CURRICULUM
GRADE-XII



ENGLISH

Rationale

Students are expected to have acquired a reasonable degree of language proficiency in English by the time they come to class XII, and the course will aim, essentially, at promoting the ***higher-order language skills.***

For a large number of students, this stage of learning will be a preparation for the university, and thereafter preparation for entry into the world of work, where a fairly high degree of proficiency in English may be required.

Therefore, the English Core Course should cater to the students the same.

Objectives:

The general objectives at this stage are:

- *to listen and comprehend live as well as record in writing oral presentations on a variety of topics*
- *to develop greater confidence and proficiency in the use of language skills necessary for social and academic purpose*
- *to participate in group discussions, interviews by making short oral presentation on given topics*
- *to identify the central/main point and supporting details, etc. to build communicative competence in various registers of English*
- *to promote advanced language skills with an aim to develop the skills of reasoning, drawing inferences, etc. through meaningful activities*
- *to develop ability and knowledge required to engage in independent reflection and enquiry At the end of this stage learners will be able to do the following:*
    - *read and comprehend extended texts (prescribed and non-prescribed)*
    - *text-based writing (i.e., writing in response to questions or tasks based on prescribed or unseen texts)*
    - *understand and respond to lectures, speeches, etc.*
    - *write expository / argumentative essays, explaining or developing a topic, arguing a case, etc.*
    - *write formal/informal letters and applications for different purposes*
    - *write items related to the workplace (minutes, memoranda, notices, summaries, reports etc.*
    - *filling up of forms, preparing CV, e-mail messages., making notes from reference materials, recorded talks etc.*

Specific Objectives of Reading Students are expected to develop the following study skills:

- *refer to dictionaries, encyclopedia, thesaurus and academic reference material*
- *select and extract relevant information, using reading skills of skimming and scanning*
- *understand the writer's attitude and bias*
- *comprehend the difference between what is said and what is implied*
- *understand the language of propaganda and persuasion*
- *differentiate between claims and realities, facts and opinions*
- *arrive at personal conclusion and comment on a given text specifically*
- *develop the ability to be original and creative in interpreting opinion*
- *develop the ability to be logically persuasive in defending one's opinion*
- *making notes based on a text*

Develop literary skills as enumerated below:

- *personally, respond to literary texts*
- *appreciate and analyse special features of languages that differentiate literary texts from non-literary ones*
- *explore and evaluate features of character, plot, setting, etc.*
- *understand and appreciate the oral, mobile and visual elements of drama*
- *identify the elements of style such as humour, pathos, satire and irony, etc.*

Month	Concept	Objective/Theme
April	Familiarizing the students with the pattern of assessment	
	The Last Lesson	The importance of one's mother tongue and the deep sense of loss that comes with the suppression of language and identity.
	Notice	To draft clear, concise, and well-formatted formal notices conveying essential information effectively.
	My Mother at Sixty- Six	A daughter's deep fear of losing her aging mother and the inevitable pain of separation caused by time and mortality.
	Deep Water	Autobiographical account on courage and determination can help overcome fear and build inner strength.
	The Enemy	The triumph of human compassion and professional duty over narrow national loyalties and wartime hatred
	Invitations	To draft formal and informal invitations and replies using appropriate format, tone, and language.
June	The Rattrap	Kindness and compassion have the power to transform a person's life and restore faith in humanity.
	The Tiger King	Satirizes arrogance and blind belief in fate, showing how destiny ultimately overpowers human pride and tyranny.
	Aunt Jennifer's Tigers	Oppression of women in a patriarchal society and their silent longing for freedom and strength.
July	Article Writing	To write well-structured, coherent articles expressing ideas logically with appropriate style and clarity.
	Report Writing	To write clear, structured reports presenting factual information in a formal and objective manner.
	On The Face of It	Effect of the physical impairment and the ways to overcome it
	Lost Spring	Highlights the harsh realities of child labour that robs children of their childhood and dreams.
August	A Thing of Beauty	The enduring power of beauty to bring joy, hope, and solace to human life.
	The Interview	The power and influence of Interviews in shaping public opinion
	Poets & Pancakes	Humorously exposing the pretensions, hierarchies, and hidden ironies of life in the film industry
	Journey to the End of the Earth	Significance of Antarctica in understanding Earth's past, present, and future, urging environmental awareness and global responsibility.
September	Indigo	Gandhi's leadership: Courage, truth, and non-violent resistance to bring justice and self-respect to oppressed farmers.
	Letter to the Editor	To draft formal letters to the editor expressing views and concerns logically and persuasively.
	Job Application	To prepare a formal job application and résumé using appropriate format, tone, and professional language.
October	The Third Level	Exploring escapism as a response to the anxieties and pressures of modern life.
	A Roadside Stand	The plight of underpriviledged people and criticism of the insensitive attitude of urban society toward their struggles.
	Memories of Childhood – Part 1	The loss of cultural identity and the trauma of forced assimilation imposed on Native American children.
November	Memories of Childhood – Part 2	Caste-based discrimination and emphasizes self-respect and resistance against social oppression.
	Going Places	The contrast between youthful fantasies and harsh reality, highlighting the dangers of living in a world of unrealistic dreams.
	Keeping Quiet	Advocating introspection and universal harmony as a means to achieve peace and self-awareness.

हिंदी

प्रस्तावना

पाठ्यक्रम में हिंदी विषय की उपयोगिता

भाषा मनुष्य के बीच संवाद का माध्यम ही नहीं है अपितु भाषा में मनुष्य के संस्कार, उसकी अस्मिता और पीढ़ियों से संचित गौरव अंतर्निहित है।

एक ओर जहाँ भाषा मनुष्य को सभ्यता, संस्कृति, साहित्य और ज्ञान–विज्ञान की विरासत को अक्षुण्ण रखती है वहीं आधुनिक संदर्भो में विकास के प्रतीकों को राष्ट्र के गौरव के रूप में सहजने का कार्य भी करती है। अतः संवैधानिक रूप से भारत की प्रथम राजभाषा तथा सर्वाधिक बोली और समझे जानी वाली भाषा हिंदी का पाठ्यक्रम में चयन विभिन्न उद्देश्यों को ध्यान में रखते हुए किया गया है जिसमें विद्यार्थियों का भाषिक दायरा एवं वैचारिक समृद्धि का विकास, सृजनात्मकता और संवेदनशीलता का परिष्कार, सौंदर्य बोध की समृद्धि, जीवन के विविध संदर्भो से जोड़ने वाले मानवीय गुणों का विकास आदि प्रमुख हैं।

हिंदी भाषा शिक्षण के विशिष्ट उद्देश्य–

1. विद्यार्थियों को हिंदी साहित्य की समृद्धि और शक्ति से परिचित कराना।
2. विद्यार्थियों में कल्पनाशीलता, विस्मय, कौतुहल, जिज्ञासा एवं सृजनात्मकता का विकास करना
3. भाषा एवं साहित्य के माध्यम से सांस्कृतिक धरोहर से विद्यार्थियों को जोड़ने का प्रयास करना
4. गद्य विधाओ के माध्यम से वैयक्तिक गुणों और क्षमताओं का विकास करना
5. परंपरागत पद्धतियों से आगे बढ़कर आधुनिक जीवन के परिवेश, समकालीन यथार्थ तथा मानवीय मूल्यों के प्रति अडिग आस्था विकसित करना।

पाठ्यचर्या

शिक्षार्थियों में श्रवण, कथन, पठन एवं लेखन कौशल में दक्षता हेतु आयाम

माह	अवधारणा	कौशल श्रवण – कथन – पठन – लेखन – कौशल
अप्रैल	• बाज़ार दर्शन (पाठ) • बात सीधी थी पर (कविता) • कैमरे में बंद अपाहिज (कविता) • उषा (कविता) • भक्तिन (पाठ) • काले मेघा पानी दे (पीठ)	• भावार्थ व्याख्या प्रश्नोंत्तर • पठन पाठन व्याख्या एवं प्रश्नोंत्तर • पदों का सार • काव्यांशों पर आधारित प्रश्नोंत्तर • पाठ्यपुस्तक के प्रश्नोंत्तर • परीक्षोपयोगी महत्त्वपूर्ण प्रश्नोंत्तर • व्याख्या एवं प्रश्नोंत्तर • व्याख्या एवं प्रश्नोंत्तर
	अपठित गद्यांश, पद्यांश	• अभ्यास पत्रक के माध्यम से ।
जून	• बादल राग (कविता) • कवितावली (कविता)	• पदों का सार • काव्यांशों पर आधारित प्रश्नोंत्तर
जुलाई	• पहलवान की ढोलक (पाठ) • शिरीष के फूल (पाठ) • गज़ल (कविता) • रूबाइयाँ (कविता)	• पाठ्यपुस्तक के प्रश्नोंत्तर • परीक्षोपयोगी महत्त्वपूर्ण प्रश्नोंत्तर • कविता का सार • भावार्थ व्याख्या प्रश्नोंत्तर
	रचनात्मक कौशल निबंध/ लेखन	• अभ्यास पत्रक के माध्यम से ।
अगस्त	• श्रम विभाजन (पाठ) • जाति प्रथा (पाठ) • छोटा मेरा खेत (कविता) • बगूलों के पंख (कविता) • रचनात्मक लेखन	• व्याख्या प्रश्नोंत्तर • वैक्ल्पिक प्रश्नों पर आधारित प्रश्नों का अभ्यास • व्याख्या एवं प्रश्नोंत्तर • पदों का सार • काव्यांशों पर आधारित प्रश्नोंत्तर • पाठ्यपुस्तक के प्रश्नोंत्तर • परीक्षोपयोगी महत्त्वपूर्ण प्रश्नोंत्तर • अभ्यासपत्रक के माध्यम से अभ्यास • अभ्यासपत्रक के माध्यम से अभ्यास
सितंबर	• जनसंचार तथा माध्यम • कार्यलयीन हिन्दी	• अभ्यासपत्रक के माध्यम से अभ्यास • अभ्यासपत्रक के माध्यम से अभ्यास

माह	अवधारणा	कौशल श्रवण – कथन – पठन – लेखन – कौशल
अक्टुबर	• मेरी कल्पना का आदर्श समाज (पाठ) • जूझ (पाठ) • एक गीत (कविता)	• व्याख्या प्रश्नोंत्तर • वैकल्पिक प्रश्नों पर आधारित प्रश्नों का अभ्यास • व्याख्या एवं प्रश्नोंत्तर • पदों का सार • काव्यांशों पर आधारित प्रश्नोंत्तर • पाठ्यपुस्तक के प्रश्नोंत्तर
नवम्बर	• आत्मपरिचय (कविता) • स्ववृत्त, आलेख लेखन	• पदों का सार • काव्यांशों पर आधारित प्रश्नोंत्तर • पाठ्यपुस्तक के प्रश्नोंत्तर • परीक्षोपयोगी महत्त्वपूर्ण प्रश्नोंत्तर
दिसंबर	पुनरावृत्ति	• पुनरावृत्ति (लेखन कौशल एवं पाठ्यपुस्तक)
जनवरी	पुनरावृत्ति	• पुनरावृत्ति (लेखन कौशल एवं पाठ्यपुस्तक)

PHYSICS

Rationale:

Physics lies at the heart of the natural sciences

Almost any scientific problem can be approached using the ideas and methods of physics.

Physics explains how the world works

Physics helps us understand why things in the natural world happen the way they do. It enables us to explain, for example, how buildings move in an earthquake, why a car takes as long as it does to come to a stop when the brakes are applied, why the sky is blue and grass green, and why the supports of a bridge have to be of certain dimensions.

Physicists – and students studying physics – are able to use their understanding to predict how an object will behave under particular conditions, improve the functioning of everyday objects, and envisage totally new developments.

Physics is useful and exciting

The knowledge and processes used by physics have produced new and exciting technologies that are in everyday use. Almost any example of modern technology has its origins in mechanics, optics, electronics, thermodynamics, nuclear physics, or some other branch of physics. Physicists are challenged to discover how nature works; along the way, they get to know the excitement of explaining, seeing, or doing something that no one has understood or done before.

Learning in physics opens up career opportunities

Learning in physics will come in useful no matter what you go on to do. Employers value the kinds of skills that studying physics develops: the ability to grasp things quickly, focused solution finding, plus problem solving, analytical, mathematical, and IT skills.

People with a background in physics are found in all these areas and more: telecommunications, space, medicine, finance, law, music, television, environment, architecture, civil engineering, sports, gaming, energy, and education.

