

CLASS-12 SYLLABUS (2024-25)

SUBJECT: ENGLISH CORE (301)

MONTH	WORKING DAYS	TOPICS	ACTIVITY
APRIL	20	Flamingo: 1. The Last Lesson (Prose) 2. My Mother at Sixty-Six (Poem) 3. The Lost Spring (Prose) Vistas: 1. The Third Level (Prose) Creative Writing Skills: 1. Article 2. Notice	PROJECT Collect 10 to 15 French words commonly used in English language and write their meanings. Use dictionary. OR Take an interview of a child labourer in your area. Make a list of 10 questions that you would like to ask him. Type your interview with all his replies. Paste your activity in your note book.
MAY	18	Flamingo: 1. Deep Water (Prose) 2. Keeping Quiet (Poem) Vistas: 1. The Tiger King (Prose) Creative Writing Skill: 1. Letter to the Editor	SPEAKING ACTIVITY Watch the short film “Face your Fears”; link- https://youtube/Dq7ddqmwMWE . Talk about your fear in 50-100 words.
JUNE	09	Vistas : 1. Journey to the End of the Earth (Prose) Creative Writing Skill : 1. Report	GROUP ACTIVITY Initiate a discussion on how to protect our environment.

JULY	24	Revision & First Terminal Examination (45% Syllabus) Flamingo: 1. The Rattrap (Prose) 2. A Thing of Beauty (Poem)	
AUG	20	Flamingo: 1. Poets and Pancakes (Prose) 2. The Interview (1 & 2) (Prose) 3. Aunt Jennifer's Tigers (Poem) Creative Writing Skill: 1. Invitation & Replies	GROUP ACTIVITY Initiate a discussion on why women should be empowered.
SEP	19	Vistas: 1. The Enemy (Prose) Flamingo: 1. Indigo (Prose) 2. Going Places (Prose) Creative Writing Skill: 1. Job Application	Write a short poem of 14 lines based on the theme of patriotism.
OCT	20	Revision & Second Terminal Examination (45% + 40% Syllabus) Flamingo: 1. A Roadside Stand (Poem) Vistas: 1. On the Face of It (Prose)	
NOV	15	Vistas : 1. Memories of Childhood (Prose) Writing & Reading Comprehension Practice	

DEC	19	Revision & Pre-Board Examination- I (45% + 40% + 15% Syllabus) Sample Paper Practice	
JAN	20	Revision & Pre-Board Examination- II (45% + 40% + 15% Syllabus)	
FEB	21	Board Examination	

SUBJECT: HINDI CORE (302)

माह	कार्य दिवस	विषय	क्रिया कलाप
अप्रैल	20	आत्मपरिचय, एकगीत, भक्तितन, बाजारदर्शन विभिन्न माध्यमों के लिए लेखन, विशेष लेखन नए विषयों पर रचनात्मक लेख	आधुनिक काल के किन्हीं पाँच कवि/कवयित्री अथवा लेखक / लेखिका के जीवन एवं साहित्यिक परिचय देते हुए परियोजना कार्य बनायें
मई	18	पतंग, कविता के बहाने, बात सीधी थी पर, कैमरे में बंद अपाहिज काले मेघा पानी दे समाचार लेखन, कविता, कहानी एवं नाटक लेखन	
जून	09	सिल्वर वैडिंग फीचर लेखन, आलेख लेखन तथा समीक्षा अपठित गद्यांश, अपठित पद्यांश	
जुलाई	24	पुनरावृत्ति एवं प्रथम सावधिक परीक्षा (45% पाठ्यक्रम)	
अगस्त	20	पहलवान की ढोलक, उषा, बादल राग, शिरीष के फूल, लक्ष्मण मूर्छा और राम का विलाप, कवितावली विभिन्न माध्यमों के लिए लेखन, विशेष लेखन नए विषयों पर रचनात्मक लेख	'भारतीय ग्रामीण का जीवन' के ऊपर एक परियोजना कार्य तैयार करें
सितम्बर	19	रुबाईयाँ, छोटा मेरा खेत, जूझ समाचार लेखन, कविता, कहानी एवं नाटक लेखन	
अक्टूबर	20	पुनरावृत्ति एवं द्वितीय सावधिक परीक्षा (45% + 40% पाठ्यक्रम)	

