> <li>• <b>Levers &amp; Its Types and its application in sports</b></li> <li>• <b>Equilibrium – Dynamic &amp; Static And Centre Of Gravity and its application in sports</b></li> <li>• <b>Force – Centrifugal &amp; Centripetal and its application in sports</b></li> <li>• <b>Introduction to Buoyancy Force</b></li> </ul> <p>➤ <b>PRACTICAL</b></p> <p><b>Physical Fitness: 50 mts .Dash</b></p> <p>➤ <b>Specialization Practice</b></p>
<b>January</b>	<b>17</b>	<p><b>Unit X. Psychology and Sports</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Definition and importance of Psychology in Physical Education and Sports</b></li> <li><input type="checkbox"/> <b>Define and differentiate between 'Growth and Development'</b></li> <li><input type="checkbox"/> <b>Developmental characteristics at different stage of development</b></li> <li><input type="checkbox"/> <b>Adolescent problems and their management</b></li> <li><input type="checkbox"/> <b>Define Learning, Laws of Learning and transfer of Learning</b></li> <li><input type="checkbox"/> <b>plateau and causes of plateau</b></li> <li><input type="checkbox"/> <b>Emotion: Concept and controlling of emotion.</b></li> </ul> <p>➤ <b>Specialization Practice</b></p> <p><b>Video related to specialization</b></p>
<b>February</b>	<b>23</b>	<p><b>Unit XI Training in Sports</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Meaning and Concept of Sports Training</b></li> <li><input type="checkbox"/> <b>Principles of Sports Training</b></li> <li><input type="checkbox"/> <b>Warming up and limbering</b></li> <li><input type="checkbox"/> <b>Skill, Technique and Style</b></li> <li>➤ <input type="checkbox"/> <b>Symptoms of overload,Adaptation and Recovery and to overcome it</b></li> <li>➤ <b>Role of free play in the development of motor component</b></li> </ul> <p>➤ <b>Specialization Practice</b></p> <p>➤ <b>Video related to specialization</b></p> <p>➤ <b>Motivational Videos</b></p> <p>➤</p> <p><b>Unit XII Doping</b></p>

		<ul style="list-style-type: none"> <li>• <b>Concept and classification of Doping.</b></li> <li>• <b>Prohibited Substances &amp; Methods</b></li> <li>• <b>Athletes Responsibilities</b></li> <li>• <b>Side Effects Of Prohibited Substances</b></li> <li>• <b>Ergogenic aids and doping in sports.</b></li> <li>• <b>Doping control procedure.</b></li> <li>➤ <b>PRACTICAL</b></li> </ul> <p><i>Physical Fitness: Standing Broad Jump &amp; Pull ups/Flex arm Hang</i></p>
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**Subject: Swimming**

MONTH	No Of W.D.	UNIT /CHAPTER	DESCRIPTION
MARCH	23	SWIMMING CAMP	i) Preparation for swimming competitions.
APRIL to JUNE	21+5+15	CHAPTER -1	i) General & specific warming up on ground and in the swimming pool ii) Checking of waterman ship. iii) Selection of swimming team of performance basis iv) Rules & regulations of swimming. v) Demonstration of four basic skills of swimming. vi) Preparation of swimming demonstration. vii) Videos and power point presentation.
JULY to SEPT	22+22+19	CHAPTER-2	i) Stroke correction. ii) Swimming START, TURNING & GLIDING practice. iii) Types and kind of START practice. iv) Time trials. v) Competition in groups. vi) Videos and power point presentation.
OCT & NOV	18+16	CHAPTER -3	i) Medley relay & relay race practice. ii) Sequence of stroke in relay & individual medley iii) TURNING correction. iv) Time trials. v) Competition in groups. vi) Videos and power point presentation.

**Subject :- General Studies**

Prescribed Book: A course in General Studies by K.C.Singh & S.K.Bhattacharya

Month	W. D.	Unit / Chapter / Topics to be covered
June	15	1. Relevance of celebrating Earth day. 2. Suggest measures to spread awareness about safeguarding Environment. June 12: World Day Against Child Labour
July	22	1. Need to save wild life 2. Truth or success – A way of life June 11 – World Population Day
August	22	1. Ways in which Right to Education can be achieved in our country 2. Language or Religion is a hindrance in National Integration.
September	19	1. Population explosion – Human resource can be developed Sep 11 – Anti Bullying Day Sep 16 – International Day for the Preservation of the Ozone
October	18	1. Benefits of Vocational Schools. 2. Life exists on other Planets Oct 13 – International Day of Disaster Reduction Oct 17 – International Day for Eradication of Poverty.