Objectives:

The Physics Department seeks to produce competent, productive physics graduates, as well as to contribute to the science education of all students. Upon successful completion of the prescribed program, the student will be able to

1. *Demonstrate a breadth and depth of knowledge of physics which would lead to a successful career in a physics related profession such as engineering or education*
2. *Demonstrate a breadth and depth of knowledge of physics which would allow individuals to begin a graduate program in physics;*
3. *Apply analytical skills to such diverse professions as law, medicine, finance, telecommunications, etc.;*
4. *Demonstrate proficiency in the application of physics to problems of science, society, and technology*

Month	*Concept*	*Sub-Concept*
April	***Chapter–1: Electric Charges and Fields***	• *Electric charges, Conservation of charge* • *Coulomb's law-force between two- point charges, forces between multiple charges;* • *Superposition principle and continuous charge distribution.* • *Electric field, electric field due to a point charge,* • *Electric field lines* • *Electric dipole electric field due to a dipole* • *Torque on a dipole in uniform electric field.* • *Electric flux* • *Statement of Gauss's theorem* • *Applications of Gauss's theorem: Field due to infinitely long straight wire, uniformly charged infinite plane sheet and uniformly charged thin spherical shell (field inside and outside).*
	Chapter–2: Electrostatic Potential and Capacitance	• *Electric potential* • *Potential difference* • *Electric potential due to a point charge* • *A dipole and system of charges* • *Equipotential surfaces,* • *Electrical potential energy of a system of two-point charges and of electric dipole in an electrostatic field.* • *Conductors and insulators, free charges and bound charges inside a conductor.* • *Dielectrics and electric polarization* • *Capacitors and capacitance* • *Combination of capacitors in series and in parallel* • *Capacitance of a parallel plate capacitor with and without dielectric medium between the plates* • *Energy stored in a capacitor (no derivation, formulae only).*
	Chapter–3: Current Electricity	• *Electric current, flow of electric charges in a metallic conductor* • *Drift velocity* • *Mobility and their relation with electric current;* • *Ohm's law, V-I characteristics (linear and non-linear)* • *Electrical energy and power* • *Electrical resistivity and conductivity* • *Temperature dependence of resistance,*
June	***Chapter–3: Current Electricity Contd.…***	• *Internal resistance of a cell* • *Potential difference and emf of a cell* • *Combination of cells in series and in parallel* • *Kirchhoff's rules* • *Wheatstone bridge.*

Month	*Concept*	*Sub-Concept*
June	***Chapter–4: Moving Charges and Magnetism***	• *Concept of magnetic field, Oersted's experiment.* • *Biot - Savart law and its application to current carrying circular loop.* • *Ampere's law and its applications to infinitely long straight wire. Straight solenoid (only qualitative treatment), force on a moving charge in uniform magnetic and electric fields.* • *Force on a current-carrying conductor in a uniform magnetic field, force between two parallel current-carrying conductors-definition of ampere* • *Torque experienced by a current loop in uniform magnetic field;* • *Current loop as a magnetic dipole and its magnetic dipole moment* • *Moving coil galvanometer- its current sensitivity and conversion to ammeter and voltmeter.*
July	***Chapter–5: Magnetism and Matter***	• *Bar magnet* • *Bar magnet as an equivalent solenoid (qualitative treatment only),* • *Magnetic field intensity due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis (qualitative treatment only)* • *Torque on a magnetic dipole (bar magnet) in a uniform magnetic field (qualitative treatment only)* • *Magnetic field lines.* • *Magnetic properties of materials-Para-dia- and ferro-magnetic substances with examples,* • *Magnetization of materials, effect of temperature on magnetic properties.*
August	***Chapter–6: Electromagnetic Induction***	• *Electromagnetic induction;* • *Faraday's laws, induced EMF and current;* • *Lenz's Law* • *Self and mutual induction*
	Chapter–7: Alternating Current	• *Alternating currents* • *Peak and RMS value of alternating current/voltage* • *Reactance and impedance* • *LCR series circuit (phasors only)* • *Resonance* • *Power in AC circuits, power factor, wattless current* • *AC generator, Transformer*
	Chapter–8: Electromagnetic Waves	• *Basic idea of displacement current* • *Electromagnetic waves, their characteristics, their transverse nature (qualitative idea only).* • *Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, X-rays, gamma rays) including elementary facts about their uses.*

Month	*Concept*	*Sub-Concept*
September	***Chapter–9: Ray Optics and Optical Instruments***	• ***Ray Optics:*** *Reflection of light, spherical mirrors, mirror formula.* • *Refraction of light* • *Total internal reflection and optical fibers* • *Refraction at spherical surfaces* • *Lenses, thin lens formula, lens maker's formula, magnification, power of a lens* • *Combination of thin lenses in contact* • *Refraction of light through a prism.* • *Optical instruments: Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.*
October	***Chapter 10*** ***Wave Optics***	• *Wave front and Huygen's principle* • *Reflection and refraction of plane wave at a plane surface using wave fronts.* • *Proof of laws of reflection and refraction using Huygen's principle* • *Interference* • *Young's double slit experiment and expression for fringe width (No derivation final expression only),* • *Coherent sources and sustained interference of light* • *Diffraction due to a single slit, width of central maxima (qualitative treatment only).*
	Chapter–11: Dual Nature of Radiation and Matter	• *Dual nature of radiation* • *Photoelectric effect,* • *Hertz and Lenard's observations;* • *Einstein's photoelectric equation-particle nature of light.* • *Experimental study of photoelectric effect* • *Matter waves-wave nature of particles, de-Broglie relation.*
	Atoms and Nuclei ***Chapter–12: Atoms***	• *Alpha-particle scattering experiment;* • *Rutherford's model of atom;* • *Bohr model of hydrogen atom* • *Expression for radius of nth possible orbit, velocity and energy of electron in nth orbit* • *Hydrogen line spectra (qualitative treatment only)*
November	***Chapter–13: Nuclei***	• *Composition and size of nucleus, nuclear force* • *Mass-energy relation, mass defect; binding energy per nucleon and its variation with mass number;* • *Nuclear fission, nuclear fusion.*
	Chapter–14: Semiconductor Electronics: Materials, Devices and Simple Circuits	• *Energy bands in conductors,* • *Semiconductors and insulators (qualitative ideas only)* • *Intrinsic and extrinsic semiconductors- p and n type, p-n junction* • *Semiconductor diode - I-V characteristics in forward and reverse bias* • *Application of junction diode -diode as a rectifier.* • *Revision*
December	***Revision***	
January	***Revision***	

CHEMISTRY

Rationale:

Higher Secondary is the most crucial stage of school education because at this juncture specialized discipline based, content -oriented courses are introduced. Students reach this stage after 10 years of general education and opt for Chemistry with a purpose of pursuing their career in basic sciences or professions courses like medicine, engineering, technology and other applied areas. Therefore, there is a need to provide learners with sufficient conceptual background of Chemistry, which will make them competent to meet the challenges of academic and professional courses-: after the senior secondary stage.

The new and updated curriculum is based on disciplinary approach with rigour and depth taking care that the syllabus is not heavy and at the same time it is comparable to the international level. The knowledge related to the subject of Chemistry has undergone tremendous changes during the past one decade. Many new areas like synthetic materials, bio-molecules, natural resources, industrial chemistry are coming in a big way and deserve to be an integral part of chemistry syllabus at senior secondary stage. At international level, new formulations and nomenclature of elements and compounds, symbols and units of quantities floated by scientific bodies like IUPAC and CGPM are of immense importance and need to be incorporated in the updated syllabus. The revised syllabus takes care of all these aspects. Greater emphasis has been laid on use of new nomenclature, symbols and formulations, teaching of fundamental concepts, application of concepts in chemistry to industry/ technology, logical sequencing of units, removal of obsolete content and repetition, etc.

Objectives:

The curriculum of chemistry at senior secondary stage aims to

- *promote understanding of basic facts and concepts in chemistry while retaining the excitement of chemistry.*
- *make students capable of studying chemistry in academic and professional courses (such as medicine engineering, technology) at tertiary level.*
- *expose the students to various emerging new areas of chemistry and apprise them with relevance in future studies and their application in various spheres of chemical sciences and technology.*
- *equip students to face various challenges related to health, nutrition, environment, population, weather, industries and agriculture.*
- *develop problem solving skills in students.*
- *expose the students to different processes used in industries and their technological applications.*
- *apprise students with interface of chemistry with other disciplines of science such as physics geology, engineering etc.*
- *acquaint students with different aspects of chemistry used in daily life.*
- *develop an interest in students to study chemistry as a discipline.*
- *Integrant life skills and values in context of chemistry.*

Month	Concept	Sub-Concept
April	Unit Solutions	• Types of solutions • Expression of concentration of solutions of solids in liquids, solubility of gases in liquids, solid solutions • Raoult's law, colligative properties - relative lowering of vapour pressure • Elevation of boiling point, • Depression of freezing point, • Osmotic pressure, determination of molecular masses using colligative properties • Abnormal molecular mass, Van't Hoff factor.
	Haloalkanes and Halorenes	• **Haloalkanes:** Nomenclature, nature of C–X bond, physical and chemical properties • Optical rotation mechanism of substitution reactions. • **Haloarenes:** Nature of C–X bond, substitution reactions(Directive influence of halogen in monosubstituted compounds only). • Uses and environmental effects of - dichloromethane, trichloromethane, tetrachloromethane, iodoform, freons, DDT.
	Alcholos, Phenols and Ethers	• **Alcohols:** Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only), identification of primary, secondary and tertiary alcohols, mechanism of dehydration, uses with special reference to methanol and ethanol. • **Phenols:** Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophilic substitution reactions, uses of phenols.
	Practical	• Volumetric Analysis– Determination of concentration/molarity of $KMnO_4$ solution by titrating it against a standard solution of Ferrous Ammonium Sulphate • Volumetric Analysis– Determination of concentration/molarity of $KMnO_4$ solution by titrating it against a standard solution of hydrated oxalic acid solution
June	Unit Alcholos, Phenols and Ethers (Cont..)	• **Ethers:** Nomenclature, methods of preparation, physical and chemical properties, uses
	Electrochemistry	• Redox reactions • EMF of a cell, standard electrode potential, • Nernst equation and its application to chemical cells
	Practical	Qualitative Analysis Determination of one anion and one cation in a given salt

Month	*Concept*	*Sub-Concept*
July	*Electrochemistry (Cont..)*	• *Relation between Gibbs energy change and EMF of a cell* • *Conductance in electrolytic solutions, specific and molar conductivity,* • *Variations of conductivity with concentration,Kohlrausch's Law* • *Electrolysis and law of electrolysis (elementary idea)* • *Dry cell-electrolytic cells and Galvanic cells* • *Lead accumulator, fuel cells* • *Corrosion.*
	Unit *d and f-Block Elements*	• *General introduction, electronic configuration,* • *occurrence and characteristics of transition metals* • *general trends in properties of the first-row transition metals –* • *metallic character, ionization enthalpy, oxidation states, ionic radii* • *colour, catalytic property, magnetic properties, interstitial compounds, alloy formation* • *preparation and properties of $K_2Cr_2O_7$ and $KMnO_4$.* • ***Lanthanoids –*** *Electronic configuration, oxidation states, chemical reactivity and lanthanoid contraction and its consequences.* • ***Actinoids -*** *Electronic configuration, oxidation states and comparison with lanthanoids*
	Practical	*Qualitative Analysis* *Determination of one anion and one cation in a given salt*
August	*Unit* *Coordination Chemistry*	• *Coordination compounds – Introduction* • *ligands, coordination number, colour, magnetic properties and shapes* • *IUPAC nomenclature of mononuclear coordination compounds. Bonding, Werner's theory, VBT, and CFT* • *Structure and stereoisomerism, the importance of coordination compounds (in qualitative analysis, extraction of metals and biological system).*
	Aldehydes, Ketones & Carboxylic Acids	• ***Aldehydes and Ketones:*** *Nomenclature, nature of carbonyl group* • *Methods of preparation, physical and chemical properties, mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes, uses.* • ***Carboxylic Acids:*** *Nomenclature, acidic nature, methods of preparation, physical and chemical properties; uses.*

Month	*Concept*	*Sub-Concept*
September	*Unit* *Amines*	• ***Amines:*** *Nomenclature, classification, structure, methods of preparation, physical and chemical properties, uses, identification of primary, secondary and tertiary amines.* • ***Diazonium salts:*** *Preparation, chemical reactions and importance in synthetic organic chemistry.*
October	*Unit* *Chemical kinetics*	• *Rate of a reaction (Average and instantaneous)* • *factors affecting rate of reaction: concentration, temperature, catalyst* • *order and molecularity of a reaction* • *rate law and specific rate constant,* • *integrated rate equations and half-life (only for zero and first order reactions)* • *Concept of collision theory (elementary idea, no mathematical treatment), activation energy, Arrhenius equation*
November	*Unit* *Biomolecules* *Practical*	• ***Carbohydrates -*** *Classification (aldoses and ketoses), monosaccharides (glucose and fructose)* • *D-L configuration oligosaccharides (sucrose, lactose, maltose), polysaccharides (starch, cellulose, glycogen); Importance of carbohydrates.* • ***Proteins -****Elementary idea of - amino acids, peptide bond, polypeptides, proteins* • ***Structure of proteins*** *- primary, secondary, tertiary structure and quaternary structures (qualitative idea only), denaturation of proteins* • ***Enzymes, Hormones*** *- Elementary idea excluding structure* • ***Vitamins -*** *Classification and functions.* • ***Nucleic Acids:*** *DNA and RNA* *Tests for the functional groups present in organic compounds: Unsaturation, alcoholic, phenolic, aldehydic, ketonic, carboxylic and amino (Primary) groups.* • *Characteristic tests of carbohydrates and proteins in pure samples and their detection in given foodstuffs* • *Revision*
December	***Revision***	
January	***Revision***	

BIOLOGY

Rationale:

The present syllabus reinforces the ideas introduced till the secondary classes. It provides the students with new concepts along with an extended exposure to cotemporary areas of the subject. The syllabus also aims at emphasizing on the underlying principles that are common to both animals and plants as well as highlighting the relationship of biology with other areas of knowledge. The format of the syllabus allows a simple, clear, sequential flow of concepts without any jarring jumps. The syllabus also stresses on making better connection among biological concepts. It relates the study of biology to real life through the use of technology. It links the discoveries and innovation in biology to everyday life such as environment, industry, health and agriculture. The updated syllabus also focuses on reducing the curriculum load while ensuring that ample opportunities and scope for learning and appreciating basic concepts of the subject continue to be available within its framework.

