

DELHI PUBLIC SCHOOL

Bokaro Steel City

TERM AND MONTHWISE SPLIT-UP SYLLABI OF CLASS – XI FOR THE SESSION 2019-2020

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	23	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	21	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	17	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	21	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	19	SR	The Tale of Melon City	• PPT on great leaders' contribution in shaping our nation.
February	20		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.

Month	WD	Topics to be taught	Values
June	15	<p>Sets: 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>Relation: 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 $\mathbb{R} \times \mathbb{R} \times \mathbb{R}$). Definition of relation, pictorial diagrams, domain, co-domain and range of a relation.</p> <p>Functions: 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>	Team Work Sharing
July	23	<p>Trigonometric Functions: 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 $\sin^2 x + \cos^2 x = 1$ for all real numbers. Sign of Trigonometric functions and sketch of their graphs,</p> <p>Expressing $\sin(x \pm y)$ and $\cos(x \pm y)$ in terms of $\sin x$, $\sin y$, $\cos x$ and $\cos y$.</p> <p>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 $\sin 2x$, $\cos 2x$, $\tan 2x$, $\sin 3x$, $\cos 3x$, $\tan 3x$. General solution of the trigonometric equation of the type $\sin \theta = \sin \alpha$, $\cos \theta = \cos \alpha$, $\tan \theta = \tan \alpha$.</p> <p>Principle of Mathematical Induction: 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>	Respect for law and order
August	21	<p>Complex number and Quadratic Equation: Need for complex numbers, especially $\sqrt{-1}$, to be motivated by inability to solve some of the quadratic</p>	Discipline

		<p>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>Linear Inequalities: 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>Limits and Derivatives: 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 10 06 02	<p>Derivatives(contd.)</p> <p>Revision for Half Yearly Exam.</p> <p>Half Yearly Examination</p> <p>Discussion of Half Yearly question paper</p>	
October	17	<p>Sequence and Series. 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: $\sum_{k=1}^{k=n} k, \sum_{k=1}^{k=n} k^2, \sum_{k=1}^{k=n} k^3$</p> <p>Permutations and Combinations: Fundamental principle of counting. Factorial n(n!). Permutations and combinations, derivation of formulae and their connections, simple applications.</p>	Team Work
November	21	<p>Binomial Theorem: 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>Probability: 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>Straight Lines: 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>Conic Sections: 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	19	<p>Introduction to Three-dimensional Geometry: Coordinate axes and coordinate planes in three dimensions. Coordinates of a point. Distance between two points and section formula.</p> <p>Statistics: 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>Mathematical Reasoning: 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>Mathematical Reasoning (Contd.): difference between contradiction, converse and contrapositive.</p>	

	10 09	Revision for Annual Examination Annual Examination	
March	20	Result Analysis	

Subject: Physics

Prescribed Text Books: 1. Physics for Class-XI (NCERT)
2. Laboratory Manual Physics – Class XI: Mittal & Singhal (Arya Publication)

Reference Books : 1. **New Millenium Physics (Vol –I and II) By S.K. Sharma.**
2. Concept of Physics Vol. I & II - Bharti Bhawan – H.C. Verma
3. Physics – I John Wiley And Sons – Resnick Halliday and Walker.

Month	W. Days	Contents	Suggestive/ Projects/ Activity/ Excursion
June	15	<p><u>Unit – 1: Physical World and Measurement:</u></p> <ul style="list-style-type: none"> • Physics – Scope and excitement, nature of physical laws; physics, technology and society. • Need for measurement: Unit of measurement, systems of unit, S.I unit, fundamental and derived units, Length, mass and time measurements; Accuracy and precision of measuring instruments, Error in measurement; significant figures. • Dimensions of physical quantities, dimensional analysis and its application. <p><u>Unit – 2: Kinematics:</u></p> <ul style="list-style-type: none"> • Frame of reference: Motion in a straight line, position – time graph, speed and velocity. • Uniform and non – uniform motion, average speed and instantaneous velocity. • Uniformly accelerated motion, velocity time, position-time graphs, relations for uniformly accelerated motion. • Elementary concepts of differentiation and integration for describing motion. • Vector : Scalar and vector quantities, general vectors and their notations, notation, position and displacement. 	<p>1. To measure the 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 & here find its volume.</p> <p>Smart to be used to explain various graphs. Mathematical tools will be explained with the help of maths teacher. Vectors will be explained with the help of maths teacher.</p>
July	23	<p><u>Unit – 2: Kinematics: Contd.</u></p> <ul style="list-style-type: none"> • Vectors, equality of vectors, multiplication of vectors by a real number; addition and subtraction of vectors, Relative velocity. • Unit vector: Resolution of a vector in a plane, rectangular component scalar and vector products. Motion in a plane, cases of uniform velocity and uniform acceleration - projectile motion. Uniform circular motion. <p><u>Unit – 3: Laws of Motion :</u></p> <ul style="list-style-type: none"> • Intuitive concept of force and Inertia, Newton's first law of motion :- momentum, Newton's second law of motion, Impulse, Newton's third law of motion; Law of conservation of linear momentum and its application. • Equilibrium of concurrent forces, Static and kinetic friction, laws of friction, rolling friction, Lubrication. • Uniform circular motion, dynamics of uniform circular motion; centripetal force, examples of circular motion (vehicle on level circular road, vehicle on banked road). 	<p>3. To measure the diameter of a given curve using screw gauge.</p> <p>4. To determine radius of curvare of a given spherical body by a spherometer. Smart Board will be used to explain Projectile motion.</p> <p>To determine the mass of two different objects using beam balance.</p> <p>5. To find the weight of a given body using parallelogram law of vector.</p> <p>I/T – P.E. (Circular motion)</p>
August	21	<p><u>Unit – 4: Work, Energy and Power:</u></p> <ul style="list-style-type: none"> • Scalar product of vectors. Work done by a constant force and a variable force; kinetic energy; work-energy theorem, power. • Notion of Potential Energy: P.E. of a spring conservative forces; conservation of mechanical energy (K.E. and P.E.); Non-conservative forces, elementary ideas of elastic and inelastic collision in 1 and 2-D. Motion in a Vertical circle. <p><u>Unit – 5: Motion of system of particles and Rigid body:</u></p>	<p>6. Using simple pendulum, plot L-T and L-T² graphs. Hence find the effective length of the second pendulum using appropriate graph. Smart Board used to explain collision .</p> <p>Smart board used to</p>