November	16	1. Eve teasing to be checked 2. Management of e-waste Nov 16 International day of tolerance Nov 25 International day for Elimination of Violence Against Women
December	20	1. Youth to be safeguarded against cyber crime Dec 1: World AIDS Day Dec 10: Human Rights Day
January	17	1. Use of Mobile phone : bane or a boon Jan 01 : Global Family Day Jan 26 : Republic Day

**Subject : CompSc(Wed) MY Sql**

**Text Books – No Books**

Month	W. Days	Topics To Be Covered
June	15	Introduction to Databases <ul style="list-style-type: none"> <li>• Attributes</li> <li>• Tuples</li> <li>• Cardinality</li> <li>• Degree</li> <li>• Relations</li> </ul>
July	22	Keys <ul style="list-style-type: none"> <li>• Primary key,</li> <li>• Foreign key</li> <li>• Candidate key</li> <li>• Alternate key</li> <li>• Composite key.</li> </ul> <p>Activity: Project work based on MYSQL</p>
August	22	SQL <ul style="list-style-type: none"> <li>• Introduction – What is SQL</li> <li>• Intro to MYSQL</li> <li>• Data types in MYSQL</li> <li>• DML and DDL Commands</li> <li>• Creating Database and Tables</li> <li>• Inserting Values in Tables</li> <li>• Querying a database using Select Command</li> <li>• Operators</li> </ul> <p><b>Project work based on MYSQL</b></p>
September	19	Revision & Practical Examinations <b>Half Yearly Examination</b>
October	18	Modifying databases relation <ul style="list-style-type: none"> <li>• Update Command</li> <li>• Update command with clauses</li> <li>• Deleting tables</li> </ul>
November	16	Modifying structure using Alter command <ul style="list-style-type: none"> <li>• Dropping columns</li> <li>• Adding Columns</li> <li>• Renaming columns</li> <li>• Changing Data types</li> </ul>
December	20	Removing Records/Database <ul style="list-style-type: none"> <li>• Drop Command</li> <li>• Delete Command</li> </ul> <p>Activity: Demonstration in lab</p>
January	17	Clauses in SQL Commands

		<ul style="list-style-type: none"> <li>• Order by clause</li> <li>• Limit Clauses</li> <li>• Distinct Clauses</li> </ul> Activity: Demonstration in lab
February	21	Revision, <b>Final Project</b> , Practical Exams. <b>Annual Examination</b>

### Subject : Physical Education (General)

Month	W.D	Topics to be Covered
<b>June/July</b>	<b>15+22</b>	<ul style="list-style-type: none"> <li>➤ <b>Physical indicators of Health</b> <ul style="list-style-type: none"> <li>•Body Weight</li> <li>• Body Mass index</li> </ul> </li> <li>➤ <b>Specialization Practice</b> General fitness, Drill, Chess, Badminton, Kabaddi, Volleyball, Basketball &amp; Skating Basic and advanced skills of above mentioned games. Techniques and strategies of above mentioned games. Involvement in real game situation with using the taught skills. Selection for extramural competitions like Inter DPS and CBSE Clusters Meet.</li> <li>➤ <b>Video related to Specialization</b></li> </ul> <p><b>PRACTICAL</b></p> <ul style="list-style-type: none"> <li>➤ <b>Physical Fitness Test:</b>• To asses the individual Endurance -12 min.run/walk</li> <li>➤ <b>Health and Fitness Activity</b> <ul style="list-style-type: none"> <li>•Medicine Ball</li> </ul> </li> </ul> <p><b>YOGA</b></p> <ul style="list-style-type: none"> <li>➤ <b>Introduction to:</b>• Asanas</li> </ul>
<b>August &amp; September</b>	<b>22+19</b>	<p><b>TOPICS</b></p> <ul style="list-style-type: none"> <li>➤ <b>Psychological indicators of Health</b> <ul style="list-style-type: none"> <li>• Stress</li> <li>• Depression</li> </ul> </li> <li>➤ <b>Physical indicators of Health</b> <ul style="list-style-type: none"> <li>•Body Composition</li> </ul> </li> <li>➤ <b>Specialization Practice</b> General fitness, Drill, Chess, Badminton, Kabaddi, Volleyball, Basketball &amp; Skating Basic and advanced skills of above mentioned games. Rules and Regulations of above mentioned games. Techniques and strategies of above mentioned games. Involvement in real game situation with using the taught skills. Selection for extramural competitions like Inter DPS and CBSE Clusters Meet.</li> <li>➤ <b>Inspirational Video Related to famous Olympians</b></li> </ul> <p><b>PRACTICAL</b></p> <ul style="list-style-type: none"> <li>➤ <b>Physical Fitness Test:</b> <ul style="list-style-type: none"> <li>• To asses the individual Speed 50Mt Dash, Explosive Strength and Standing Broad Jump</li> </ul> </li> <li><b>Health and Fitness Activity:</b> Rope Skipping</li> </ul> <p><b>YOGA</b></p> <ul style="list-style-type: none"> <li>• <b>Introduction to:</b>• Asanas, Pranayama</li> </ul>
<b>October &amp; November</b>	<b>18+16</b>	<ul style="list-style-type: none"> <li>• <b>Psychological indicators of Health Moods</b></li> <li>• <b>Physical indicators of Health</b></li> </ul>