Objective:

- *Promote understanding of basic principles of Biology*
- *Encourage learning of emerging knowledge and its relevance to individual and society*
- *Promote rational/Scientific attitude towards issues related to population, environment and development*
- *Enhance awareness about environmental issues, problems and their appropriate solutions*
- *Create awareness amongst the learners about diversity in the living organisms and developing respect for other living beings*
- *Appreciate that the most complex biological phenomena are built on essentially simple processes.*

Month	*Concept*	*Sub-Concept*
April	*Unit-VI* *Chapter-1* *Sexual Reproduction in Flowering plant*	• *Flower structure; development of male and female gametophytes; pollination - types, agencies and examples; out breeding devices; pollen-pistil interaction; double fertilization; post fertilization events - development of endosperm and embryo, development of seed and formation of fruit; special modes- apomixis, parthenocarpy, polyembryony; Significance of seed dispersal and fruit formation.*
	Unit-VI *Chapter-2* *Human Reproduction*	• *Male and female reproductive systems; microscopic anatomy of testis and ovary; gametogenesis - spermatogenesis and oogenesis; menstrual cycle; fertilisation, embryo development upto blastocyst formation, implantation; pregnancy and placenta formation (elementary idea); parturition (elementary idea); lactation (elementary idea*
	Unit-VI *Chapter–3* *Reproductive Health*	• *Need for reproductive health and prevention of Sexually Transmitted Diseases (STDs); birth control - need and methods, contraception and medical termination of pregnancy (MTP); amniocentesis; infertility and assisted reproductive technologies - IVF, ZIFT, GIFT (elementary idea for general awareness).*
June	*Unit-VII* *Chapter -4* *Principles of Inheritance and Variation*	• *Mendelian inheritance; deviations from Mendelism – incomplete dominance, co-dominance, multiple alleles and inheritance of blood groups, pleiotropy; elementary idea of polygenic inheritance; chromosome theory of inheritance; chromosomes and genes; Sex determination - in humans, birds and honey bee; linkage and crossing over; sex linked inheritance - haemophilia, colour blindness; Mendelian disorders in humans - thalassemia; chromosomal disorders in humans; Down's syndrome, Turner's and Klinefelter's syndromes..*

Month	*Concept*	*Sub-Concept*
July	*Unit- VII* *Chapter – 5* *Molecular Basis of Inheritance*	• *Search for genetic material and DNA as genetic material; Structure of DNA and RNA; DNA packaging; DNA replication; Central Dogma; transcription, genetic code, translation; gene expression and regulation - lac operon; Genome, Human and rice genome projects; DNA fingerprinting.* • *Genetic code, translation; gene expression and regulation - lac operon; Genome, Human Gnome Projects; DNA fingerprinting* • ***Experiments 1****.Prepare a temporary mount to observe pollen germination*
	Unit VII *Chapter-6* *Evolution*	• *Origin of life; biological evolution and evidences for biological evolution (paleontology, comparative anatomy, embryology and molecular evidences); Darwin's contribution, modern synthetic theory of evolution; mechanism of evolution - variation (mutation and recombination) and natural selection with examples, types of natural selection; Gene flow and genetic drift; Hardy - Weinberg's principle; adaptive radiation; human evolution*
August	*Unit- VIII* *Chapter-7* *Human Health and Diseases*	• *Pathogens; parasites causing human diseases (malaria, dengue, chikungunya, filariasis, ascariasis, typhoid, pneumonia, common cold, amoebiasis, ring worm) and their control; Basic concepts of immunology - vaccines; cancer, HIV and AIDS; Adolescence - drug and alcohol abuse.*
	Unit –VIII *Chapter- 8* *Microbes In Human Welfare*	• *Microbes in food processing, industrial production, sewage treatment, energy generation andmicrobes as bio-control agents and bio-fertilizers. Antibiotics; production and judicious Use* • ***Experiment 2*** *Prepare a temporary mount of onion root tip to study mitosis*
	Unit- IX *Chater 09* *Biotechnology: Principles and Processes*	• *Genetic Engineering (Recombinant DNA Technology).*
September	*Unit- IX* *Chater 09* *Biotechnology: Principles and Processes continued……..*	• *Genetic Engineering (Recombinant DNA Technology* • *Revision*

Month	*Concept*	*Sub-Concept*
October	*Unit- IX* *Chapter 10* *Biotechnology and Its Application*	• *Application of biotechnology in health and agriculture: Human insulin and vaccine production, stem cell technology, gene therapy; genetically modified organisms - Bt crops; transgenic animals; biosafety issues, biopiracy and patents*
	Unit X Chapter- 11 *Organisms and Populations*	• *Population interactions - mutualism, competition, predation, parasitism; population attributes - growth, birth rate and death rate, age distribution.*
	Unit –X *Chapter- 12* *Ecosystem*	• *Ecosystems: Patterns, components; productivity and decomposition; energy flow; pyramids of number, biomass, energy (Topics excluded: Ecological Succession and Nutrient Cycles)* • ***Experiment 3 and 4*** • *Study the plant population frequency and Density by quadrat method.*
		• ***Experiments 5*** *Isolate DNA from available plant material such as spinach, green pea seeds, papaya, etc*
November	*Unit-X* *Chapter-13- Biodiversity and Conservation*	• *Biodiversity-Concept, patterns, importance; loss of biodiversity; biodiversity conservation; hotspots, endangered organisms, extinction, Red Data Book, Sacred Groves, biosphere reserves, national parks, wildlife, sanctuaries and Ramsar sites.*
December	*Revision*	
January	*Revision*	

BIOTECHNOLOGY

Rationale

Furthermore, developments in recombinant DNA technology have yielded numerous new useful products in the fields of healthcare and agriculture. The present syllabus takes care of all these aspects. Due emphasis has been laid on familiarizing the learners with the fundamental concepts, basic techniques and their applications. It is expected that the knowledge gained through the study of different topics and the skills acquired through the prescribed practical work will make the learners competent to meet the challenges of academic as well as professional courses after studying the subject at senior secondary stage.

Objectives

The broad objectives of teaching Biotechnology at senior secondary level are to:

- *Help the learners know and understand basic facts and concepts of the subject at elementary stage.*
- *Expose the students to different basic processes and basic techniques used in Biotechnology.*
- *Familiarize the learners to understand the relationship of the subject to health, nutrition, environment, agriculture and industry, etc.*
- *Develop conceptual competence in the learners so as to cope up with professional courses in future career.*
- *Acquaint students with different applications of Biotechnology in everyday life.*
- *Develop an interest in students to study Biotechnology as a discipline.*

Month	Concept	Sub-Concept
April	Microbial Culture and its applications	• Introduction • Microbial nutrition and culture techniques • Measurement and kinetics of microbial growth • Isolation of microbial products • Strain isolation and improvement • Applications of microbial culture technology
	Practical	• Use of special equipments in Biotechnology Laboratory • Isolation of bacteria from curd & staining of bacteria
June	Plant Cell Culture and Applications	• Introduction, Cell and tissue culture techniques • Applications of cell and tissue culture • Transgenic plants with beneficial traits • Bio-safety of transgenic plants
	Practical	• Cell viability assay using Evan's blue dye exclusion method
July	Animal Cell Culture and Applications	• Introduction • Animal cell culture techniques • Applications of animal cell culture • Stem cell technology
	Practical	• Isolation of bacterial plasmid DNA
August	Recombinant DNA Technology	• Introduction, Tool of Recombinant DNA technology • Making r-DNA molecule • Introduction of recombinant DNA into host cells • Identification of recombinants • Polymerase Chain Reaction (PCR) • DNA Sequencing.
	Practical	• Detection of DNA by gel electrophoresis • Estimation of DNA by UV spectroscopy
September	Protein Structure and Engineering	• Introduction to the world of Proteins • Structure- Function Relationship • Characterization of proteins
October	Protein Structure and Engineering	• Protein based products • Designing proteins (Protein Engineering)
	Genomics, Proteomics and Bioinformatics	• Gene prediction and counting, Genome similarity • SNPs and Comparative genomics
	Practical	• Data retrieval and database search using internet site NCBI and download a DNA and protein sequence from internet, analyze it and comment on it

Month	*Concept*	*Sub-Concept*
November	*Genomics, Proteomics and Bioinformatics*	• *Functional genomics* • *Proteomics* • *Information sources* • *Analysis using bioinformatics tools*
	Practical	• *Reading of a DNA sequencing gel to arrive at the sequence.* • *Study of DNA motifs* • *Study of complementary base pairing of DNA* • *Study and identification of the given genomic sequences*
December	*Revision*	
January	*Revision*	

CORE MATHEMATICS

Rationale:

The Syllabus in the subject of Mathematics has undergone changes from time to time in accordance with growth of the subject and emerging needs of the society. Senior Secondary stage is a launching stage from where the students go either for higher academic education in Mathematics or for professional courses like Engineering, Physical and Bioscience, Commerce or Computer Applications. The present revised syllabus has been designed in accordance with National Curriculum Framework 2020 and as per guidelines given in Focus Group on Teaching of Mathematics 2020 which is to meet the emerging needs of all categories of students. Motivating the topics from real life situations and other subject areas, greater emphasis has been laid on application of various concepts.

Objectives

The broad objectives of teaching Mathematics at senior school stage intend to help the students:

- *to acquire knowledge and critical understanding, particularly by way of motivation and visualization, of basic concepts, terms, principles, symbols and mastery of underlying processes and skills.*
- *to feel the flow of reasons while proving a result or solving a problem.*
- *to apply the knowledge and skills acquired to solve problems and wherever possible, by more than one method.*
- *to develop positive attitude to think, analyze and articulate logically.*
- *to develop interest in the subject by participating in related competitions.*
- *to acquaint students with different aspects of Mathematics used in daily life.*
- *to develop an interest in students to study Mathematics as a discipline.*
- *to develop awareness of the need for national integration, protection of environment, observance of small family norms, removal of social barriers, elimination of gender biases.*
- *to develop reverence and respect towards great Mathematicians for their contributions to the field of Mathematics.*

Month	Chapter	Key Points
March	Bridge Course	• Limits • Derivatives • Straight Line • Circle • Parabola
	Matrix & Determinants	• Algebra of Matrices • Concept and expansion of determinanats • Application of matrices • Solving of linear equations upto 3 variables
April	Relation & Function	• Definition of relation, Equivalence relation • One- One function • Onto function • Concept of inverse of function
	Inverse Triogonometric Function	• Definition, Range, Domain, Principle Value Branch, Graphs, Elementary Properties of Inverse Trigonometry functions
	Continuity	• Definition , Continuity of a function • at a point • In Open interval and Closed Intervals • Continuous everywhere
	Differentiability -	• Left hand & right hand derivative
June	Simple Differentiation:	• Derivative of function of function, • Derivative of inverse trigonometric function, Implicit function, • Exponential and logrithemic function, Infinite function, • Differentiation of parametric functions, • Derivative of a function with respect to other functions
	Higher Order Derivatives:	• Second order derivative and derivative of higher order
July	Application of Derivatives:	• Rate of change of bodies, Relative rates & its application, • Increasing & Decreasing function • Maxima and Minima
	Indefinite Integrals:	• Antiderivative, Integration of functions by Substitution, By Partial fraction, Integration by parts • Some special cases
	Definite Integrals:	• Fundamental Theorem of Calculus (without proof). • Basic properties of definite integrals and evaluation of definite integrals.
	Definite Integrals:	• Fundamental Theorem of Calculus (without proof). • Basic properties of definite integrals and evaluation of definite integrals.

Month	Chapter	Key Points
August	Application of Integrals:–	• Application in finding the Area under simple curve, Straight lines • Areas of circles, Parabola, Ellipse etc. • Area between two curves (Standard curves only)
	Differential Equation:–	• Definition, Order and degree, General and particular solution, • Solution of equation by variable separable method, homogenous differential equation and linear equations
Sepetember	Vectors:–	• Definition, Types of vectors, algebra of vectors, position vector • Definition, product of two vectors (dot and cross) • Direction ratio & cosines of vectors
	3D– (Straight Line):–	• Direction cosines and direction ratios of a line joining two points. • Cartesian equation and vector equation of a line, skew lines, shortest distance between two lines. • Angle between two lines.
October	Probability:	• Conditional probability, multiplication theorem on probability, independent events, total probability, Bayes' theorem, Random variable and its probability distribution, mean of random variable.
	Linear Programming Problems:	• Introduction, related terminology such as constraints, • objective function, optimization, graphical method of solution for problems in two variables. • Feasible and infeasible regions (bounded or unbounded), solutions, optimal feasible solutions (up to three non-trivial constraints).
November	Revision	
December	Revision	

APPLIED MATHEMATICS

Rationale:

The Syllabus in the subject of Mathematics has undergone changes from time to time in accordance with growth of the subject and emerging needs of the society. Senior Secondary stage is a launching stage from where the students go either for higher academic education in Mathematics or for professional courses like Engineering, Physical and Bioscience, Commerce or Computer Applications. The present revised syllabus has been designed in accordance with National Curriculum Framework 2005 and as per guidelines given in Focus Group on Teaching of Mathematics 2005 which is to meet the emerging needs of all categories of students. Motivating the topics from real life situations and other subject areas, greater emphasis has been laid on application of various concepts.