	<ul style="list-style-type: none"> Centre of mass of a two-particle system, momentum conservation and centre of mass motion, centre of mass of a rigid body; centre of uniform rod. Vector product of vectors, Moment of a force, Torque Angular momentum, principle of conservation of angular momentum with some examples Equilibrium of rigid bodies, rigid body rotation and equations of rotational motion, 	explain C.M and M.I of various continuous bodies.
September	<p>19</p> <ul style="list-style-type: none"> Moment of inertia, radius of gyration, values of moments of inertia for simple geometrical objects. Statement of parallel and perpendicular axes theorem and their applications. comparison of linear and rotational motions Revision <p>Half-Yearly Examination.</p> <ul style="list-style-type: none"> Discussion of Question Paper. 	<p>7. To study the relationship between force of limiting friction and Hormel reaction & to find co-ff of friction between a block & a horizontal surface.</p> <p>8. To study the relationship between force of limiting friction and Hormel reaction & to find co-eff. of friction between a block & a horizontal surface.</p>
October	<p>17</p> <p><u>Unit – 5: Gravitation:</u> Kepler's Laws of planetary motion. The universal law of gravitation; Acceleration due to gravity and its variation with altitude and depth. The gravitational potential energy; gravitational potential; Escape velocity, orbital velocity of a satellite, Geostationary satellites.</p> <p><u>Unit – 6: Properties of Bulk Matter :</u></p> <ul style="list-style-type: none"> Elastic behaviour, stress-strain relationship, Hooke's law and its applications (hydraulic lift and hydraulic brakes), Effects of gravity on fluid pressure, Viscosity, Stoke's Law, Terminal Velocity, Reynold's number, Streamline and turbulent flow, Bernoulli's Theorem and its applications. Smart board used to explain different flow. <u>Unit - 7: Fluid :</u> Pressure due to fluid column, Pascal's law and its applications (hydraulic lift and hydraulic brakes), Effects of gravity on fluid pressure, Viscosity, Stoke's Law, Terminal Velocity, Reynold's number, Streamline and turbulent flow, Bernoulli's Theorem and its applications. Smart board used to explain different flow. 	<p>9. To determine younger modulus of elasticity of the material of a given wire. With the help of geography teacher planetary motion will be explained.</p> <p>10. To find force constant of a helical spring by plotting a graph between load & extension.</p> <p>11. To determine surface tension of hater by capillary rise method.</p>
November	<p>21</p> <p>Surface energy and surface tension, angle of contact, excess of pressure, application of surface tension, ideas to drops and bubbles, Capillary action. Smart Board used to explain surface tension.</p> <p><u>Unit – 8: Thermodynamics</u> Heat, temperature, thermal expansion; thermal expansion of solids, liquids and gases: anomalous expansion, specific heat, calorimetry change of state, Latent heat, C_p and C_v. Heat transfer : Conduction, convection and radiation; Qualitative ideas of Black – Body radiation, Newton's law of cooling, Weins displacement, Green House Effect Thermodynamics law, Stefan law. Thermal equilibrium and definition of temperature (zeroth law of thermodynamics), Heat, work and internal energy; First law of thermodynamics, Second Law of thermodynamics. Isothermal & adiabatic processes.</p>	<p>12. To determine the coff. of viscosity of a given viscous liquid by measuring terminal velocity of a given spherical body.</p> <p>13. To study the relationship between the temperature of the hot body and time by plotting a cooling curve.</p>
December	<p>20</p> <p>Reversible and irreversible processes. Heat engines and refrigerators.</p> <p><u>Unit – 9: Behaviour of Perfect Gas and Kinetic Theory:</u> Equation of state of a perfect gas work done in compressing a gas. Kinetic theory of gases – assumptions, concept of pressure, kinetic energy and temperature, r.m.s. speed of gas molecules, degrees of freedom, law of equipartition of energy (statement only) and application of specific heats of</p>	<p>14. (i) To study the relationship between frequency and length of a given curve under constant tension using sonometer.</p> <p>(ii) To study the relationship between length of a given curve and tension for constant frequency using sonometer.</p>

gases, concept of mean free path. Avogadro's number.

Unit – 10 : Oscillations and Waves:

Periodic motion - period & frequency, displacement as a function of time, periodic functions, Simple harmonic motion (SHM) and its equation.

January	19	<u>Phase : Oscillations :</u> Phase, Oscillation 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; Free and forced (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 string and organ pipes, fundamental mode and harmonics. Beats, Doppler effect <u>Optics :</u> Reflection of light, spherical mirrors, mirror formula, refraction of light, total internal reflection and its applications, optical fibres, refraction at spherical surfaces, thin lens formula, lens maker's formula, magnification, lenses, power of a lens, combination of thin lenses in contact, refraction and dispersion of light through a prism. Scattering of light - blue colour of the sky and reddish appearance of the sunrise and sunset.	15. To find the speed of sound in air at room temperature using a resonance tube by two resonance position.
February	20	Optical instruments: Microscope and astronomical telescopes (reflecting & refracting) and their magnifying powers. Revision Annual Examination	

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

Month	W. D.	Contents (Chapter wise)	Suggestive Projects/ Activity
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June	15	<u>Chapter : Some Basic Concept of Chemistry - General</u> Introduction : Importance and scope of chemistry, Nature of matter, laws of chemical combination, Dalton's atomic theory; concept of elements, atoms and molecules.	
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Atomic and molecular masses. Mole concept and molar mass; percentage composition, empirical and molecular formula; chemical reactions, stoichiometry and calculations based on stoichiometry, Normality

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

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 23

Chapter: Classification of Elements and Periodicity in Properties -

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.

Preparation of periodic table on chart papers

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.

August +
September 02

Chapter : States of Matter – Gases and Liquids

Three states of matter,

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

Gaseous State: 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.

(elementary idea) Liquid State – Vapour pressure, viscosity and surface tension, (Qualitative idea only, no mathematical derivation).

Determination of the rate of evaporation of different liquids.

Chapter: Chemical Thermodynamics - 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 ΔU and ΔH , 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).

Structure of solids

Prepare Born-Haber

Cycle on chart paper.

		<u>Chapter: Redox Reactions –</u>	Study of the rate of chemical reaction w.r.t. temp and concentration
		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).	
Sept.	05	Revision	
+	+		
Oct.	17	Half Yearly Examination	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	21	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.....	
		Chapter: Hydro carbons –	
		Classification of hydrocarbons Aliphatic Hydrocarbons:	
		Alkanes - Nomenclature, isomerism, conformation (ethane only)	
		Ethane: Physical properties, chemical properties, free radical mechanism of halogenations, combustion and pyrolysis.	
Dec.	20	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.	Chart showing +I and –I effect.
		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	19	Chapter: S-Block elements (Alkali and Alkaline - earth metals)	Chart of free radical mechanism.
+	+		
Feb	02	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 ₂ , H ₂ , H ₂ O and Halogens; uses, Preparation and properties of some important compounds (i.e. NaHCO ₃ , Na ₂ CO ₃ , 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.	
		Carbon : Catenation, allotropes, physical and chemical properties, uses of important compounds; oxides	Project work
		Important compounds of silicon tetrachloride, silicones, silicates and Zeolites,	Based on green chemistry as an alternate tool for reducing pollution.
		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.	Chart making regarding the structure of compounds of nitrogen and phosphorus.
		Revision.	
		Annual Examination	

Practical

List of practicals :

Month **Content**

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 (04+04)
	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 soluⁿ. 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: Pb^{+2} , Cu^{+2} , As^{3+} , Al^{+3} , Fe^{+3} , Mn^{+2} , Ni^{+2} , Zn^{+2} , Co^{2+} , Ba^{2+} , Ca^{+2} , Sr^{2+} , Mg^{+2} , NH_4^+

Anions : CO_3^{2-} , S^{2-} , SO_3^{2-} , NO_3^- , Cl^- , Br^- , I^- , PO_4^{3-} , $\text{C}_2\text{O}_4^{2-}$, CH_3COO^- .