**Specialization Practice**

**PRACTICAL**

**Physical Fitness:**

- To assess the individual Explosive Strength Standing Broad, to assess individual coordinative ability, Shuttle Run

**Health and Fitness Activity:** Medicine Ball

**YOGA**

**Introduction to:** Pranayama

**Inspirational Video Related to sports Personalities**

**December/ Jan/Feb**     **20+17  
+21**

**Specialization Practice**

General fitness, Drill, Chess, Badminton, Kabaddi, Volleyball, Basketball & Skating  
Basic and advanced skills of above mentioned games.  
Rules and Regulations of above mentioned games.  
Techniques and strategies of above mentioned games.  
Involvement in real game situation with using the taught skills.  
Selection for extramural competitions like Inter DPS and CBSE Clusters Meet.

**Psychological indicators of Health**

- Body image

**Physical indicators of Health:**

Cardiovascular Fitness

**Health and Fitness Activity:** Medicine Ball *and* Pilates

**PRACTICAL**

**Physical Fitness:** To assess the individual co-coordinative ability

- Shuttle Run

**YOGA     Introduction to: Meditation**

**Inspirational Video Related to sports Personalities**

**ART-EDUCATION**

**Subject : Fine Arts (Painting) 6<sup>th</sup> Subject**

Month	W.D.	Particulars
June	15	Introduction about subjects Tone (Pencil shading)
July	22	Theory – Pre Historic Rock Painting, Practical – Still life in pencil shading
August	22	Theory- Indus valley Civilization Practical - Still life
September	19	Theory – Bhimbetka Pract. – Nature study in pencil shading
October	18	Theory – Art of Maurya, Shunga, Kushana and Gupta Period, Pract. – Human Anatomy
November	16	Theory – Ajanta cave painting Practical – Composition
December	20	Study of Temple Sculpture Practical – Composition
January	17	Theory – Indian bronze sculpture. Pract. – Nature study in pencil shading
Feb	21	Theory – Artistic aspects of the Indo-Islamic Architecture. Practical – Nature study

**Subject: Art & Craft**

Month	W.D.	Particulars
June	15	Pencil Shading

		Project: Art around us	
		Collection of logo	
July	21	Human Anatomy	
		Composition with dry colour (cont)	
August	23	Composition with Dry colour	
		Sketching	
September	19	Logo Design	
October	18	- Poster Design	
November	16	- Pen Art	- Project: Biodata design
		- Prespective drawing	- Magazine cover design
December	20	- Prespective drawing (cont.)	
January	17	- Paper craft	
Feb	21	- Paper craft (cont.)	

### **Subject : Fine Arts (Graphic)**

<b>Month</b>	<b>W.D.</b>	<b>Particulars</b>
June	15	Introduction about subjects Tone (Pencil shading)
July	22	Theory – Pre Historic Rock Painting, Practical – Stencil design
August	22	Theory- Indus valley Practical – Lino cut / wood Print
September	19	Theory – Bhimbetka cave painting Pract. – Lino cut / wood Print
October	18	Theory – Art of Maurya, Shunga, Kushana and Gupta Period, Pract. – Wood Print
November	16	Theory – Ajanta cave painting Practical – Paper Cardboard
December	20	Study of Temple Sculpture, Buddhist, Jain and Hindu art Practical – Paper cardboard
January	17	Theory – Indian bronze sculpture. Pract. – Paper Cardboard
Feb	21	Theory – Artistic aspects of the Indo-Islamic Architecture. Submission of Portfolio