Objectives

The broad objectives of teaching Mathematics at senior school stage intend to help the students:

- *to acquire knowledge and critical understanding, particularly by way of motivation and visualization, of basic concepts, terms, principles, symbols and mastery of underlying processes and skills.*
- *to feel the flow of reasons while proving a result or solving a problem.*
- *to apply the knowledge and skills acquired to solve problems and wherever possible, by more than one method.*
- *to develop positive attitude to think, analyze and articulate logically.*
- *to develop interest in the subject by participating in related competitions.*
- *to acquaint students with different aspects of Mathematics used in daily life.*
- *to develop an interest in students to study Mathematics as a discipline.*
- *to develop awareness of the need for national integration, protection of environment, observance of small family norms, removal of social barriers, elimination of gender biases.*
- *to develop reverence and respect towards great Mathematicians for their contributions to the field of Mathematics.*

Month	*Chapter*	*Key Points*
April	*Matrices and Determinants*	• *Algebra of Matrices* • *Concept and expansion of determinants* • *Applications of Matrices to solve system of linear equations.*
	Differentiation	• *Differentiation of Implicit functions.* • *Differentiation of Parametric functions.* • *Higher order derivatives.*
	Application of Derivatives	• *Determine the rate of change of various quantities* • *Define marginal cost and marginal revenue* • *Increasing and decreasing functions* • *Maxima Minima* • *Applied problems (only profit and cost) of Maxima Minima*
June	*Integration*	• *Integration Introduction* • *Method of substitution* • *Partial fraction* • *Integration by parts*
	Definite Integration	• *Fundamental Theorem of Calculus (without proof).* • *Basic properties of definite integrals and evaluation of definite integrals.*
July	*Definite Integration Continued*	• *Basic properties of definite integrals and evaluation of definite integrals*
	Application of Integrals	• *Application in finding, Area under simple curve, Straight lines,* • *Apply the definite integral to find consumer surplus-producer surplus* • *Problems on Total cost, marginal Cost, total Revenue, Marginal revenue.*
August	*Differential Equations*	• *Definition, Order and degree, General and particular solution,* • *Formation of equation,* • *Solution of simple differential equations (direct integration only)* • *Growth and Decay Model*
	Numbers, Quantification and Numerical Applications	• *Modulo Arithmetic* • *Alligation and Mixture* • *Boats and Streams (upstream and downstream)* • *Pipes and Cisterns* • *Races and Games* • *Numerical Inequalities*

Month	*Chapter*	*Key Points*
August	***Linear Programming***	• *Formulate Linear Programming Problem* • *Solving problems graphically* • *Feasible and infeasible solutions find optimal feasible solution*
September	***Probability***	• *Introduction* • *Mathematical Expectation, Variance and S.D. of a random variable* • *Binomial Distribution* • *Poison Distribution* • *Normal Distribution*
October	***Financial Mathematics***	• *Perpetuity* • *Sinking Funds* • *Valuation of Bonds* • *Calculation of EMI:* *i) Flat-Rate Method,* *ii) Reducing balance method* • *Amortization of loans* • *Compound Annual Growth Rate* • *Linear method of Depreciation*
	Inferential Statistics	• *Point Estimation* • *Interval Estimation* • *Hypothesis Testing Introduction* • *Critical Value Approach and P value Approach*
November	***Inferential Statistics Continued***	• *t-distribution*
	Time Series	• *Time Series Introduction* • *Components of Time Series* • *Moving Average method* • *Method of Least Squares*
December	***Revision***	
January	***Revision***	

ECONOMICS

Rationale:

Economics has great influence on every human being. As economic life and the economy go through changes, the need to ground education in children's own experience becomes essential. While doing so, it is imperative to provide them opportunities to acquire analytical skills to observe and understand the economic realities.

At senior secondary stage, the learners are in a position to understand abstract ideas, exercise the power of thinking and to develop their own perception. It is at this stage, the learners are exposed to the rigour of the discipline of economics in a systematic way.

The economics courses are introduced in such a way that in the initial stage, the learners are introduced to the economic realities that the nation is facing today along with some basic statistical tools to understand these broader economic realities. In the later stage, the learners are introduced to economics as a theory of abstraction.

The economics courses also contain many projects and activities. These will provide opportunities for the learners to explore various economic issues both from their day-to-day life and also from issues, which are broader and invisible in nature. The academic skills that they learn in these courses would help to develop the projects and activities. The syllabus is also expected to provide opportunities to use information and communication technologies to facilitate their learning process.

Objectives:

- *Understanding of some basic economic concepts and development of economic reasoning which the learners can apply in their day-to-day life as citizens, workers and consumers.*
- *Realisation of learners' role in nation building and sensitivity to the economic issues that the nation is facing today.*
- *Equipment with basic tools of economics and statistics to analyse economic issues. This is pertinent for even those who may not pursue this course beyond senior secondary stage.*
- *Development of understanding that there can be more than one view on any economic issue and necessary skills to argue logically with reasoning.*

Month	Concept	Sub-Concept
April	PART-A Unit-I (National Income and Related Aggregates)	Chapter–1[Introduction] • Meaning of Macroeconomics • How Macroeconomics Differs from Microeconomics? • Scope and Significance of Macroeconomics Chapter–2[Some Basic Concepts of Macroeconomics] • Classification of Goods • Concept and Components of Consumption Expenditure • Concept and Components of Investment • Concept and Components of Depriciation • Stocks and Flows • Four Sectors of the Economy • Intersectoral Flows-Real Flows and Money Flows • Circular Flow of Income (in two sector economy) Chapter–3 [National Income and Related Aggregates] • Concept of National Income • Domestic and National Concepts of Income • Gross and Net Concepts of Domestic Product • Domestic Product at Market Price and at Factor Cost • Aggregates Related to National Income • Nominal And Real GDP • GDP deflator • GDP and Welfare Chapter-4 [Methods of Calculating National Income] Contd. • Methods of Calculating National Income • Value Added method • Income method • Expenditure method
	PART-B Unit-VI (Development Experience (1947-90) And Economic Reforms since 1991	Chapter-1 [Indian Economy On The Eve Of Independence] • Overall feature of Indian Economy on the eve of independence • State of Agricultural Sector • Industrial Sector • Foreign Trade • Demographic Profile • Occupatinal Structure • Infrastructure

Month	Concept	Sub-Concept
June	PART-A Unit-II (Money and Banking) PART-B Unit-VIII (Development Experience of India)	Chapter-5 [Money] • Meaning and Functions of money • Supply of money Chapter-6[Banking] • Money creation by commercial banking system • Central bank and its functions Chapter-8 [Development Experience of India, Pakistan and China- A Comparative Study] • Strategy of Growth of India, Pakistan and China • Comparative Performance of the Economies of India, Pakistan and China • Common Success Story of India and Pakistan • China's Edge Over India
July	PART-A Unit -IV (Government Budget and the Economy)	Chapter- 10 [Government Budget and The Economy] • Meaning , objectives and components • Classification of receipts • Classification of expenditure • Balanced , Surplus and deficit Budget
	Part A Unit V (Balance of Payments)	Chapter- 11 [Foreign Exchange Rate] • Meaning of fixed and flexible rates and managed floating. • Determination of exchange rate in a free market. • Merits and demerits of flexible and fixed exchange rate. • Managed floating exchange rate system. Chapter- 12 [Balance of Payments] • Meaning and components • Surplus and Deficit
	PART-B Unit-VI (Development Experience (1947-90) And Economic Reforms since 1991)	Chapter-2 [Indian Economy 1950-1990] • Economic System • Common Goals of Five Year Plans • Agricultural Reforms • Industrial Reforms • Trade Reforms • Salient features
August	PART-A Unit-III(Determination of Income and Employment)	Chapter-7[Aggregate Demand and Related Concepts] • Concept of AD (Aggregate Demand) • Components of AD (Aggregate Demand) • Concept of AS (Aggregate Supply) • Consumption Function • Saving Function • Relationship between Propensity to Consume and Propensity to Save

Month	Concept	Sub-Concept
August	PART-A Unit-III(Determination of Income and Employment)	Chapter-8 [Short Run Equilibrium Output] • Concept of Short Run • Concept of Equilibrium Output (GDP) • Determination of Equilibrium Output (GDP) AS-AD Approach and S-I Approach • Shift in Equilibrium: Impact of Additional Investment (ΔI) • Investment Multiplier and Its Mechanism Chapter-9 [Problems of Deficient Demand And Excess Demand] • Some Essential Concepts • Problem of Deficient Demand • Problem of Excess Demand • Measures to Correct Deficient and Excess Demand
September	Part B Unit-VII (Current Challenges Facing Indian Economy)	Chapter-7 [Sustainable Economic Development] • Meaning • Effect of economic development on resources and environment
October	PART-B Unit-VI (Development Experience (1947-90) And Economic Reforms since 1991 PART-B Unit-VII (Current Challenges Facing Indian Economy)	Chapter- 3[Economic Reforms Since 1991 (NEP)] • Meaning of Economic Reforms (NEP) • Elements of NEP • An Appraisal of LPG Policies Chapter–4 [Human Capital Formation in India] • Concept of Human Capital and Human Capital Formation • Determinants/Sources of Human Capital Formation • Human Capital Formation and economic growth • Problems facing HCF in India • Education as an Essential Element of Human Resource Development, Growth of Education Sector in India
November	PART-B Unit-VII (Current Challenges Facing Indian Economy)	Chapter–5 [Rural Development] • Key issues – Credit and Marketing • Role of Cooperatives • Agricultural Diversification • Alternative farming – Organic farming Chapter -6 [Employment] • Growth and Changes in workforce participation Rate in Formal and Informal sector • Problems and Policies
December	Revision	
January	Revision	

BUSINESS STUDIES

Rationale:

The courses in Business Studies is introduced at + 2 stage of Senior Secondary Education as formal commerce education is provided after first ten years of schooling. Therefore, it becomes necessary that instructions in these subjects are given in such a manner that students have a good understanding of the principles and practices bearing in business (trade and industry) as well as their relationship with the society.

The course in Business Studies will prepare students to analyse, manage, evaluate and respond to changes -which affect business. It provides a way of looking at and interacting with the business environment. It recognizes the fact that business influences and is influenced by social, political, legal and economic forces, it allows students to appreciate that business is an integral component of society and develops an understanding of many social and ethical issues.

Therefore, to acquire basic knowledge of the business world, a course in Business Studies would be useful. It also informs students of a range of study and work options and bridges the gap between school and work.

Objectives

- *To develop students with an understanding of the processes of business and its environment;*
- *To acquaint students with the dynamic nature and inter-dependent aspects of business;*
- *To help students appreciate the economic and social significance of business activity and the social cost and benefits arising there from;*
- *To enable students to act more effectively and responsibly as consumers, employers, employees and citizens;*
- *To develop a business attitude and skills in students;*
- *To inculcate appropriate attitude and develop skills among students to pursue higher education, world of work including self employment.*

Month	Concept	Sub-Concept
April	Chapter–1 Nature and Significance of Management	• Introduction • Meaning of Management • Characteristics of Management • Objectives of Management • Importance of Management • Nature of Management • Levels of Management • Functions of Management • Coordination
	Chapter-2 Principles of Management	• Introduction • Meaning of Principles of Management • Nature/Features/Characteristics of Principles Management • Significance or Importance of Principles of Management • Fayol's Principles of Management • F. W. Taylor's and Scientific Management • Principles of Scientific Management • Techniques of Scientific Management • Fayol v/s Taylor– A comparison
	Chapter–3 Business Environment	• Introduction • Meaning of Business Environment • Features/Characteristics of Business Environment • Importance of Business Environment • Dimensions/Elements of Business Environment • Demonetization • Impact of Economic Reforms on the Business
	Chapter–4 Planning	• Introduction • Meaning of Planning • Features of Planning • Importance of Planning (cont…)
June	Chapter–4 Planning Chapter-5 Organising	• Limitation of Planning • Steps in Planning Process • Types of Plans • Meaning of Organising • Steps in the Process of Organising • Importance of Organising • Organisation Structure • Types of Organisation Structure • Formal & Informal Organisation • Delegation of Authority • Decentralisation & Centralisation

c	Concept	Sub-Concept
July	Chapter 11 Marketing	• Concept of marketing. • Features of marketing. • Functions of marketing. • Marketing philosophies • Marketing Mix – Concept and elements of marketing mix • Elements of marketing mix. Product - branding, labelling and packaging – Concept • Concept of product as an element of marketing mix. • Concept of branding, labelling and packaging. • Concept of price as Price - Concept, Factors determining price an element of marketing mix. • Factors determining price of a product. Physical Distribution – concept, components and channels of distribution of physical distribution • Components of physical distribution. • Channels of distribution. • Promotion – Concept and elements; Advertising, Personal Selling, Sales Promotion and Public Relations
August	Chapter–9 Financial Management	• Introduction • Meaning of Business Finance • Financial Management • Financial Decisions • Financial Planning • Capital Structure • Fixed & Working Capital
August	Chapter–6 Staffing	• Introduction • Meaning of Staffing • Importance of Staffing • Staffing and Human Resources Management • Staffing Process • Aspects or Components of Staffing • Recruitment • Selection • Training and Development • Methods of Training • Project Work
September	Chapter–7 Directing	• Introduction • Meaning of Directing • Features or Characteristics of Directing • Importance of Directing • Elements of Directing • Motivation Leadership • Communication • Channels of Communication • Barriers of Communications • Measures to improve communication effectiveness
October	Chapter–8 Controlling	• Introduction • Meaning of Controlling • Importance of Controlling • Limitation of Controlling • Relationship Between Planning & Controlling • Controlling Process

Month	Concept	Sub-Concept
October	Chapter–12 Consumer Protection	• Introduction • Importance of Consumer Protection • Consumer Protection Act, 1986 • Consumer Rights • Consumer Responsibilities • Meaning of Consumer • Redressal Agencies • Reliefs (Remedies)Available To Consumer • Consumer Awareness – Role of Consumer Organization & NGO
November	Chapter–10 Financial Markets	• Financial Markets • Money Market • Capital Market • Primary Market • Secondary Market • Stock Exchange • Securities and Exchange Board of India (SEBI) • Revision
December	Revision	
January	Revision	

ACCOUNTANCY

Rationale:

The course in Accountancy is introduced at +2 stage of Senior Secondary education, as formal commerce education is provided after first ten years of schooling. With the fast changing economic scenario and business environment in a state of continuous flux, elementary business education along with accountancy as the language of business and as a source of financial information has carved out a place for itself at the Senior School stage. Its syllabus content should give students a firm foundation in basic accounting principles and methodology and also acquaint them with the changes taking place in the presentation and analysis of accounting information, keeping in view the development of accounting standards and use of computers.