(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	<p>Unit III – Cell structure and Functions :</p> <p>Chapter – 8 : <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.</p> <p>Chapter – 10 : <u>Cell cycle and Cell Division</u> : Mitosis , meiosis and significance.</p>	<ol style="list-style-type: none"> 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	23	<p>Chapter – 10 : <u>Cell cycle and Cell Division</u> Meiosis and significance(contd.)</p> <p>Chapter – 9 : <u>Biomolecules</u> : Primary and secondary metabolites, Micromolecules – nature of bonds linking monomers in a polymer, Macromolecules- carbohydrates, proteins, lipids. Nucleicacids, concept of metabolism, Enzymes- structure, properties, classification and enzyme action.</p>	<ol style="list-style-type: none"> 4. To test the presence of sugar, starch, protein & fat in suitable plant and animal materials.
August	21	<p>UNIT-II – Structural Organisation in Plants and Animals</p> <p>Chapter – 5 : 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 be dealt along with the relevant practical of practical syllabus).</p> <p>Chapter – 6 : <u>Anatomy of Flowering Plants</u> – Tissues, tissues system, anatomy of dicot and monocot plant.</p> <p>Chapter–7 <u>Structural Organisationin Animals</u>– Animal tissues-- Important features, location and types of different animal tissues.</p>	<ol style="list-style-type: none"> 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 available common flowering plants-one from each of Fabaceae, Solanaceae and Liliaceae. 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
Septem	19	<p>Chapter–7 : <u>Structural Organisation in Animals</u>– Animal tissues (contd.)</p>	

		Revision	slides
		Half Yearly Examination	
		Discussion of question paper	
		Chapter-7 : Organ system of cockroach (digestive, circulatory, respiratory, nervous and reproductive) (a brief account only).	
October	17	<p>Chapter-7 : Organ system of cockroach (contd).</p> <p>Unit I – Diversity in the Living World :</p> <p>Chapter – 1 : The Living World – What is living, biodiversity</p> <p>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.</p> <p>Chapter – 3 : Plant Kingdom – features and classification of plants into major groups - Algae, Bryophytes, Pteridophytes, Gymnosperms & Angiosperms.</p> <p>Chapter – 4 : <u>Animal Kingdom</u> – Salient features and classification – non chordates upto Phylum level & chordate upto class level.)</p>	<p>12.To study the external features of cockroach.</p> <p>13. Study of specimen / slides and identification with reasons bacteria, algae, fungi , moss, fern ,pine, one monocotand dicot plant and lichen.</p> <p>14. Study of specimen / slides and identification with reasons museum specimen belonging to different animal phyla.</p>
Novem	21	<p>Chapter – 4 : <u>Animal Kingdom</u> – contd. Classification of chordates</p> <p>Unit IV– <u>Plant Physiology</u></p> <p>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.</p> <p>Chapter – 12 : Mineral Nutrition – Essential macro and micro nutrients and their role , deficiency symptoms, nitrogen cycle and nitrogen metabolism.</p> <p>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 affecting photosynthesis.</p> <p>Chapter – 14 : Respiration in plants : cellular respiration – glycolysis,, fermentation (anaerobic)</p>	<p>15. Study of imbibition in seeds/raisins.</p> <p>16.Study of osmosis by potato osmometer.</p> <p>17.To observe and comment on the experimental set up to show suction due to transpiration</p> <p>18. Compare the rates of transpiration in upper and lower surface of leaves.</p> <p>19. To separate plant pigments through paper chromatography.</p>
December	20	<p>Chapter – 14 : Respiration in plants-contd. ETS, energy relations-number of ATP molecules generated, amphibolic pathway, Respiratory Quotient.</p> <p>Chapter – 15 : Plant growth and development :</p>	<p>20. To study anaerobic respiration .</p> <p>21. To study rate of respiration in flower buds/leaf tissue and</p>

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.

germinating seeds.

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.

22. To study photo tropism in plants.

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.

23. To observe and comment on the experimental set up to show effect of apical bud removal.

Chapter – 18 : Body fluids and Circulation : Composition of blood, blood groups, coagulation of blood,lymph and its function.

January 19

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.

24. To test the presence of urea, sugar, albumin and bile salts in urine.

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.

25. To study the features of Human skeleton and joints.

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.

February 20

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 Python By Preeti Arora (Sultan Chand)

Month	W. Days	Topics to be covered
Jun	15	<u>Computer Fundamental</u> – Concept of Booting Concept and Use of operating system <u>Software Concept</u> : System, Application and Utility software, Compiler, Interpreter & assembler, Need of Utility software, Function and Types of OS. Cloud and parallel computing <u>Computer Organization</u> : Commonly used CPU and CPU related terminology, Types of Memory, Cache, Buffer, RAM, ROM <u>Mobile System organization</u> : Mobile processor, Camera IS, Display & Memory unit, Power/Battery Management <u>Number system</u> : Decimal, binary, octal and hexadecimal with conversion
July+Aug	23+21	<u>Introduction to Python</u> - Variables and Types, operators and Expression. Tokens, Keywords, Indention. User defined Function. <u>Flow of Control</u> : Introduction to planning (Flow Charts, Pseudo-code, Decision Tree), Conditional statements, if-else, if-else-if, nested if-else. Iteration (for & while loop), nested loop, jump statements (break, continue, pass) <u>Strings in Python</u> : Introduction, Traversing, Special string operators, String Methods & Built-in function. <u>Cyber Safety</u> : Introduction, Cybercrime, Cyberforensic, Network security threats, Cyber safety, Appropriate usage of social media, confidentiality of information <u>Boolean logic</u> : Operator (AND, OR & NOT), truth table, logic gates, De Morgan's Theorem
Sept	19	Revision for Half yearly Exam & Practical exam.
October	17	Lists: Declaring, creating, Traversing, comparing, aliasing, various operation on list (concatenation, repetition/replication, membership testing, indexing, slicing) , Built in function (append(), extend(), insert(), reverse(), index(), update(), len(), clear(), count()) deletion, sorting (Bubble, insertion) <u>Tuples</u> : Introduction, creation, nesting, accessing and traversing, common tuple operations, comparing
November	21	<u>Dictionary</u> : Introduction, creation, accessing and traversing, appending, updating, removing, in and not in member, common dictionary functions and methods Error and Exception <u>Handling</u> : Introduction, standard handling exceptions, debugging, debugger commands.
December	20	<u>Database concepts</u> : Introduction, need, components and advantage of DBMS. DBMS models & its types, Database keys, Relational algebra, NoSQL database, MongoDB (components & Advantages) Mongo DB vs. RDBMS, CRUD operations of MongoDB. <u>SQL</u> : Introduction, features, advantages, <u>MySQL</u> : data types, Commands: DDL (create, use, drop, alter) , DML (select, insert, update, delete), select statements, operators, SQL aliases, special operators (Between and, IN, LIKE), Indexes. Joining (Natural, equi)
January + February	19+20	Programming practice & revision Practical exam & Final exam