### **Subject : INSTRUMENTAL MUSIC (Spanish Guitar)**

<b>Month</b>	<b>W.D.</b>	<b>Particulars</b>	<b>Learning Outcomes</b>
June	15	Finger practice on all six strings Demonstration of Spanish guitar	Discipline
July	21	How to play guitar with staff notation Demonstration of staff notation	Togetherness
August	23	Semibrave, Minim and crotchet timing Practice for notes and rhythm	Caring, feeling and exhibility concern and empathy for others
September	19	Revision/Exam –Half Yearly Project: Demonstration of Spanish guitar And make a file of staff Notation.	
October	18	<ul style="list-style-type: none"> <li>• First string melody</li> <li>• Second string melody</li> <li>• 1<sup>st</sup> and 2<sup>nd</sup> string melody</li> </ul>	Time management: To foster Self Discipline
November	16	<ul style="list-style-type: none"> <li>• Chords of C</li> </ul>	Celebrating to the nation: To

December	20	<ul style="list-style-type: none"> <li>• Chords of Cm</li> <li>• History of famous two Guitarist</li> <li>• Biography of famous two bands</li> </ul>	understand National diversity Achievements of life.
January	17	<ul style="list-style-type: none"> <li>• Chords of A Major</li> <li>• Chords of A minor</li> <li>• Flemenco Stramming</li> </ul>	Maths : Timing of Rhythm with counting of Beats
February	21	Revision Practical Exam.	

### **Subject : PHOTOGRAPHY**

<b>Month</b>	<b>W.D.</b>	<b>Particulars</b>	<b>Learning outcomes</b>
June	15	Impotency of photographs Camera, film and use of it. Image formation, Precaution before clicking SLR Camera – miniature camera	Caring and Sharing
July	22	Difference between SLR/TLR camera	Responsibility
August	22	Eye and Camera lens	Acceptance of others
September	19	Various camera details, Practical + Exam.	management
October	18	Commercial photography, Advertisement Practical Photography	Technique
November	16	Behaviour of grains. Enlarge a positive Enlarger parts & function	Responsibility
December	20	Enlarger (Photomaker machine) Its parts, films and Cameras, Panchromatic, Orthochromatic, Monochromatic Emulsion Aperture + Shutter	Perfection
January	17	Practical Photography Handling a camera	Knowing by doing
February	21	Photography Annual examination	Time Management

### **Subject: Sculpture**

<b>Month</b>	<b>W.D.</b>	<b>Particulars</b>
April	21	Head Study
May+June	05+1	Head Study/Potrait
	5	Project: Importance of coil decoration on Murals
July	22	Pottery (Practice on wheel)
August	22	Terracotta Mural (Clay modeling)
September	19	Terracotta Murals (carving method)
October	18	Terracotta (Round sculpture)
November	16	Terracotta (compact form) Project: Contemporary art form
December	20	Antique study
January	17	Antique study (Relief form)
February	21	Miniature craft work

### **Subject : TABLA**

<b>Month</b>	<b>W.D.</b>	<b>Particulars</b>	<b>Learning outcomes</b>
June	15	शास्त्र : – तबला चित्र बनाकर उनके अंगों का वर्णन करें वर्ण, हस्त साधना के बोल लेखन कार्य परिभाषाएँ	संगीत का हमारे जीवन में महत्त्व ।

		क्रियात्मक : – वर्ण, बोल, ताली, खाली का अभ्यास ।	
July	22	शास्त्र : – परिभाषाएँ शास्त्रानुसार ताल लेखन 16, 8, 6 क्रियात्मक : – ताल अभ्यास	सूक्ष्म, स्वर, लय, ज्ञान, जीवन को सरल बनाना ।
August	22	क्रियात्मक : – Song, Beat's practice	लय का हमारे जीवन में महत्त्व ।
September	19	शास्त्र क्रियात्मक :- Almanac Song Practice with all Musical instruments. <b>H.Y. Examination</b>	
October	18	शास्त्र क्रियात्मक : Almanac song practice	गायन में शब्द – शब्द छापे विभिन्न प्रकार के गीत ज्ञान
November	16	शास्त्र :- कायदा, पलटा, तिहाई लेखन कार्य । क्रियात्मक : – अभ्यास ।	लेखन अनुशासनरसकता तथा वाध्य के विविधता का ज्ञान होना
December	20	क्रियात्मक : – अन्य वाध्य पे वादन अभ्यास । Congo, Bongo, Drum, Dhol, Dholak etc	
January	17	क्रियात्मक : – बोल पठन अभ्यास ।	
February	21	नगमा अभ्यास । Annual Examination	