In class XII, Accounting for Partnership Firms and Companies are to be taught as a compulsory part. Students will also be given an opportunity to understand further about Computerized Accounting System, as an optional course to Analysis of Financial Statements.

Objectives:

- *To familiarize the students with accounting as an information system;*
- *To enable the students with accounting for reconstitution and dissolution of partnership firms;*

Month	Concept	Sub-Concept
April	Accounting for Partnership **Basic**	• Partnership: features, Partnership Deed. • Provisions of the Indian Partnership Act 1932 in the absence of partnership deed. • Fixed v/s fluctuating capital accounts. Preparation of Profit and Loss Appropriation account- division of profit among partners, guarantee of profits. • Past adjustments (relating to interest on capital, interest on drawing, salary and profit sharing ratio).
	Change in Existing Partnership	• Goodwill: meaning, nature, factors affecting and methods of valuation - average profit, super profit and capitalization. • **Change in the Profit Sharing Ratio** among the existing partners - sacrificing ratio, gaining ratio, accounting for revaluation of assets and reassessment of liabilities and treatment of reserves and accumulated profits. Preparation of revaluation account and balance sheet.
	Admission of Partner	• Admission of a partner - effect of admission of a partner on change in the profit sharing ratio, • Treatment of goodwill (as per AS 26), treatment for revaluation of assets and re - assessment of liabilities, treatment of reserves and accumulated profits, • Adjustment of capital accounts and preparation of balance sheet. • Preparation of capital, current account.
June	**Admission of Partner(Contd..)**	• Adjustment of capital accounts and preparation of balance sheet. • Preparation of capital, current account.
	Retirement of a partner	• Effect of retirement of a partner on change in profit sharing ratio, • Treatment of goodwill (as per AS 26), treatment for revaluation of assets and re assessment of liabilities, • Adjustment of accumulated profits and reserves, adjustment of capital accounts and preparation of balance sheet.
	Death of a partner	• Preparation of loan account of the retiring partner. – Calculation of deceased partner's share of profit till the date of death. • Preparation of deceased partner's capital account, current account executor's account and preparation of balance sheet.
July	**Dissolution**	• Dissolution of partnership firms: • Meaning of dissolution of partnership and partnership firm, types of dissolution of a firm. • Settlement of accounts - preparation of realization account, and other related accounts: capital accounts of partners and cash/bank a/c (excluding piecemeal distribution, sale to a company and insolvency of partner(s).
August	Analysis of financial statement **Theory**	• Financial Statement Analysis: Meaning, Uses, Significance Objectives, importance and limitations. • Tools for Financial Statement Analysis: Cash flow analysis, ratio analysis. • Financial statements of a company: Statement of Profit and Loss and Balance Sheet in the prescribed form with major headings and sub headings (as per Schedule III to the Companies Act, 2013).

		• *Common size income statementand position statement Comperative income statement and position statement*
	Ratio Analysis	• *Accounting Ratios: Meaning, Objectives, Advantages, classification and computation.* • ***Liquidity Ratios****: Current ratio and Quick ratio.* • ***Solvency Ratios:*** *Debt to Equity Ratio, Total Asset to Debt Ratio, Proprietary Ratio and Interest Coverage Ratio. Debt to Capital Employed Ratio.* • ***Activity Ratios:*** *Inventory Turnover Ratio, Trade Receivables Turnover Ratio, Trade Payables Turnover Ratio, Fixed Asset Turnover Ratio, Net Asset Turnover Ratio and Working Capital Turnover Ratio.* • ***Profitability Ratios:*** *Gross Profit Ratio, Operating Ratio, Operating Profit Ratio, Net Profit Ratio and Return on Investment.*
September	***Cash Flow Statement***	• *Meaning, objectives and preparation as per AS 3 (Revised) (Indirect Method only)* • *Project Work*
October	*Accounting for Company* ***Shares***	• *Accounting for Share Capital* • *Share and share capital: nature and types.* • *Accounting for share capital: issue and allotment of equity and preferences shares. Public subscription of shares - over subscription and under subscription of shares; issued at par and at premium, calls in advance and arrears (excluding interest), issue of shares for consideration other than cash.* • *Concept of Private Placement and Employee Stock Option Plan (ESOP), Sweat Equity.* • *Accounting treatment of forfeiture and reissue of shares.* • *Disclosure of share capital in the Balance Sheet of a company.*
November	*Accounting for Company* ***Debentures***	• *Debentures: Meaning, types, Issue of debentures at par, at a premium and at a discount. Issue of debentures for consideration other than cash; Issue of debentures with terms of redemption; debentures as collateral security-concept, interest on debentures. Writing off discount / loss on issue of debentures.*

ENTREPRENEURSHIP

Rationale:

Development of school curriculum is a dynamic process responsive to the society and reflecting the needs and aspiration of its learners. Fast changing society deserves changes in educational curriculum particularly to establish relevance to emerging socio-economic environment; to ensure equity of opportunity and participation and finally promoting concern for excellence. In this context the course of entrepreneurship aims at instilling and stimulating human urge for excellence by realizing individual potential for generating and putting to use the inputs, relevant to social prosperity and thereby ensure decent means of living for every individual.

Objectives:

- *Acquiring Entrepreneurial spirit and resourcefulness.*
- *Familiarization with various uses of human resource for earning dignified means of living.*
- *Understanding the concept and process of entrepreneurship - its contribution in and role in the growth and development of individual and the nation.*
- *Acquiring entrepreneurial quality, competency and motivation.*
- *Learning the process and skills of creation and management of entrepreneurial venture.*

Month	*Concept*	*Sub-Concept*
April	*Unit–2* *Entrepreneurial Planning*	• *Business Plan–Introduction.* • *Production plan.* • *Business Venture* • *Operational Plan* • *Miscellaneous* • *Financial plan.* • *Human Resource Plan* • *Marketing Plan* • *Organisational pla*
June	*Unit–1* *Entrepreneurial Opportunities*	• *Meaning and Elements of business opportunities* • *Basic tests of entrepreneur* • *Sensing Entrepreneurial Opportunities.* • *Exploring opportunities.* • *Environment scanning.* • *Problem Identification* • *Product Identification.* • *Spotting Trends.* • *Creativity & Innovation.* • *Selecting the Right Opportunity.*
July	*Unit 5 Business Arithmetic*	• *Unit of Sale ,Unit Cost,* • *BEP* • *EOQ* • *ROI* • *ROE* • *Working Capital* • *Inventory Control*
August	*Unit 3: Enterprise Marketing*	• *Marketing Strategies* • *Marketing Mix* • *Sales Promotions* • *Marketing Mix* • *Sales Promotions*
September	*Unit 4: Enterprise Growth Strategies …*	• *Growth and development of an enterprise.* • *Franchising.* • *Advantages and disadvantages of franching* • *Merger and Acquisition.* • *Types of Merger and Acquisition.* • *Reasons of Mergers and acquisitions*
October	*Unit 6: Resource Mobilization*	• *Capital Market* • *Primary Market* • *Angel Investor.* • *Venture Capital Funds.*
November	*Unit–2* *Entrepreneurial Planning* *Continued…*	● *Economic Activities* ● *Forms of business organisation s* ● *Suitability of forms of business organisations*
December	*Revision*	
January	*Revision*	

INFORMATICS PRACTICES

Objective: *The course intends to develop skills related to PYTHON Programming which helps students to create customized application software. MYSQL is helping students to make applications for real life world problems and providing knowledge of Computer Network and Societal Impacts. The curriculum is designed to develop appropriate technical knowledge as well as the professional skill of the students.*

Learning Objectives:

- *Ability to develop Customized Application using Pandas.*
- *Ability to create, store and manipulate databases.*
- *Ability to connect Back-end and Front-end to design Application.*
- *Ability to design Network Architecture*

Month	Concept	Sub-Concept
April	Database Query using SQL	• SQL Functions • Group by, Order by • Equi-join
June	Computer Networks	• Introduction to Network • Types of Network • Network Devices • Introduction to Internet • Website • Web Browsers
July	Data Handling using Pandas-I	• Introduction to Python Libraries • Data Structures in Pandas-Series Creation Method • Series Operations
August	Data Handling using Pandas-I	• Introduction to Data Frames • Advanced operations on Data Frames • Head and Tail functions • Indexing • Boolean Indexing
September	Data Handling using Pandas-I	• Importing/Exporting Data between CSV files and Data Frames
October	Data Visualization	• Plotting Function • Customizing plots
November	Societal Impacts	• Digital Footprint • Net Etiquettes • Data Protection • Intellectual Property Rights(IPR) • Cyber Crime • E-waste Management
December	Revision	
January	Revision	

COMPUTER SCIENCE

Objective:

The course intends to develop skills related to Programming which helps students to create customized application software. Knowledge of network and Computational thinking is helping students to make closure with computer architecture. The curriculum is designed to develop appropriate technical knowledge as well as the professional skill of the students.

Learning Objectives:

- *Apply the concept of function.*
- *Explain and use the concept of file handling.*
- *Use basic data structure: Stacks*
- *Explain basics of computer networks.*
- *Use Database concepts, SQL along with connectivity between Python and SQL.*

Month	*Concept*	*Sub-Concept*
April	*Computational Thinking and Programming - 2*	• *Revision of Python topics covered in Class XI.* • *Functions (Built-in, Modules)* • *Functions (User Defined)* • *Scope (Local and Global)*
June	*Programming and Computational Thinking-2*	• *Exception Handling.* • *Text File Handling.*
July	*Programming and Computational Thinking-2*	• *Binary File.* • *CSV File.* • *Data Structure: Stack, operations on stack, implementation.*
August	*Database Management Database Concepts*	• *Database Management* • *Structured Query Language*
September	*Computer Networks*	• *Evolution of networking* • *Data communication terminologies* • *Transmission media, Network devices* • *Network topologies and Network types* • *Network protocol,Introduction to web services*
October	*Database Management Database Concepts*	• *Interface of python with an SQL database*
November	*Revision*	
December	*Revision*	
Revision	*Revision*	

HISTORY

General Objective:

- *Detailed study of some themes in ancient, medieval and modern Indian history. The object would be to study a set of these themes in depth rather than survey the entire chronological span of Indian history.*
- *They would come to know how historians analyze these sources, the problems and difficulties of interpreting each type of source, and the way a larger picture of an event, a historical process, or a historical figure, is built by looking different types of sources.*

Specific Objective:

- *Familiarize the learner with early urban centres as economic and social institutions, introduce the ways in which new data can lead to a revision of existing notions of history.*
- *Familiarize the learner with major trends in the political and economic history of the subcontinent.*
- *Familiarize the learner with issues in social history, introduce strategies of textual analysis and their use in reconstructing social history.*
- *Discuss the major religious developments in early India, introduce strategies of visual analysis and their use in reconstructing histories of religion.*
- *Familiarize the learner with the major landmarks in political history.*
- *Discuss how colonialism affected zamindar, peasants and artisans and understanding their problems.*
- *Familiarize the learner with the history modern urban centres.*
- *Familiarize the learner with the significant elements of nationalist moment and nature of Gandhian leadership, the growth of communalism and the story of partition.*