Subject : Informatics Practices

Text Book :-Informatics Practices By

Month	W. Days	Topics to be covered
June	21	<p>Basic computer organization: Input Unit , Output Unit, The CPU , The Memory , The Storage Unit The System Bus, hard disk, I/O, battery, power, transition from a calculator to a computer. Mobile System Organization.</p> <p>Types of Software: System Software, Utility Software, Application Software and Developer Tools.</p> <p>Relational Database Management System</p> <p>Introduction to database concepts: Relation/Table, attribute/fields, Tuple / Rows;</p> <p>Data Types - Number, Character and Date</p> <p>Key - Primary Key, Candidate key, Alternate key;</p> <p>Introduction to MySQL(ANSI SQL 99 standard commands)</p>
July	15	<p>Classification of SQL Statements:</p> <p>DML - SELECT, INSERT, UPDATE, DELETE;</p> <p>DDL - CREATE, DROP, ALTER;</p> <p>SQL SELECT Statement: Selecting All the Columns, Selecting Specific Column, Defining and using Column Alias, Duplicate rows and their Elimination (DISTINCT keyword), Displaying Table Structure (DESC command); Limiting Rows during selection (using WHERE clause), Working with Character Strings and Dates, Working with NULL values;)</p> <p>Operators : Arithmetic, Comparison, logical, word, LIKE, Null Operator Precedence; ORDER BY Clause, Sorting in Ascending/Descending Order, Sorting On Multiple Columns;</p> <p>Modifying Database: Alter , Update, Drop</p> <p>Functions in MySQL:</p> <p>String Function - CHAR(), CONCAT(),INSTR(), LEFT(), LOWER(),UPPER(), LENGTH(), MID(), RIGHT(), TRIM().</p> <p>Mathematical Functions - POWER(), ROUND(), TRUNCATE().</p> <p>Date and Time Functions - CURDATE() , DATE(), MONTH(), YEAR(), DAYNAME(), DAYOFMONTH(), DAYOFWEEK(), DAYOFYEAR(), NOW(), SYSDATE().</p> <p>Table Join and Indexes in Sql : Joins and indexes in Database</p>
Aug	21	<p>Getting Started with Python</p> <p>Introduction, Python – some Minuses , Working in Python with command line. Understanding first program/script.</p> <p>Python Fundamental: Python Character set, Tokens (keywords, identifiers, operators, punctuators) , variables and assignments</p> <p>Simple input and output. Reading Numbers, output though print statement</p> <p>Data Handling Data types (Numbers, Strings, Lists and Tuples, Dictionary) , Mutable and Immutable Types</p> <p>Operators (Arithmetic, Relational, Identity, Logical, Bitwise, operator precedence)</p> <p>Expressions Evaluating expressions, type casting</p>
		<p>Conditional and iterative statements: Types of statements in Python, statement flow control,</p> <p>Progrm logic development tools: Flow chart, Pseudocode, Decision tree, if statement, if else and nested if statements , Range() function.</p> <p>Iteration/Looping statements For loop, while loop, Loop else statements , jump statements – break and continue , nested loop</p>
Sept	19	Revision for Half yearly Exam & Practical exam
Oct	17	<p>String manipulation traversing a string, Special string operators, built in string function.</p> <p>List manipulation Creating and accessing list, List operations, built in list functions.</p> <p>Dictionaries: creating and accessing dictionaries , characteristics of dictionary, working with dictionary , built in functions.</p> <p>Introduction to Python module: Introduction structure of a python module, importing module in a program.</p>

Nov	21	Introduction Python Panda: Introduction , Numpy Arrays , Pandas Data Structures. Dataframes: Introduction, creating ,modifying, deleting and displaying data frames. Data transfer between files, SqlDatabase and Data frames Transferring Data between .csv files and Data frames, Transferring Data between data frames and SqlDatabase
Dec	20	Cyber Safety: safely browsing the web, identity protection, confidentiality, social networks, cyber trolls and bullying, Appropriate usage of social networks: spread of rumors, and common social networking sites (Twitter, LinkedIn, and Facebook) and specific usage rules. Safely accessing web sites: adware, malware, viruses, Trojans Safely communicating data: secure connections, eavesdropping, and phishing and identity verification.
Jan +Feb	19 + 20	Programming practice & revision Practical exam & Final exam

Subject :- Economics

Text Books : NCERT

Reference Book : V.K. Publication

Month	W.D.	Topics	Learning Objective, Anecdotes & Value education
June	15	<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. <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 “Post-it Notes”-a short story Economic value: Distribution of resources in different goods to get maximum satisfaction Understand difference between planned and unplanned economy
July	23	<u>Elasticity of demand</u> – Meaning and factors affecting elasticity of demand and measurement of price elasticity – (a) Percentage method Statistics : Introduction <ul style="list-style-type: none"> • Meaning and Scope • Importance Collection, Organization and Presentation of data. <ul style="list-style-type: none"> • Primary and secondary sources • Frequency distribution • Tabular presentation Collection: 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. Organization of data: Meaning and types of variables; Frequency Distribution Presentation of data: Tabular presentation and Diagrammatic presentation of data: (i) Geometric forms (bar diagram and pie diagram), (ii) frequency Diagram (histogram, polygram and ogive) and (iii) Arithmetic line graph (time series graph).	Inclusive Teaching : B.St – Law of diminishing marginal utility. On a chart paper movement along and shifts in demand curve to be shown with the help of a diagram. “The Whole World Came Together”-an anecdote
Aug.	21	<u>Production Behaviour and Supply</u> – <u>Production function</u> : Total Product, Average and Marginal Product, Returns to a factor, Cost and Revenue : Short run costs – relations, Producer's equilibrium - Meaning and their relationship, Marginal cost and Marginal revenue approach. Statistical Tools and Interpretation : –Mean	

		–Median –Mode (simple and weighted mean)	
Sept.	10+6+ 3	Revision Half Yearly Examination	
Oct.	17	<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 elasticity of supply. <u>Forms of Market and Price determination</u> – Meaning of market, Perfect competition – Meaning and features, 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	Preparation of individual and market supply schedule on a chart paper alongwith the diagram
Nov.	21	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	
Dec.	20	Correlation i) Meaning ii) Scatter diagram iii) Measures of correlation – Karl Pearson's Method (two variables ungroup data) iv) Spearman's rank correlation.	
Jan.	19	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.	
Feb.	20	Revision & Annual Examination	

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

		<ul style="list-style-type: none"> ● Co-operative Societies – types, merits and limitations. ● Company – Private & Public- Features, merits & limitations ● Choice of form of business organizations ● Starting a business – Basic factors. 	
	<p>● Unit – 3 : Private, Public & Global Enterprises –</p>	<ul style="list-style-type: none"> ● Private sector & Public sector enterprises ● Forms of organizing public sector undertakings ● Departmental undertakings – features, merits & limitations ● Statutory Corporations – features, merits & limitations 	The role of Indian Railways through video clipping
		<ul style="list-style-type: none"> ● Government Company – features, merits & limitations ● Changing role of public sector ● Global enterprises - meaning merits & limitations. ● Public private partnership, features, merits ● Joint ventures – meaning, merits & demerits 	
August (22)	<p>● Unit – 4 : Business Services</p>	<ul style="list-style-type: none"> ● Nature & types of business services. - Banking – types of banks and bank accounts, function of commercial banks, e-banking, RTGS, NEFT & Pay Order. - Insurance – principles, types : life, fire and marine. - Postal and Telecom services (UPC, Speed Post, Registered Post, courier) & mail. - Saving schemes (NSC, KVP, PPF, MIS) 	<p>Bank official will be called to brief the students about the different services being offered by banks. Anecdote on communication</p>
	<p>● Unit – 5 : Emerging Modes of Business –</p>	<ul style="list-style-type: none"> ● E-business – meaning, scope and benefits, resources required for successful e-business implementation, On-line transactions, payment mechanism, safety and security of business transactions. ● Outsourcing – concept, need and scope of BPO and KPO ● Smart cards and ATMs – meaning and utility 	<p>Inclusive – Computer teacher will be asked to brief the students about the do's and don'ts of internet.</p>
Sept. (19)		Revision of all chapters for Half-Yearly Exam.	
	<p>Unit – 6 : Social Responsibilities of Business & Business Ethics</p>	<ul style="list-style-type: none"> ● Concept of social responsibility ● Case for social responsibility. ● Responsibility towards different interest groups - owners, investors, employees, consumers, government, public and community. ● Business and environmental protection ● Business ethics: concept and elements. 	Students will be asked to identify the different social obligations being discharged by business org. today to polish their image. Video on SR
Oct. (18)	<p><u>Part B :</u> <u>Corporate Organization, Finance & Trade</u></p> <p>● Unit – 7 : Formation of a Company</p>	<ul style="list-style-type: none"> ● Stages in the formation of a company - Promotion - meaning, procedure - Incorporation - meaning, procedure - Commencement of business. - Prospectus - Statement in lieu of Prospectus - Articles of Association & Memorandum of Association 	