### **Subject : Vocal Music**

<b>Month</b>	<b>W.D.</b>	<b>Particulars</b>	<b>Integrated values</b>
June	15	Revision, 5 Alankars in Bilawal thaat. And Ganesh Vandana	Mythological Importance of Divine Power
July	22	Ghazal, of Dusant Kumar “ye sara jism jhuk kar” Essay about Indian classical music culture. Raag yaman Introduction	History of classical culture
August	22	Quavali new one Definition quawali and Bhajan, Taal Dadra, Keharwa, Teen taal with Dugun	Taal – Discipline and Timing
September	19	Revision & Assignment-I <b>Examination</b>	
October	18	Revision of 5 Alankars in Kalyan Thaata Raag yaman with Bendish Biography of Ustaad Abdul Karim Khan.	<b>Elaborate: Involving many carefully arranged part of details</b>
November	16	Song from Almanac, Folk song any one Project – Few living legends of Indian Classical Music.	<b>History of legends</b>
December	20	Patriotic Song – Bharat Ki Santan Hain/New one – raag Yaman contd.	<b>Patriotism</b>
January	17	Taal – Jhap taal and Rupak with Dugun-with Hands bits Assignment-II	<b>Discipline</b>
February	21	Revision Annual Examination	

### **Subject :- Hindustani Vocal Music**

<b>Month</b>	<b>W.D.</b>	<b>Topics to be covered</b>	<b>Integrated values</b>
June	15	Definition of sangeet , Description of Raag Bigag	Naad, shruti and swara, Bhairavi, Taal Dara, Kehwarwa
July	22	Biography of Tansen and Pt. V.N. BhatKhande Raag Bihag/ Bhairavi with Bandish With 8, 9, 16 Matra Taan Sargam	
August	22	History of Dhrupad and Khyal Raag Bhairavi/Bihag Raag with Bandish Practice	With Notation of Raag Bhairavi
September	19	Revision	
October	18	Definition of Saptak, Raga, Swarmalika Tarana Nibadh and	

		Anibaddh taan. Description of vrindavani sarang with bandish / Raag jaunpuri with Bandish
November	16	Biography on Pandit Vishnu digamber paluskar and Pandit Swami Hari das Raag Brindavani sarang with 8 and 6 matra Taan Sargam and Alaap
December	20	Brif History of Gharana Dhamar, Thumari Notation of Raag Jaunpuri / Bridavari in Teen Taal and practices of Raagas
January	17	Notation of char taal, Ek taal, Surtaal dugun with bandish with hands bits.
February	21	Revision of Raag vrindavani sargam and Raag Jaunpuri Annual Examination

### Subject: Kuchipudi

Month	W.D.	Particulars	Integrated Values
April	21	Accompaniement used in dance concert How to perform on the stage.	Learning about dance Introducing students to exciting, daring.
May+June	05+1 5	Basic concepts of Nritya Nriytya and Natya. Number of Rasas and Abhinayam.	Ever changing and dynamic world of dance.
July	22	Vandana:- the obeisance the description of dance body language.	Deep learning is an aspect of artificial
August	22	General Introduction Origin, Nature, Scope to the technique based on natya Sastra.	Intelligence. That is concerned with emulating the learning approach.
September	19	Revision and Assessment-I	Human being use to gain certain type of knowledge.
October	18	Four kinds of Abhinaya Anghika, Vaachika aaharya and Satvika.	Deep learning applications could have to is Impact.
November	16	Technical view of Indian classical dance and Indian folk dances.	Class discussion. Comperative learning.
December	20	Introduction of Andhra Natyam, Nava Janardhana Pari Jatham and Perini Shiva Tandavam	Activities Student work in group to Solvea a problem.
January	17	Discription of Golla kalapam, Bhama Kalapam and Yaksha gava's.	Independent practice.
February	21	Ranga pravesam about Nattu vanar- Swar and Sangeeth Intraduction of Abhinaya dharpan.	Have a structured discussion.

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