Month	*Concept*	*Sub-Concept*
April	*The Story of the First Cities: HarappanArchaeology*	• *Early urban centres.* • ***Story of discovery-*** *Harappan civilization* • ***Excerpt:*** *Archaeological report on a major site.* • ***Discussion:*** *How it has been utilized by archaeologists/historians.*
	Kings, Farmers and Towns (c. 600 BCE-600 CE)	• *Political and economic history from the Mauryan to the Gupta period.* • *Inscriptions and the decipherment of the script. Shifts in the understanding of political and economic history.* • ***Excerpt:*** *Asokan inscription and Gupta period land grant.* • ***Discussion:*** *Interpretation of inscriptions by historians.*
June	*Kinship, Caste and Class (c. 600 BCE-600 CE)*	• *Issues in social history, including caste, class, kinship and gender.* • ***Story*** *of discovery: Transmission and publications of Mahabharat* • ***Excerpt:*** *from the Mahabharata, illustrating how it has been used by historians.* • ***Discussion:*** *Other sources for reconstructing social history.*
	Thinkers, Beliefs and Buildings	• *A brief review of religious histories of Vedic religion, Jainism, Vaisnavism, Saivism.* • *Focus on Buddhism.* • ***Story of discovery:*** *Sanchi stupa* • ***Excerpt:*** *Reproduction of sculptures from Sanchi.* • ***Discussion:*** *Ways in which sculpture has been interpreted by historians, other sources for reconstructing the history of Buddhism.*
July	*Medieval Society through Travelers' Accounts*	• *Outline of social and cultural life as they appear in travelers' accounts.* • ***Story of their writings:*** *A discussion of where they travelled, why they travelled, what they wrote, and for whom they wrote.* • ***Excerpts:*** *from Alberuni, Ibn Batuta, Bernier.* • ***Discussion:*** *What these travel accounts can tell us and how they have been interpreted by historians.*
	Religious Histories: The Bhakti-Sufi Tradition	• *Outline of religious developments during this period.* • *Ideas and practices of the Bhakti-Sufi saints.* • ***Story of Transmission: How Bhakti-Sufi*** *compositions have been preserved* • ***Excerpt: Extracts from selected Bhakti-Sufi works.*** • ***Discussion: Ways in which these have been interpreted by historians.***
	New Architecture: Hampi	• *Outline of new buildings during Vijayanagar period-temples, forts, irrigation facilities.* • *Relationship between architecture and the political system.* • ***Story of Discovery:*** *Account of how Hampi was found.* • ***Excerpt:*** *Visuals of buildings at Hampi* • ***Discussion:*** *Ways in which historians have analyzed and interpreted these structures.*

Month	Concept	Sub-Concept
August	Peasants, Zamindars and The state	• Agrarian Society and the Mughal Empire (16-17 Centuries) • Peasants and Agricultural • Village community • Forest and Tribes • Land revenue system
	Colonialism and Rural Society: Evidence from Official Reports	• Life of zamindars, peasants and artisans in the late 18th century • East India, company, revenue settlements and surveys • Changes over the nineteenth century • **Story of official records:** An account of why official investigations into rural societies were undertaken and the types of records and reports produced. • **Excerpts:** From Firminger's Fifth Report, Accounts of Frances Buchanan-Hamilton, and Deccan Riots Report. • **Discussion:** What the official records tell and do not tell, and how they have been used by historians.
September	Rebels and Raj	• The events of 1857-58. • How these events were recorded and narrated. • **Focus:** Lucknow. • **Excerpts:** Pictures of 1857. Extracts from contemporary accounts. • **Discussion:** How the pictures of 1857 shaped British opinion of what had happened. • Revision
October	Mahatma Gandhi and the national movement	• The Nationalist Movement 1918 - 48. • The nature of Gandhian politics and leadership. • **Focus:** Mahatma Gandhi in 1931. • **Excerpts:** Reports from English and Indian language newspapers and other contemporary writings. • **Discussion:** How newspapers can be a source of history
November	Framing the Constitution	• Independence and the new nation state. • The making of the Constitution. • **Focus:** The Constitutional Assembly debates. Excerpts: from the debates. • **Discussion:** What such debates reveal and how they can be analyzed.
		Map Work on Units 1-15 and Project Work
December	Revision	
January	Revision	

POLITICAL SCIENCE

Rationale:

At the senior secondary level students who opt Political Science are given an opportunity to get introduced to the diverse concerns of a Political Scientist. At this level there is a need to enable students to engage with political processes that surround them and provide them with an understanding of the historical context that has shaped the present. The different courses introduce the various streams of the discipline of Political Science; Political Theory, Indian Politics and International Politics. Concerns of the other two streams–Comparative Politics and Public Administration- are accommodated at different places in these courses. In introducing these streams, special care has been taken not to burden the students with the current jargon of the discipline. The basic idea here is to lay the foundations for a serious engagement with the discipline at the under graduation stage.

General Objectives:

- *Enable the students to expand their horizons beyond India and make sense of the political map of contemporary world.*
- *Familiarize the students with some of the key political events and processes in the post cold war era.*
- *Equip students to be conscious of the way in which global events and processes shape our everyday lives.*
- *Strengthen their capacity for political analysis by thinking of contemporary developments in a historical perspective.*

Specific Objectives:

- *Enable students to become familiar with some of the key political events and figures in the post-independence period.*
- *Develop skills of political analysis through an understanding of events and processes of recent history.*
- *Develop their capacity to link macro processes with micro situations and their own life.*
- *Encourage the students to take a historical perspective of making sense of contemporary India.*

Month	Concept	Sub-Concept
April	Challenges of Nation-Building	• Nehru's approach to nation-building; Legacy of partition: challenge of 'refugee' resettlement, the Kashmir problem. Organisation and reorganization of states; Political conflicts over language.
	The End of Bipolarity	• New entities in world politics: Russia, Balkan states and Central Asian states, Introduction of democratic politics and capitalism in post-communist regimes. India's relations with Russia and other post-communist countries.
June	Era of One-Party Dominance	• First three general elections, nature of Congress dominance at the national level, uneven dominance at the state level, coalitional nature of Congress. Major opposition parties.
	Politics of Planned Development	• Five year plans, expansion of state sector and the rise of new economic interests. Famine and suspension of five year plans. Green revolution and its political fallouts.
July	India's External Relations	• Nehru's foreign policy. Sino-lndian war of 1962, Indo-Pak war of 1965 and 1971. India's nuclear programme. Shifting alliance in world politics.
	Challenges to the Congress System	• Political succession after Nehru. Non-Congressism and electoral upset of 1967, Congress split and reconstitution, Congress' victory in 1971 elections, politics of garibi hatao'.
August	Alternative Centres of Power	• Rise of China as an economic power in post-Mao era, creation and expansion of European Union, ASEAN. India's changing relations with China.
	Contemporary South Asia in tl Post-Cold War Era	• Democratisation in Pakistan and Nepal. Ethnic conflict in Sri Lanka, Impact of economic globalization on the region. Conflicts and efforts for peace in South Asia. India's relations with its neighbours.
September	Crisis of the Democratic Order	• Search for 'committed' bureaucracy and judiciary. Navnirman movement in Gujarat and the Bihar movement. Emergency: context, constitutional and extra-constitutional dimensions, resistance to emergency. 1977 elections and the formation of Janata Party. Rise of civil liberties organisations.
	Crisis of the Democratic Order (Contd.…) International Organizations	• Restructuring and the future of the UN. India's position in the restructured UN. Rise of new international actors: new international economic organisations, NGOs. How democratic and accountable are the new institutions of global governance?
October	Regional Aspirations	• Rise of regional parties. Punjab crisis and the anti Sikh riots of 1984. The Kashmir situation. Challenges and responses in the North East.
	Security in Contemporary World	• Traditional concerns of security and politics of disarmament. Non-traditional or human security: global poverty, health and education. Issues of human rights and migration.

Month	*Concept*	*Sub-Concept*
November	***Environment and Natural Resources***	• *Environment movement and evolution of global environmental norms. Conflicts over traditional and common property resources. Rights of indigenous people. India's stand in global environmental debates.*
	Globalisation	• *Economic, cultural and political manifestations. Debates on the nature of consequences of globalisation. Anti-globalisation movements. India as an arena of globalization and struggle against it.*
	Recent Developments and Indian Politics	• *Context of 1990s* • *Era of Coalition* • *Alliance Politics* • *Political Fallouts* • *Emergence of New Consensus*
December	***Revision***	
January	***Revision***	

GEOGRAPHY

Rationale:

Geography is introduced as an elective subject at the senior secondary stage. After ten years of general education, students branch out at the beginning of this stage and are exposed to the rigours of the discipline for the first time. Being an entry point for the higher education, students choose Geography for pursuing their academic interest and, therefore, need a broader and deeper understanding of the subject. For others, geographical knowledge is useful in daily lives because it is a valuable medium for the education of young people. Its contribution lies in the content, cognitive processes, skills and values that Geography promotes and thus helps the students explore, understand and evaluate the environmental and social dimensions of the world in a better manner.

General Objectives:

The course of Geography will help learners to:

- *Familarise with key concepts, terminology and core principles of Geography.*
- *Describe locations and correlate with Geographical Perspectives.*
- *List/ describe what students might see, hear, smell, at a place.*
- *List/describe ways a place is linked with other places.*
- *Compare conditions and connections in one place to another.*
- *Analyze/describe how conditions in one place can affect nearby places.*
- *Identify regions as places that are similar or connected.*

Specific Objectives:

- *Describe and interpret the spatial pattern features on a thematic map.*
- *Search for, recognize and understand the processes and patterns of the spatial arrangement of the natural features as well as human aspects and phenomena on the earth's surface.*
- *Understand and analyse the inter- relationship between physical and human environment and utilize such knowledge in reflecting on issues related to community.*
- *Apply geographical knowledge and methods of inquiry to emerging situations or problems at different levels-local, regional, national and global.*
- *Develop geographical skills, relating to collection, processing and analysis of spatial data information and prepration of report including maps and graphs and use of computers where ever possible; and to be sensitive to issues.*

Month	Concept	Sub-Concept
April	Unit 1	[Chapter–1 Population] • Distribution • Density • Growth and composition
	Unit 1& 2	[Chapter–1 Human Geography] • Nature • Scope • Fields and subfields of human geography {Chapter–2 Human Settlements} • Types of Rural and Urban settlements, Urbanisation in India, functional classification of towns {Chapter–2 The World Population} • Distribution (Factors), Density and growth, Population growth, components, migration, trends in population growth control measures {Chapter–3 Human Development] • Growth and development Four pillars of human development, measuring human development, International comparison
	Practical	{Chapter–1Data] • Source and compilation, methods, tabulation and classification of data
June	Unit 3	{Chapter–3 Land Resources and Agriculture] • Land use categories and changes in India, Cropping seasons and types of farming, cropping pattern, Agricultural Development in India problems of Indian agriculture [Chapter–4 Primary Activities] • Hunting & gathering, Pastoralism, agriculture and its types, Mining, Methods of mining
	Practical	[Chapter–2 Data processing] • Measures of central tendency, Measures of dispersion, Measure of relationship
July	Unit 3	[Chapter–4 Water Resources] Water resources in India, Water demand and utilization, deterioration of water quality, water conservation and management India's National Water Policy 2002, Jal Kranti Abhiyan 2015-16 [Chapter–5 Secondary Activities] • Manufacturing, features, mechanization and classifications with their distrtibution {Chapter–5 Mineral and Energy Resources] • Types of mineral resources, distribution in India, Ferrous and Non-Ferrous, Metallic and Non-Metallic minerals, Energy resources, distribution, Non-Conventional sources of energy, Conservation

Month	Concept	Sub-Concept
July	Practical	{Chapter-3 Representation of Data] • General Rules, Constructions, Graphs, Diagrams, Thematic Maps –Dot, flow map, Choropleth and Isopleth Maps
August	Unit 3	[Chapter–6 Tertiary and Quaternary Activities] • Types, Trade and Commerce, Transport and communication, Tertiary Activities & people, Quinary activities
		[Chapter–7 Transport and Communication and Trade] • Land, Water and Air transport, Types, Communication Network
	Unit 4	[Chapter–6 Planning and Sustainable Development in Indian Context] • Target Area Planning, Case Study: Bharmaur Region and Indira Gandhi Canal Command Area ,Sustainable Development- Measures
September	Unit 3	[Chapter –7 Transport and Communication] • Land transport, Roads, types, railways, trans-continental, railways, water transport, ocean routes, Inland water ways, air transport, pipelines, communication, satellite & Cyber space [Chapter–8 International Trade] • Composition of India's import, Direction of trade, major seaports.
October	Unit 3	[Chapter–8 International Trade] • History and Basis of International Trade, Important aspects, Types, Gateways of International Trade, Types of Ports
	Practical	{Chapter –6 Spatial Information Technology} • GIS, Advantages over manual methods, Components of GIS, Raster and Vector Data
November	Unit 4	Chapter- 9 Geographical Perspective on Selected Issues and Problems] • Environmental Pollution, Urban Waste, Rural Urban migration and its import, land degradation, case study
December	Revision	
January	Revision	

PAINTING

Month	*Concept*	*Sub-Concept*
April	*Manu script painting The Rajasthani and Pahari Schools of Miniature Painting*	• *Origin and Development of Rajasthani School* • *Sub-Schools Study* • *Radha (Bani-Thani), maruragini,chugan player* • *Krishna on swing, Bharat meets rama*
	Practicals	• *Elements of art, Still life in water colour and human body proportion study*
June	*The Rajasthani and Pahari Schools of Miniature Painting (Contd…)*	• *Origin and Development of Pahari School* • *Sub school study* • *Appreciation of the following Pahari school painting* • *Krishna with gopies* • *Nand, Yashoda and Krishna with kinsmen*
	Practicals	• *Still life in water color, Figurative composition painting, Face drawing*
July	*TheMughal School of Miniature painting, The Deccan School*	• *Main feature of Mughal school* • *study and appreciation of Mughal school paintings and artist* • *Main feature of Deccan School* • *Study of Deccan Paintings and artist*
	Practicals	• *Landscape, Sketching, Still Life in water colour, Canvas painting in Acrylic Colors, Principle of composition*
August	*The Bengal School of Painting*	• *Introduction to the Bengal school* • *Origin and development of the Bengal school of painting* • *Main features of the bengal school*
		• ***Paintings** : Journey's End, Shiv and Sati,Radhika, Meghdoot painting study* • *Evaluation of National Flag* • *Symbolic significance of its forms and the colors*
	Practicals	• *Still Life in Water Color, Miniature painting*