Nov
(16)

• **Unit – 8 :
Sources of
Finance**

- Nature and significance
- Owner's funds and borrowed funds.
- Sources of raising finance :
- Equity – features, advantages and limitations

- Preference shares - features, advantages & limitations
- Debentures - features, advantages and limitations
- Public deposits - features, advantages and limitations
- Retained Profits - features, advantages and limitations
- Loan from Financial Institutions
- Loan from Commercial Banks
- Trade credit.
- ADR's, GDR's, IDR's & ICD
- Factors affecting sources of funds

Dec
(20)

• **Unit – 9 :
Small Business**

- Small scale Industry as defined by MSMED Act, 2006
- 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

• **Unit – 10 :
Internal Trade**

- Meaning and types of Internal trade: Wholesale and retail.
- Services of wholesalers and retailers
- Types of Retail trade
 - Itinerant retailers and fixed shops.
 - Departmental stores, super market, malls, chain stores, mail order, business, consumer's co-operative stores
- Automatic Vending Machine
- G.S.T
- Role of Chamber of Commerce & Industry in the promotion of Internal trade.
- Main documents used in Internal Trade
- Terms of Trade

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	Chapters and topic	Project/ smart board/ inclusive teaching
June +	15+	PART A: FINANCIAL ACCOUNTING - 1	

July	23	<p><u>Unit - I: Theoretical framework</u> Introduction to accounting *Accounting objectives, advantages and limitations, types of accounting information, users of accounting information and needs. *Basic accounting terms *Theory base of accounting: a) Fundamental accounting assumptions b) Accounting principles and concepts c) AS & IFRS d) Double entry system of accounting e) Bases of accounting</p> <p><u>Unit-II: Accounting Process</u> Recording of transactions: a) Accounting equation. b) Rules of Debit and credit c) Format and recording of journal. d) Origin of transactions- source documents/ supporting vouchers e) Books of original entry f) Cash book: Simple cash book, double column, petty cash book g) Ledger: format and posting h) Subsidiary books: Purchase books, sales books purchase return and sales return books, journal proper. i) Trial balance: Objectives and preparation</p>	Smart Board
		<p>Bank reconciliation statement: Meaning, objectives and preparation of Bank reconciliation statement. B.R.S. with amended cash book. Ledger - format, posting from journal, cash book and other special purpose books, balancing of accounts. Trial balance: objectives and preparation (Scope: Trial balance with balance method only) Depreciation: 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. Provision and reserves: concepts and difference, objectives and types of reserves.</p>	Smart Board
August	21	<p>Accounting for bills of exchange: Definition, features, importance, terms, difference from promissory notes. Accounting treatment i.e. Journal entries. Accommodation bill. Rectification of errors: 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	Revision & Discussion on Question paper	
October	17	<p>Unit- III Financial statement of sole proprietorship: 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"> Describe the meaning of financial statements and the purpose they serve. state the meaning of gross profit, operating profit and net profit and develop the skill of preparing trading and profit and loss account.

			<ul style="list-style-type: none"> • explain the need for preparing balance sheet. • understand the technique of marshalling of assets and liabilities. • appreciate that there may be certain items other than those shown in trial balance which may need adjustments while preparing financial statements.
November	21	Preparation of profit and loss account with and without adjustment. Preparation of balance sheet.	<ul style="list-style-type: none"> • Develop the knowledge and understanding to do adjustments for items and their presentation in financial statements like depreciation, closing stock, provisions etc. • Develop the understanding of preparation of trading and profit and loss account and balance sheet.
December	20	Financial statement of incomplete records: Meaning, features, distinctions. Preparation of statement of affairs and balance sheet	<ul style="list-style-type: none"> • State the meaning of incomplete records and their uses and limitations. • Develop the skill of computation of profit / loss using the statement of affairs method.
January	19	Project Work & Revision	
February	20	Annual Examination	

Subject : Physical Education

Month	Particulars
June/July	<p>Unit I. . Changing Trends and Career in Physical Education</p> <ul style="list-style-type: none"> • Meaning and definition of physical education • Aims and objectives of PE • Career option in physical education • Competition in various sports at national and international level • Khelo India programm Inspirational Video Related to sports Personalities <p>Unit II Olympic Value Education</p> <ul style="list-style-type: none"> □ Olympics, Paralympics and special Olympic □ Olympic Symbols, Ideals, Objectives and Values of Olympism <ul style="list-style-type: none"> □ International Olympic Committee □ Indian Olympic Association Inspirational Video Related to famous Olympians <p>PRACTICAL</p> <ul style="list-style-type: none"> • Health and Fitness Activities - Medicine Ball/Thera Tube • Physical Fitness Test-Access the Speed & Explosive strength on the basis of 50 mt Dash & Standing Broad Jump • Specialization Practice
August	<p>Unit III. PHYSICAL FITNESS, WELLNESS & LIFESTYLE</p> <ul style="list-style-type: none"> • Meaning & Importance Of Physical Fitness, Wellness & Lifestyle • Components of physical fitness and wellness • Components of Health Related Fitness <p>Unit IV:Physical Education and sports for differently Aled</p> <ul style="list-style-type: none"> ▪ Aim and objectives of adaptive physical edu. deaflympics ▪ Concept of inclusion, its need and implementation

September		<ul style="list-style-type: none"> • Role of various professionals for children with special needs (counselor occupational Therapist, Physiotherapist physical education teachers, Speech Therapist and Special educator) <p style="text-align: center;">PRACTICAL</p> <p style="text-align: center;">Health and Fitness Activities –Step Aerobics /Pilates</p> <ul style="list-style-type: none"> • Physical Fitness Test: Access the coordinative ability on the basic of Shuttle Run 10 x60mt. • Specialization Practice <p>Unit V. Yoga</p> <p style="text-align: center;">Meaning and Importance of Yoga</p> <ul style="list-style-type: none"> □ Elements of Yoga □ Introduction to - Asanas, Pranayam, Meditation and Yogic Kriya □ Yoga and concentration and related (Shukhasanas: Tadasanas: Padmasanas and shashankasanas) <p style="text-align: center;">Relaxation Techniques for improving Concentration yog nidra</p> <p style="text-align: center;">PRACTICAL</p> <ul style="list-style-type: none"> • Health and Fitness Activities –yoga /Rope skipping <p style="text-align: center;">Physical Fitness: Access the endurance on the basic of 12 min.run/walk</p> <p style="text-align: center;">Specialization Practice</p> <p style="text-align: center;">Inspirational Video Related to yoga</p>
October	17	<p>Unit VI – Physical Activity and leadership Training</p> <ul style="list-style-type: none"> • Qualities and Role of a leader • Creating leaders through physical education • Meaning and objectives of Adventure sports (Rock Climbing;Tracking;River Rafting; Mountaineering; surfing and para gliding • Safety measures to prevent sports injuries <p>Unit VII Test Measurement and Evaluation</p> <ul style="list-style-type: none"> • Define Test, Measurement and evaluation in sports • Importance Of Test Measurement and evaluation In Sports • Calculation Of BMI & Waist - Hip Ratio • Somato Types (Endomorphy, Mesomorphy and Ectomorphy) • Measurement of Health Related Fitness <p style="text-align: center;">PRACTICAL</p> <ul style="list-style-type: none"> • Health and Fitness Activities – Dance Aerobics /Swiss ball <p style="text-align: center;">Physical FitnessTest: Access the Flexibility on the basic of Sit and Reach Test</p> <p style="text-align: center;">Specialization Practice</p>
November	21	<p>Unit VIII Fundamentals Of Anatomy & Physiology and Kinesiology in sports</p> <ul style="list-style-type: none"> • Define Anatomy, Physiology & Its Importance • Function Of Skeleton System, Classification Of Bones & Types Of Joints • Function & Structure Of Muscles • Function & Structure Of Respiratory System • Circulatory System <p style="text-align: center;">Equilibrium – Dynamic & Static And Centre Of Gravity and its application in sports</p> <p style="text-align: center;">PRACTICAL</p> <ul style="list-style-type: none"> • Health and Fitness Activities – yoga /Swiss ball <p style="text-align: center;">Physical FitnessTest: Access the Flexibility on the basic of Sit and Reach Test</p> <p style="text-align: center;">Specialization Practice</p>
December	20	<p>Unit IX Psychology and Sports</p> <ul style="list-style-type: none"> □ Definition and importance of Psychology in Physical Education and Sports □ Define and differentiate between 'Growth and Development' □ Developmental characteristics at different stage of development <ul style="list-style-type: none"> □ Adolescent problems and their management <ul style="list-style-type: none"> ➤ Specialization Practice ➤ Video related to specialization