September	*The Modern Trends in Indian Art*	• *Introduction*
		• *Study of Contemporary of Indian Art and Artist*
		• *Appreciation of the following contemporary modern Indian art:*
		  ○ *Ram Vanquishing the pride of the ocean Raja Ravi Varma*
		  ○ *Mother and Child - Jamini Roy*
		  ○ *Haldi Grinders - Amrita Sher Gill*
		  ○ *Mother Teressa - M.F. Hussain*

	Practicals	• *Poster color, Miniature painting, Composition, Still Life, and Collage Painting*

Month	*Concept*	*Sub-Concept*
October	*Graphics and Prints*	• *Children, Devi, Of Walls, Man, Woman and Tree.*
	Sculptures	• *Triumph of Labour,SanthalFamily,Cries Un heard Ganesha*
	Practicals	• *Still Life, Figurative Composition painting*
November	*Revision*	
December	*Revision*	
January	*Revision*	

KATHAK DANCE

Month		Sub-Concept
April	Theory	• A brief history with other classical dance styles of India. • Like– Odisi, Bharatnatyatam, Kathakali/Manipuri, Mohiniuttam, Kuchipudi, Kathak
	Practical s	• Vandana and Thaat in Teental and Jhaptaal
	Theory	• Manipuri, Mohiniutta, Kuchipudi and Kathak with knowledge of Folk Dances
	Practicals	• Aamad–2, Fast Aamad-2, Tukda–Toda-1 (Teentaal and Jhptaaaal)
June	Theory	• Knowledge of Theka Taal Dadra, Kaharwra and Rupak
	Practicals	• Tihaayi-4, Gatmikas-3, (Tihaayi in Jhaptal and dhamar) also.
July	Theory	• Revision of February, April
	Practicals	• Revision of February, April basic knowledge of Dhamar taal.
August	Theory	• Rasa: Definition and explanation of nine rasas. • Basic: Understanding of the Abhinay with angika, Vachika, Aharya, satvika
	Practicals	• Gatbhav, Parhant and tode, paran in Dhamar taal.
September	Theory	• Abhinay Darpan. • Identification of Author and date/knowledge of each text/myths regarding the each text.
	Practicals	• Improwise nritta and abhinaya.
October	Theory	• Three gharanas of Kathak (Lucknow, Jaipur, Banaras) • Acquaintance with the traditional costume and make up.
	Practicals	• Revision of full course.
November	Theory	• Short Note: Sangeet, Taal, Laya, Sthana, Chari, Gati, Mandala, Karan, Anghara, Bhramari, Utplavana, Lokdharmi, Natyadharmi, Rasa and Bhaav..
	Practicals	• Revision of full course.
December	Theory	• Knowledge of the technical terminology of the dance form • Vandana, tihayi, Aamad, toda/Tukra, Paran, Chkkardar, Toda, Tukra, Paran, Gatnikas, Gatbhav, Tali, Khali, Sam, Jihaayi. • Knowledge of Theka of Dadra Kahrava, Roopak, Notation of Toda/Tukra/Paran.
	Practicals	• Revision of full course
December	Revision	
January	Revision	

PHYSICAL EDUCATION

Rationales:

The following category students are permitted to opt for the Physical education in class XII

1. *Those granted permission to join the course should be medically fit to follow the physical Education curriculum, theory and practical prescribed by the board.*
2. *Those who have represented the school , inter school sports and games competition in any game*
3. *The student must undergo the prescribed physical education exam and secure a minimum 33 % marks in Theory and practical separately in class XI*
4. *The unit of a class in physical education and health education should not exceed 40 students*
5. *Instructional hours and direction of the period should be strictly as per the norms of the board.*
6. *The students must opt a sports as a specialization which is prescribed by due board.*
7. *Students must be choose there sports specialization as regular sports activities.*

Month	*Concept*	*Sub-concept*
March	*Unit -1 Management of sporting events*	• *Functions of sports events management (planning, organising, staffing, directing and controlling)* • *Various Committees & their Responsibilities (pre; during & post)* • *Fixtures and their Procedures – Knock-Out (Bye & Seeding) & League (Staircase, Cyclic, Tabular method) and Combination tournaments* • *Intramural & Extramural Tournaments - Meaning, Objectives & Its Significance* • *Community sports program (Sports Day, Health Run, Run for Fun, Run for Specific cause & Run for Unity)*
April	*Unit-2 Children & Women in Sports*	• *Exercise guidelines of WHO for different age groups. Common postural deformities-knock knees, flat foot, round shoulders, Lordosis, Kyphosis, Scoliosis, and bow legsand their respective corrective measures.* • *Women's participation in Sports – Physical, Psychological, and social benefits.* • *Special consideration (menarche and menstrual dysfunction)* • *Female athlete triad (osteoporosis, amenorrhea, eating disorders*
	Unit-5 Sports & Nutrition	• *Concept of balanced diet and nutrition* • *Macro and Micro Nutrients: Food sources &functions* • *Nutritive & Non-Nutritive Components of Diet* • *Eating for Weight control A Healthy Weight, The Pitfalls of Dieting, Food intolerance, and Food Myths* • *Importance of Diet in Sports-Pre, During and post competition Requirements*
June	*Unit-7 Physiology &Injuries in Sports*	• *Physiological factors determining component of physical fitness* • *Effect of exercise on the Muscular System* • *Effect of exercise on the Cardio-Respiratory System* • *Physiological changes due to aging* • *Sports injuries: Classification (Soft Tissue Injuries -Abrasion, contusion, Laceration, Incision, Sprain & Strain, Bone & Joint Injuries -Dislocation, FracturesGreen Stick ,Comminuted, Transverse Oblique & Impacted*
July	*Unit-8 Biomechanics & Sports*	• *Newton's Law of Motion & its application in sports* • *Types of Levers and their application in Sports.* • *Equilibrium – Dynamic & Static and Centre of Gravity and its application in sports* • *Friction & Sports* • *Projectile in Sports*

Month	*Concept*	*Sub-concept*
July	*Unit-6 Test &Measurements in Sports*	• *Fitness Test – SAI Khelo India Fitness Test in school:* 1. *Age group 5-8 yearsclass 1-3: BMI, Flamingo Balance Test, PlateTapping Test Age group 9-18yrs/ class4-12: BMI, 50mt Speedtest, 600mt Run/Walk, Sit & Reach flexibility test, Strength Test (PartialAbdominal Curl Up, Push-Ups for boys, Modified Push-Ups for girls).* 2. *Measurement of Cardio- Vascular Fitness -Harvard Step Test Duration of the Exercise In Seconds x100/5.5 X Pulse count of 1-1.5 MinAfter Exercise.* 3. *Computing Basal Metabolic Rate (BMR)* 4. *Rikli & Jones – Senior Citizen Fitness Test* 5. *Johnsen – Methney TestOf Motor Educability (FrontRoll, Roll, JumpingHalf-Turn, Jumping full-Turn*
August	*Unit-10 Training in Sports*	• *Concept of Talent Identification and Talent Development in Sports* • *Introduction to Sports Training Cycle –Micro, Meso, Macro Cycle.* • *Types & Methods to Develop – Strength, Endurance, and Speed.* • *Types & Methods to Develop – Flexibility and Coordinative Ability.* • *Circuit Training – introduction & itsimportance*
September	*Unit-3 Yoga As Preventive Measure for Life style Disease*	• *Obesity: Procedure, Benefits Contraindications for Tadasana, Katichakrasana, Pavanmuktasana, Matsayasana, Halasana, Pachimottansana, Ardha – Matsyendrasana, Dhanurasana, Ushtrasana, Suryabedhan pranayama.* • *Diabetes: Procedure, Benefits & Contraindications for Katichakrasana, Pavanmuktasana, Bhujang asana, Shalabhasana, Dhanurasana, Suptavajarasana, Paschimottanasana, ArdhMastendrasana, Mandukasana, Gomukasana, Yogmudra, Ushtrasana, Kapalabhati.* • *Asthma: Procedure, Benefits & Contraindications for Tadasana,Urdhwahastottansana,UttanMandukasana,Bhujangasana, Dhanurasana, Ushtrasana, Vakrasana, Kapalbhati,GomukhasanaMatsyaasana, AnulomViloma* • *Hypertension: Procedure, Benefits & Contraindications for Tadasana, Katichakransan, Uttanpadasana, Ardha Halasana, Sarala Matyasana, Gomukhasana, UttanMandukasana,Vakrasana, Bhujangasana, Makarasana, Shavasana, Nadishodhanapranayam, Sitlipranayam.* • *Back Pain and Arthritis: Procedure, Benefits & Contraindications of Tadasan, Urdhawahastootansana, Ardh-Chakrasana, Ushtrasana, Vakrasana, Sarala Maysyendrsana, Bhujandgasana, Gomukhasana, Bhadrasana, Makarasana, NadiShodhana pranayama*

Month	*Concept*	*Sub-concept*
October	*Unit-9 Psychology & Sports*	• *Personality; its definition & types (Jung Classification & Big Five Theory)* • *Motivation, its type & techniques.* • *Exercise Adherence: Reasons, Benefits & Strategies for Enhancing it* • *Meaning, Concept & Types of Aggressions inSports* • *Psychological Attributes in Sports – Self-Esteem,Mental Imagery, SelfTalk, Goal Setting*
November	*Unit -4 Physical education & Sports for CWSN*	• *Organizations promoting Disability Sports (Special Olympics; Paralympics; Deaflympics)* • *Concept of Classification and Divisioning in Sports.* • *Concept of Inclusion in sports, its need, and Implementation;* • *Advantages of Physical Activities for children with special needs.* • *Strategies to make Physical Activitiesassessable for children with special needs.*
December	***Revision***	
January	***Revision***	

PSYCHOLOGY

Rationale

Psychology is introduced as an elective subject at the higher secondary stage of school education. As a discipline, psychology specializes in the study of experiences, behaviors and mental processes of human beings within a socio-cultural historical context.This course purports to introduce the learners to the basic ideas, principles, and methods in Psychology.The emphasis is to create interest and exposure needed by learners to develop their own knowledge base and understanding.

The course deals with psychological knowledge and practices which are contextually rooted. It emphasizes the complexity of behavioral processes and discourages simplistic cause-effect thinking. This is pursued by encouraging critical reasoning, allowing students to appreciate the role of cultural factors in behavior and illustrating how biology and experiences shape behavior.

Following the CBSE curriculum, it will be ensured, that the teaching - learning processes should involve students in evolving their own understanding, therefore, teaching of Psychology will be based on the use of case studies, narratives, experiential exercises, analysis of common everyday experiences, etc.

Objectives:

- *To develop appreciation about human mind and behavior in the context of learners' immediate society and environment.*
- *To develop in learners an appreciation of the nature of psychological knowledge and its application to various aspects of life.*
- *To enable learners to become perceptive, socially aware and self-reflective.*
- *To facilitate students' quest for personal growth and effectiveness, and to enable them to become responsive and responsible citizens.*

Month	*Concept*	*Sub-concept*
April	***Variations in Psychological Attributes***	• *Psychometric Theories of Intelligence, Information Processing Theory: Planning, Attention-arousal and Simultaneous successive Model of Intelligence, Triarchic Theory of Intelligence; Theory of Multiple Intelligences.* • *Individual Differences in Intelligence* • *Culture and Intelligence* • *Emotional Intelligence* • *Special Abilities: Aptitude: Nature and Measurement* • *Creativity*

June	***Self and Personality***	• *Introduction*
		• *Self and Personality*
		• *Concept of Self*
		• *Cognitive and Behavioural aspects of Self*
		• *Culture and Self*
		• *Concept of Personality*
		• *Major Approaches to the Study of Personality*
		  ○ *Type Approaches*
		  ○ *Trait Approaches*
		  ○ *Psychodynamic Approach and Post Freudian*
		• *Approaches*
		  ○ *Behavioural Approach*
		  ○ *Cultural Approach*
		  ○ *Humanistic Approach*
		• *Assessment of Personality*
		  ○ *Self-report Measures*
		  ○ *Projective Techniques*
		  ○ *Behavioural Analysis*

June	***Meeting Life Challenges***	• *Introduction*
		• *Nature, Types and Sources of Stress*
		• *Effects of Stress on Psychological Functioning and Health*
		  ○ *Stress and Health*
		  ○ *General Adaptation Syndrome*
		  ○ *Stress and Immune System*
		  ○ *Lifestyle*
		• *Coping with Stress*
		  ○ *Stress Management Techniques*
		• *Promoting Positive Health and Well-being*
		  ○ *Life Skills*
		• *Positive Health*

Month	*Concept*	*Sub-concept*
July	***Psychological Disorders***	• *Introduction* • *Concepts of Abnormality and Psychological Disorders* ○ *Historical Background* • *Classification of Psychological Disorders* • *Factors Underlying Abnormal Behaviour* • *Major Psychological Disorders*
		Unit Test From
July	***Psychological Disorders (Contd..)***	• *Anxiety Disorders* • *Obsessive-Compulsive and Related Disorders* • *Trauma-and Stressor-Related Disorders* • *Somatic Symptom and Related Disorders* • *Dissociative Disorders* • *Depressive Disorder* • *Bipolar and Related Disorders* • *Schizophrenia Spectrum and Other Psychotic Disorders* • *Neurodevelopmental Disorders* • *Disruptive, Impulse-Control and Conduct Disorders* • *Feeding and Eating Disorders* • *Substance Related and Addictive Disorders*

August	***Therapeutic Approaches***	• *Nature and Process of psychotherapy*
		  ○ *Therapeutic relationship*
		• *Types of Therapies*
		  ○ *Behaviour Therapy*
		  ○ *Cognitive Therapy*
		  ○ *Humanistic-Existential Therapy*
		  ○ *Alternative Therapies*
		  ○ *Factors contributing to healing in Psychotherapy*
		  ○ *Ethics in Psychotherapy*
		• *Rehabilitation of the Mentally Ill*

September	***Attitude and Social Cognition***	• *Introduction*
		• *Explaining Social Behaviour*
		• *Nature and Components of Attitudes*
		• *Attitude Formation and Change*
		  ○ *Attitude Formation*
		  ○ *Attitude Change*
		  ○ *Attitude-Behaviour Relationship*
		• *Prejudice and Discrimination*
		• *Strategies for Handling Prejudice*

Month	*Concept*	*Sub-concept*
October	***Social Influence and Group Processes***	• *Introduction* • *Nature and Formation of Groups* • *Type of Groups* • *Influence of Group on Individual Behaviour* ○ *Social Loafing* • *Group Polarisation*
November	***Revision***	
December	***Revision***	
January	***Revision***	

LEGAL STUDIES

Rationale

The Latin maxim ignorantia juris neminemexcusat, in plain, which reads as 'ignorance of law is not an excuse'. This is one of the age-old principles followed under Roman Law and even in our own Common Law. If every person of discretion is to know what law is, an effort to teach law outside the remit of a professional law school may have significant social benefits.

Law is a subject that has been traditionally taught in Universities for almost eight centuries. Learning law outside the settings of a professional law school has a number of perceived benefits. Some familiarity with the law enhances one's understanding of public affairs and an awareness of one's entitlements and duties as a citizen. It may also be helpful in eliminating some of the mistaken notions about law and some of the inveterate prejudices about law, lawyers, and the legal system as such. Another advantage is that an understanding of the law can undoubtedly encourage talented students to pursue a career in law – an objective that is laudable in its own right.

The pitfalls of learning law outside the settings of a professional school are rooted in two key assumptions:
1. law is too vast and complicated to be taught in a non-professional setting;

2. the lack of professional trainers and experienced teachers could lead to incorrect appreciation and understanding of law. If an understanding of law is misinformed or ill-formed as some academicians think, it may require greater efforts to unlearn whatever was learnt earlier. Both these criticisms have attracted detailed scrutiny, but at least a few countries have introduced law at the High School level.

The experience of countries that have introduced law has been by and large optimistic. The Central Board of Secondary Education is introducing Legal Studies at the Class XI level. The proposal is to introduce one module in Class XI and a second module in Class XII.

Objectives

- *To provide a background of the evolution of the Indian legal system in a short and concise form.*
- *To focus on the applicability of justice, equity and good conscience and more importantly the development of Common Law system in India.*
- *To provide exposure on various systems of law such as Common Law, Civil Law etc.*
- *To develop an understanding of the essential features of the Indian Constitution, including the role and importance of Fundamental Rights, Separation of Powers, Structure and operation of Courts, concept of precedent in judicial functioning, the of legislation, basic principles of statutory interpretation, etc.*
- *To deal with principles of practical utility such as the concept of Rule of Law, principles of justice, differences between criminal and civil cases, the concept of crime and the fundamental theories of punishment, rights available to the accused at various stages of the criminal investigative process, or the key components of Human Rights, etc.*
- *To understand the fundamental concepts and subject matter of property, contract and tort law.*
- *To understand the rudimentary aspects of contract law such as formation of contract, terms and conditions of contracts, discharge of contract, etc.*
- *To enable students to form an understanding of rights and duties and various categories of liability principles which form the bedrock for an understanding of Law.*

Month	Concepts	Sub-Concepts
April	Unit – 1 Judiciary	a) Structure, Hierarchy of Courts, and Legal Officers in India b) Constitution, Roles and Impartiality c) Appointments, retirement and removal of Judges d) Tribunals e) Courts and Judicial Review
	Unit – 2 Alternative Dispute Resolution in India (ADR)	a) Adversarial and Inquisitorial Systems b) Meaning and scope of ADR c) Arbitration d) Mediation e) Conciliation f) LokAdalat g) Ombudsman h) Lokpal and Lokayukta
	Project Work	Case study
June	Unit 3 Topics in Law I (Business Laws) Chapter 3A Law of Contract	a) Introduction to Contracts b) Formation of Contract c) Intention to Contract d) Consideration e) Capacity to Contract f) Consent g) Types of Contracts h) Discharge of Contract i) Remedies in case of breach
	Chapter 3 B Law of Torts	a) Concept of law of Torts b) Sources of Law of Torts c) Intentional Tort d) Defamation e) Negligence f) Strict Liability g) Absolute Liability
	Chapter 3 C Law of Property	a) Types of Property b) Who can transfer property c) Essential of a valid transfer d) Types of Transfer- Sale, Lease, Exchange, Gift
	Chapter 3 D Intellectual Property Law	a) Meaning of Intellectual Property b) International Obligations that have shaped Indian IPR c) WIPO d) Copyright e) Patent f) Trademark g) Geographical Indication h) Design
	Project Work	Case study
July	Unit 4 Topics in Law II (General Laws) Chapter 4 A Law and Sustainable Development	a) Introduction b) Initiatives under International Scenario c) Provisions under Indian Constitution d) Environment Protection Act, 1986 e) Pollution Control Boards
	Project Work	Case study

Month	Concepts	Sub-Concepts
July	**Topics in Law II (General Laws) (Contd…)** Chapter 4 B Forms of Legal Entities	Types of Legal Entities in India a) Sole Proprietorship b) Partnership c) Limited Liability Partnership d) Private Limited company e) Public Limited Company f) One Person Company
	Chapter 4 C Criminal Laws in India	a) Objectives of Criminal law b) Legislations for Criminal laws in India c) Distinction between Intention and Motive d) Stages of crime e) The Indian Evidence Act f) Admission and Confession
	Project Work	Case Study
August	Unit 5 **Concept of Human Rights** Chapter 5 A Human Rights in India	a) Introduction 1. Historical Context b) Indian Constitutional framework on Human Rights and related Laws in India 1. The Preamble 2. Fundamental Rights-Part III of the Constitution 3. Directive Principles-Part IV- Articles 36-51 4. Fundamental Duties- Part IV(A)- Article 51 A
	Chapter 5 B Human Rights Violations- Complaint Mechanism (Quasi-Judicial bodies)	a) What are Quasi- Judicial Bodies? b) Various Human Rights Commissions 1. National Human Rights Commission (NHRC) 2. National Commission for Minorities 3. National Commission for Women (NCW) a) National Commission for Scheduled Castes and Scheduled Tribes b) National Commission for Protection of Child's Rights (NCPCR)
	Project Work	Case Study
September	Unit 6 International Law	a) Introduction b) Historical Evolution of International Law c) What is International Law? d) Sources of International Law e) International Human Rights f) International Law & Municipal Law g) International Law & India h) Dispute Resolution
October	Unit 7 Legal Profession in India	a) The Advocate Act,1961 b) Lawyers and Professional Ethics c) Advertising by Lawyers d) Liberalization and Globalization of legal profession e) Women and Legal Profession f) Legal Education in India, USA and UK g) Opportunities for Law Graduates
	Project Work	Case sTudy

Month	Concepts	Sub-Concepts
November	Unit 8 Legal Services	a) Brief history of Legal services b) Free Legal Aid under Criminal law c) Legal aid by the State d) Legal Aid under the Indian Constitution e) National Legal Services Authority(NALSA) f) Legal Services Authority Act,1987 g) Legal Aid in context of social justice and Human Rights
	Project Work	Case Study
December	Revision and Project Work	
January	Revision	

TAXATION

SALIENT FEATURES:

- *Focus on conceptual knowledge on current tax laws*
- *Learning through practical exposure*
- *Building confidence to start work life by gaining required knowledge in Taxation domain*
- *Providing scope to pursue Taxation as specialization in higher studies after senior secondary Tapping ample placement opportunities in Government and private sector*

OBJECTIVES OF THE COURSE:

Following are the main objectives of this course:

- *To acquaint the learners with basic principles underlying the provisions of tax laws*
- *To develop a broad understanding of the tax laws and accepted tax practices*
- *To introduce practical aspects of income tax filing of return*
- *To introduce aspects of tax planning as an important managerial decision making process*
- *To expose learners to real life situations involving taxation and equip them for taking tax- sensitive decisions*

Month	Concept	Sub-Concept
April	**Unit–4** Goods and service Tax **Employability Skills: Unit – IV** Green Skills **Unit – V** **Entrepreneurship Skills** **Unit–3** Tax deducted at source	• Meaning – Direct Tax and Indirect Tax • Introduction to GST • Green Jobs • Importance of Green Jobs • Entrepreneurship and Entrepreneur • Barriers to Entrepreneurship • Entrepreneurial Attitudes • Entrepreneurial Competencies • Meaning, computation of Tax deducted at source .
June	**Employability Skills: Unit – III** Information and Communication Skills **Unit–3** Advance payment of tax	• Performing Basic Operations in a Spreadsheet • Working with Data and Formatting Text • Advanced Features in Spreadsheet • Presentation Software • Meaning, computation of Advance Tax
July	**Unit–1** Deductions from Gross Total Income	• Basic rules governing deductions • Deductions in respect of certain Incomes
August	**Employability Skills: Unit – II** Self Management Skills	• Result Orientation • Self-awareness.
	Unit–1 (Contd…) Deductions from Gross Total Income	• Basic rules governing deductions • Deductions in respect of certain Incomes
September	**Unit–2** Set off and carry forward of losses Computation of Tax liability of an Individual	• Rules of set off and carry forward of losses. • Active Listening • Calculation of tax liability. • Motivation and Positive Attitude
October	**Unit–2** Computation of Tax liability of an Individual	• Calculation of tax liability. • Motivation and Positive Attitude
	Employability Skills: Unit – I Communication Skills	• Parts of Speech • Writing Sentences
November	**Project Work** **Revision**	• Guidelines and Discussion.

HINDUSTANI PERCUSSION MUSIC

Month	*Content*
April	***Definition of Uthaan** and **Comparative Study of the following Taals:*** • *Chautaal, Ektaal* • *Jhaptal, Sultaal Focus on structure of Taal – Matra, Vibhag, and Theka.*
June	***Layakari and its varieties:*** • *Dugun* • *Tigun* • *Chaugun* • *Aad Layakari Short introduction of **Tabla / Pakhawaj Gharanas:** Delhi, Ajrada, Lucknow, Punjab.*
July	***History of Tabla:*** *Origin and development of Tabla in Hindustani Music and relation with Pakhawaj.*
August	***Biographies:*** • *Pt. Kishan Maharaj* • *Ustad Zakir Hussain*
September	***Biographies (continued):*** • *Raja Chhatrapati Singh* • *Guru Purushottam Das Study of their contribution, style, awards and achievements.*
October	***Writing notation of prescribed Taals and compositions:*** • *Teentaal / Adi Taal* • *Rupak Taal / Tivra Taal*
November	***Revision of completed syllabus***
December	***First term complete revision and practice***
January	***Full syllabus revision and practice of important theoretical topics***
February	***Final revision and examination preparation***

HINDUSTANI VOCAL MUSIC

Month	*Theory*	*Practical*
April	*Introduction of syllabus. Study of Alankar, Kan, Meend, Khatka, Murki, Gamak .*	*Voice culture exercises, Alankar practice. Introduction of Raga Bhairav – aroh, avroh, pakad.*
June	*Study of Gram, Murchhana, Alap, Tana (completion).*	*Vilambit Khayal in Bhairav with simple alap and taans. Introduction of Drut Khayal in Bhairav.*
July	*Historical development of Time Theory of Ragas .*	*Introduction of Raga Bageshri – swara structure and Vilambit Khayal practice.*
August	*Study of Sangeet Ratnakar – Sangeet Parijat .*	*Continue Bageshri Vilambit & Drut Khayal with alap and taan practice.*
September	*Life sketch and contribution of Faiyaz Khan, Bade Ghulam Ali Khan, Krishna Krishna Rao, Shankar Pandit.*	*Introduction of Raga Malkauns – aroh-avroh and Vilambit Khayal.*
October	*Study of Tala notation and description of Jhaptal, Rupak Tala, Dhamar Tala with Thah, Dugun, Tigun and Chaugun.*	*Drut Khayal in Malkauns, introduction of Tarana.*
November	*Tuning of Tanpura and revision of Talas (Unit 4 completion).*	*Dhamar composition practice and recitation of thekas of Jhaptal, Rupak and Dhamar with handbeats.*
December	*Critical study of Ragas – Bhairav, Bageshri, Malkauns. Notation writing of compositions and full syllabus revision*	*Raga identification practice, Tanpura tuning practice, full performance rehearsal and mock practical exam.*
January	*Revision*	
February	*Revision*	