		➤ Motivational Video
Jan./Feb.		<p>Unit X Training and Doping in Sports</p> <ul style="list-style-type: none"> □ Meaning and Concept of Sports Training <ul style="list-style-type: none"> □ Principles of Sports Training □ Warming up and limbering • □ Skill, Technique and Style • Concept and classification of Doping <ul style="list-style-type: none"> Prohibited Substances & Methods with alcohol and substance a <p>➤ Specialization Practice</p> <p>➤ Video related to specialization</p> <p>➤ Motivational Video</p>
		<p style="text-align: center;">PRACTICAL</p> <p>1. Physical fitness test</p> <p>2. Proficiency in games and sports (skill of any one game of <u>Choice from given list</u>)</p> <ul style="list-style-type: none"> • Athletics • Badminton • Chess • Skating • Swimming • Aerobics • Yoga <p>3. Yogic practice</p> <p>4. Record File</p> <p>5. viva</p> <p style="text-align: center;">Record file shall include:</p> <p>Practical1: Labelled diagram of 400 M Track & field with computation</p> <p>Practical2: Calculation of BMI from family members or neighborhood & graphical representation of the data.</p> <p>Practical3: Labelled diagram of field & equipment of any one game of your choice out of the above list.</p> <p>Practical:4 List of current national Awardees (Dronacharya award Aruna award & Rajeev Gandhi khel ratna award</p> <p>Practical :5 Pictorial presentation of any five Asana for improving concentration .</p>

Subject: Swimming

MONTH	No Of W.D.	UNIT /CHAPTER	DESCRIPTION
MARCH		SWIMMING CAMP	i) Preparation for swimming competetions.
APRIL to JUNE	21+4+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	23+21+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			

- 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 : 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"> • Attributes • Tuples • Cardinality • Degree • Relations
July	23	Keys <ul style="list-style-type: none"> • Primary key, • Foreign key • Candidate key • Alternate key • Composite key. <p>Activity: Project work based on MYSQL</p>
August	21	SQL <ul style="list-style-type: none"> • Introduction – What is SQL • Intro to MYSQL • Data types in MYSQL • DML and DDL Commands • Creating Database and Tables • Inserting Values in Tables • Querying a database using Select Command • Operators <p>Project work based on MYSQL</p>
September	19	Revision & Practical Examinations Half Yearly Examination
October	17	Modifying databases relation <ul style="list-style-type: none"> • Update Command • Update command with clauses • Deleting tables
November	21	Modifying structure using Alter command <ul style="list-style-type: none"> • Dropping columns • Adding Columns • Renaming columns • Changing Data types
December	20	Removing Records/Database <ul style="list-style-type: none"> • Drop Command • Delete Command <p>Activity: Demonstration in lab</p>
January	19	Clauses in SQL Commands <ul style="list-style-type: none"> • Order by clause • Limit Clauses

		<ul style="list-style-type: none"> • Distinct Clauses Activity: Demonstration in lab
February	20	Revision, Final Project , Practical Exams. Annual Examination

Subject : Physical Education (General)

Month	W.D	Topics to be Covered
June/July	15+23	<ul style="list-style-type: none"> ➤ Physical indicators of Health <ul style="list-style-type: none"> • Body Weight • Body Mass index ➤ Specialization Practice General fitness, Drill, Chess, Badminton, Kabaddi, Volleyball, Basketball & 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. ➤ Video related to Specialization <p>PRACTICAL</p> <ul style="list-style-type: none"> ➤ Physical Fitness Test: • To assess the individual Endurance -12 min.run/walk ➤ Health and Fitness Activity <ul style="list-style-type: none"> • Medicine Ball <p>YOGA</p> <ul style="list-style-type: none"> ➤ Introduction to: • Asanas
August & September	21+19	<p>TOPICS</p> <ul style="list-style-type: none"> ➤ Psychological indicators of Health <ul style="list-style-type: none"> • Stress • Depression ➤ Physical indicators of Health <ul style="list-style-type: none"> • Body Composition ➤ 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. ➤ Inspirational Video Related to famous Olympians <p>PRACTICAL</p> <ul style="list-style-type: none"> ➤ Physical Fitness Test: <ul style="list-style-type: none"> • To assess the individual Speed 50Mt Dash, Explosive Strength and Standing Broad Jump Health and Fitness Activity: Rope Skipping <p>YOGA</p> <ul style="list-style-type: none"> • Introduction to: • Asanas, Pranayama
October & November	17+21	<ul style="list-style-type: none"> • Psychological indicators of Health Moods • Physical indicators of Health Hair, Skin and Nail Analysis

Specialization Practice

PRACTICAL

Physical Fitness:

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

Health and Fitness Activity: Medicine Ball

YOGA

Introduction to: Pranayama

Inspirational Video Related to sports Personalities

December/ 20+19
Jan/Feb +20

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-ordinative ability

- Shuttle Run

YOGA Introduction to: Meditation

Inspirational Video Related to sports Personalities

ART-EDUCATION

Subject : Fine Arts (Painting) 6th Subject

Month	W.D.	Particulars
June	15	Introduction about subjects Tone (Pencil shading)
July	23	Theory – Pre Historic Rock Painting, Practical – Still life in pencil shading
August	21	Theory- Indus valley Civilization Practical - Still life
September	19	Theory – Bhimbetka Pract. – Nature study in pencil shading
October	17	Theory – Art of Maurya, Shunga, Kushana and Gupta Period, Pract. – Human Anatomy
November	21	Theory – Ajanta cave painting Practical – Composition
December	20	Study of Temple Sculpture Practical – Composition
January	19	Theory – Indian bronze sculpture. Pract. – Nature study in pencil shading
Feb	20	Theory – Artistic aspects of the Indo-Islamic Architecture. Practical – Nature study

Subject: Art & Craft

Month	W.D.	Particulars
June	15	Introduction about subject Art elements
July	23	Study of tones Pencil shading

August	21	Still life Human anatomy
September	19	Nature study Human anatomy Half Yearly Examination
October	17	- Logo design
November	21	- Visiting card design - Poster (contd.)
December	20	- Poster - Folder design
January	19	- Folder design (contd.) - Composition with dry colour
Feb	20	- Composition with dry colour (contd.) - Annual Examination

Subject : Fine Arts (Graphic)

Month	W.D.	Particulars
June	15	Introduction about subjects Tone (Pencil shading)
July	23	Theory – Pre Historic Rock Painting, Practical – Stencil design
August	21	Theory- Indus valley Practical – Lino cut / wood Print
September	19	Theory – Bhimbetka cave painting Pract. – Lino cut / wood Print
October	17	Theory – Art of Maurya, Shunga, Kushana and Gupta Period, Pract. – Wood Print
November	21	Theory – Ajanta cave painting Practical – Paper Cardboard
December	20	Study of Temple Sculpture, Buddhist, Jain and Hindu art Practical – Paper cardboard
January	19	Theory – Indian bronze sculpture. Pract. – Paper Cardboard
Feb	20	Theory – Artistic aspects of the Indo-Islamic Architecture. Submission of Portfolio

Subject : INSTRUMENTAL MUSIC (Spanish Guitar)

Month	W.D.	Particulars	Learning Outcomes
June	15	Finger practice on 1 st to 9 th frets Demonstration of Spanish guitar	Analysis of music and Spanish guitar Discipline
July	23	How to play guitar with staff notation Demonstration of staff notation	Discipline
August	21	Semibrave, Minim and crotchet timing Practice for notes and rhythm in proper way	Continuity
September	19	Project: Demonstration of Spanish guitar And make a file of staff Notation Revision/Exam –Half Yearly	
October	17	<ul style="list-style-type: none"> • First string melody • Second string melody • 1st and 2nd string melody in same time 	Continuity
November	21	<ul style="list-style-type: none"> • Chords of C • Chords of Cm 	Togetherness
December	20	<ul style="list-style-type: none"> • History of famous bands • Biography of famous Guitarist and two 	Information

		famous bands	
January	19	<ul style="list-style-type: none"> • Chords of A Major • Chords of A minor • Flemenco Stramming 	Time Management
February	20	Revision Practical Exam.	

Subject : PHOTOGRAPHY

Month	W.D.	Particulars	Learning outcomes
June	15	Importancy of photographs Camera, film and use of it. Image formation,	Caring and Sharing
July	23	Precaution before clicking SLR Camera – miniature camera Difference between SLR/TLR camera	Freedom
August	21	Eye and Camera lens photography	Responsibility
September	19	Various camera details, Practical photography aperture – shutter + Exam.	Combination , cooperation management
October	17	Commercial photography, Advertisement Practical Photography	Technique
November	21	Behaviour of grains. Enlarge a positive Enlarger parts & function	Responsibility
December	20	Panchromatic, Orthochromatic, Emulsion Aperture + Shutter	Perfection
January	19	Practical Photography How to Handle a camera	Knowing by doing
February	20	Tips on Photography Annual examination	Talent

Subject: Sculpture

Month	W.D.	Particulars
April	21	Head Study
May+June	04+	Head Study/Potrait
	15	Project: Importance of coil decoration on Murals
July	23	Pottery (Practice on wheel)
August	21	Terracotta Mural (Clay modeling)
September	19	Terracotta Murals (carving method)
October	17	Terracotta (Round sculpture)
November	21	Terracotta (compact form) Project: Contemporary art form
December	20	Antique study
January	19	Antique study (Relief form)
February	20	Revision

Subject : TABLA

Month	W.D.	Particulars	Learning outcomes
April	21	Theory- History of tabla, parts of tabla and verna of table Practical 1-Verna practice and hastya sadhan	Knowledge about the instrument
May,June	4+15	Theory-Taal paddhati and Taal parichaya Practical 2-Theka practice	Adherence of rule discipline
July	23	Practical 3-Teentaal qaida with palta	nikas

		Vistar and tehai Western lesson 1 to 5	
August	21	Practical 4-Teentaal qaida continue Hastya sadhan bole, Western lesson 6 to 10	Project-Life sketch of an Indian table Maestro.
September	19	Revision	Assignment and Assessment
October	17	Practical 5-Teentaal rela Western lesson 11 to 15	Development of skill
November	21	Practical 6-Teentaal tukra ,uthan and chakradhar Western lesson 16 to 20	Skill developement
December	20	Practical 7-Theka practice of different taals	Aiesthetic sence
January	19	Practical 8- Solo performance and accompaniment	Project-Life sketch of an Indian musicians or vocalist
February	20	Revision	Assignment and Assessment

Subject : Vocal Music

Month	W.D.	Particulars	Integrated values
June	15	Revision, 5 Alankars in Bilawal thaat. And Ganesh Vandana	Mythological Importance of Divine Power
July	23	Ghazal, of Dusant Kumar “ye sara jism jhuk kar” Essay about Indian classical music culture. Raag yaman Introduction	History of classical culture
August	21	Quavali new one Definition quawali and Bhajan, Taal Dadra, Keharwa, Teen taal with Dugun	Taal – Discipline and Timing
September	19	Revision & Assignment-I Examination	
October	17	Revision of 5 Alankars in Kalyan Thaat Raag yaman with Bendish Biography of Ustaad Abdul Karim Khan.	Elaborate: Involving many carefully arranged part of details
November	21	Song from Almanac, Folk song any one Project – Few living legends of Indian Classical Music.	History of legends
December	20	Patriotic Song – Bharat Ki Santan Hain/New one – raag Yaman contd.	Patriotism
January	19	Taal – Jhap taal and Rupak with Dugun-with Hands bits Assignment-II	Discipline
February	20	Revision Annual Examination	

Subject :- Hindustani Vocal Music

Month	W.D.	Topics to be covered	Integrated values
June	15	Definition of sangeet , Description of Raag Bigag	Naad, shruti and swara, Bhairavi, Taal Dara, Kehwarwa
July	23	Biography of Tansen and Pt. V.N. BhatKhande Raag Bihag/ Bhairavi with Bandish With 8, 9, 16 Matra Taan Sargam	
August	21	History of Dhrupad and Khyal Raag Bhairavi/Bihag Raag with Bandish Practice	With Notation of Raag Bhairavi
September	19	Revision	
October	17	Definition of Saptak, Raga, Swarmalika Tarana Nibadh and Anibaddh taan. Description of vrindavani sarang with bandish / Raag jaunpuri with Bandish	
November	21	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	19	Notation of char taal, Ek taal, Surtaal dugun with bandish with hands bits.
February	20	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	04+1 5	Basic concepts of Nritya Nriytya and Natya. Number of Rasas and Abhinayam.	Ever changing and dynamic world of dance.
July	23	Vandana:- the obeisance the description of dance body language.	Deep learning is an aspect of artificial
August	21	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	17	Four kinds of Abhinaya Anghika, Vaachika aaharya and Satvika.	Deep learning applications could have to is Impact.
November	21	Technical view of Indian classical dance and Indian folk dances.	Class discussion. Cooperative learning.
December	20	Introduction of Andhra Natyam, Nava Janardhana Pari Jatham and Perini Shiva Tandavam	Activities Student work in group to Solve a problem.
January	19	Description of Golla kalapam, Bhama Kalapam and Yaksha gava's.	Independent practice.
February	20	Ranga pravesam about Nattu vanar- Swar and Sangeeth Intraduction of Abhinaya dharpan.	Have a structured discussion.

Subject : DANCE (Kathak)

Month	W.D.	Particulars	Learning outcome
June	15	Theo: Introduction of Teen Taal (16 beats)	Prac: Basics of Kathak Dance (Tatkar, Chakkar)
July	23	Theo: The History of Kathak Dance Prac: Continue	Activity: Showing of a movie clip to the students
August	21	Theo: Anga Bhed – Anga, Pratyang, Upang	Prac: basic Creative movements.
September	19	Theo: Classical dance Folk dance Revision & Mid – Term Examination	Prac: contd.
October	17	Theo: Nataraj – The lord of Dance Prac: A fusion / Patriotic dance	Project: PPT presentation of Nataraj
November	21	Theo: Contd. Taal Prac: Dance contd. Prac: contd.	
December	20	Theo: Tandav, Nritya Prac: contd.	

January	19	Theory- Lasya , Nrittya Prac: contd.
February	20	Revision & Annual Examination

Subject : Quiz

Month	W.D.	Contents
April	21	<u>Unit-1 Indian history and culture</u> 1. Harappa civilisation. 2. Vedic age 3. Buddhism and Jainism 4. Magadha empire 5. The Mauryan empire 6. Post Mauryan age Unit-2 7. Indian Painting. 8. Father of nations. 9. Famous women of India. 10. Legends of India . Unit-2
May	04	Geography. 1. The universe and solar system 2. The Earth important facts 3. Climate agriculture and industries 4. The rocks 5. The mountains
June	15	Indian polity 1. Constitutional development of India 2. Sources and features of our constitution 3. Fundamental rights and duties 4. Idioms and Phrases. 5. Literature Quiz. 6. Election commission 7. Emergency provisions 8. Judiciary of India
July	23	Unit-5 Science and Technology 1. Space Explorations. 2. Stars of the Night. 3. Famous Inventions. 4. Science Quiz. 5. Pioneer in Science. 6. Cyber World 7. Bones, joints and muscles 8. Respiratory system
August	21	Unit-6 Indian economy 1.Planning of Indian economy 2. Unemployment 3. Agriculture 4. Economic policies 5. Economics scheme
September	19	Revision
October	17	<u>Unit-</u> <u>General awareness</u> 1 . National symbols 2. Geographical Terms 3. Consumer Awareness 4. Personality Development 5. Yoga and Meditation
November	21	Unit 10 .Transport and communication 1. Personal communication 2. Mass communication Unit . Sports and Entertainment 1. Some Divergent sports

		2. World of sports 3. Paralympics 4. Sports legends 5. Some unique sports 6. Sports and players 7. Music world 8. Indian Muscian 9. Country, capital and its area 10. Currency of country
December	20	Unit 12. Environment 1. Some famous Environmentist 2. Global Warming 3. Environmental Quiz 4. Environmental Brain Treasures 5. Carbon foot prints 6. Defence 7. Space and nuclear technology 8. Biotechnology. 9. Human Diseases 10. The cell
January	19	Unit . General awareness 1. Interesting facts about Sikkim 2. Memorable days of india 3. India at the Olympic Games 4. I India at the paralympic Games 5. Famous personalities 6. National and international organisations National and international organisations awards
February	20	Revision + Question paper discussion

Electronics & Robotics-LEVEL-01(Class XI)			
Month	W.D	Contents	Activity/ Projects
June	15	<ul style="list-style-type: none"> Introduction to Basic Electronics and Robotics Electronics, Electrical, Mechanical & Information Technology Knowledge 	<ul style="list-style-type: none"> Connect electrical and electronics components with the help of breadboard Check the power supply voltage
July	22	<ul style="list-style-type: none"> Electronics, Mechanical, Electrical etc. components and ingredients in Robotics Multimeter: Uses of Multimeter to measure voltage, current and resistance. Basics electronic components: Resistors, Capacitors, Transistors, Diodes, LED etc Breadboard: (Small & Large), Connections on breadboard. Electric Switch: Push button switch, Slide switch, Toggle switch, DPDT switches etc. 	<ul style="list-style-type: none"> Find the resistances of a resistor Testing for Continuity Developed circuit using breadboard, electrical and electronics components. Developed Pick and Place Robot
August	22	<ul style="list-style-type: none"> Motors: DC motor, Servomotor, Stepper motor etc. 	<ul style="list-style-type: none"> Design and build remote controlled, wireless robots (Robosoccer)
September	19	<ul style="list-style-type: none"> Revision + Activity+ Project 	
October	19	<ul style="list-style-type: none"> Sensors: IR sensor, Ultrasonic sensor, Proximity sensor, Temperature sensor etc. 	<ul style="list-style-type: none"> Line Follower Robot that follows a line using infrared sensors Edge avoider robot using IR sensor
November	17	<ul style="list-style-type: none"> Wireless applications: Infra Red, Radio frequency, Bluetooth etc. Arduino: An Introduction, Structure of an Arduino Sketch Arduino Architecture - Pin Diagram 	<ul style="list-style-type: none"> Obstacle Avoider Robot using IR sensor Bluetooth Robotics and control it using Android Phone
December	16	<ul style="list-style-type: none"> Microcontroller and its programming language. Internet of Things: Introduction & Applications 	<ul style="list-style-type: none"> Build a Bluetooth Based Home Automation System Project that can be controlled by Android Phone
January	16	<ul style="list-style-type: none"> DHT sensors to detect humidity and temperature, Soil moisture sensor, LDR sensor, Water flow meter, PIR sensor IoT connectivity using ESP8266 Wi-Fi Module 	<ul style="list-style-type: none"> Developed IoT based project
February	18	<ul style="list-style-type: none"> Revision + Activity+ Project 	

Subject :- General Studies Aditi Mishra (Pitamber Publishing Co. Pvt Ltd)

Month	W.D.	Unit / Chapter	Activities	Values Imparted
June	15	1. Application of Science in everyday life. 2. Emerging technology 3. Science and Technology in the Social Context	Survey on daily usage of electronic gadgets Advantages and disadvantage of electronic gadgets	Boons of advancement of Science and technology.
July	2	Unit I Understanding Social Structure 1. Meaning and importance of society and social structure 2. Distinctive Features Of Indian Society 3. Social Institution of Indian Society <ul style="list-style-type: none"> • Family and marriage • Religion • Economics • Politics 	Integrated learning: English Classified Advertisement. Drafting Of Matrimonial Advertisement Collection of poems, songs, Short stories highlighting various social issues.	Valuing family ties and human relationship.
August	21	Unit II Understanding the Social Structure. 4. Unity In Diversity 5. Continuity And Change In Indian Society	Survey on impact of Mass Media Under Regionalism, Find out the Origin of Your own State. Language, Any Social Movement initiating in Your State.	Religion to be used as a means to establish peace and harmony. Valuing Unity In Diversity
September	19	Half Yearly Examination		
October	17	Unit III Protection Of Environment 1. Natural Resources Renewable Non renewable 2. Factors causing environmental Pollution and degradation 3. Understanding sustainable Development 4. Strategies for Environmental Conservation 5. Lifestyle Changes for environmental protection	Word scramble based on environmental issues Survey on water pollution and land pollution in your region. Collection Of names of products and gadgets that degrade environment	Helping To Understand the eco-chain and preservation of endangered animals. Learning To evaluate Carbon Footprints
November	21	Unit IV National Unity 1. Meaning and Importance Of National Integration. 3. Challenges To National Integration 5. Secularism	Collection Of names of various Festivals and languages used in different part of our country.	Valuing and appreciating Indian Culture And Tradition.
December	20	Unit V International Understanding 1. Meaning ,Need, Scope, Dimensions and Principles Of International Understanding. 3. Peace Conventions 4. International Co-Operation	Names Of various forums established to maintain International peace and security	Valuing International Peace And Harmony
January	19	Revision Of All Topics		