नवम्बर	15	बगुलों के पंख, श्रम विभाजन और जाति प्रथा, मेरी कल्पना का आदर्श समाज, अतीत में दबे पाँव अपठित गद्यांश, अपठित पद्यांश	
दिसम्बर	19	पुनरावृत्ति एवं प्री-बोर्ड परीक्षा - I (45% + 40% + 15% पाठ्यक्रम)	
जनवरी	20	पुनरावृत्ति एवं प्री-बोर्ड परीक्षा- II (45% + 40% + 15% पाठ्यक्रम)	
फरवरी	21	बोर्ड परीक्षा	

SUBJECT: APPLIED MATHEMATICS (241)

MONTH	WORKING DAYS	TOPICS
APRIL	20	<p>Numbers, Quantification And It's Applications</p> <ul style="list-style-type: none">● Define modulus of an integer● Apply arithmetic operations using modular arithmetic rules● Define congruence modulo● Apply the definition in various problems● Understand the rule of alligation to produce a mixture at a given price● Determine the mean price of a mixture● Apply rule of allegation● Distinguish between upstream and downstream● Express the problem in the form of an equation● Determine the time taken by two or more pipes to fill or empty the tank● Compare the performance of two players w.r.t. time, Distance● Describe the basic concepts of numerical inequalities● Understand and write numerical inequalities <p>Algebra (Matrices And Determinants)</p> <ul style="list-style-type: none">● Define matrix● Identify different kinds of matrices● Find the size / order of matrices● Determine equality of two matrices● Write transpose of given matrix● Define symmetric and skew symmetric matrix● Perform operations like addition & subtraction on matrices of same order● Perform multiplication of two matrices of appropriate order● Perform multiplication of a scalar with matrix● Find determinant of a square matrix● Use elementary properties of determinants

		<ul style="list-style-type: none"> ● Define the inverse of a square matrix ● Apply properties of inverse of matrices ● Solve the system of simultaneous equations using i) Cramer's Rule ii) Inverse of coefficient matrix ● Formulate real life problems into a system of simultaneous linear equations and solve it using these methods
MAY	18	<p>Calculus (Differentials And It's Applications)</p> <ul style="list-style-type: none"> ● Determine second and higher order derivatives ● Understand differentiation of parametric functions and implicit functions ● Determine rate of change of various quantities ● Understand the gradient of tangent and normal to a curve at a given point ● Write the equation of tangents and normals to a curve at a given point ● Define marginal cost and marginal revenue ● Find marginal cost and marginal revenue ● Determine whether a function is increasing or decreasing ● Determine the conditions for a function to be increasing or decreasing ● Determine critical points of the function ● Find the point(s) of local maxima and local minima and corresponding local maximum and local minimum values ● Find the absolute maximum and absolute minimum value of a function ● Solve applied problems
JUNE	09	<p>PROBABILITY DISTRIBUTIONS</p> <ul style="list-style-type: none"> ● Understand the concept of Random Variables and its Probability Distributions ● Find probability distribution of discrete random variable ● Apply arithmetic mean of frequency distribution to find the expected value of a random variable ● Calculate the Variance and S.D. of a random variable ● Identify the Bernoulli Trials and apply Binomial

		<p>Distribution</p> <ul style="list-style-type: none"> ● Evaluate Mean, Variance and S.D of a binomial distribution ● Understand the Conditions of Poisson Distribution ● Evaluate the Mean and Variance of Poisson distribution ● Understand normal distribution is a Continuous distribution ● Evaluate value of Standard normal variate ● Area relationship between Mean and Standard deviations
JULY	24	Revision & First Terminal Examination (45% Syllabus)
AUG	20	<p>Calculus (Integration And Its Application)</p> <ul style="list-style-type: none"> ● Understand and determine indefinite integrals of simple functions as anti-derivative. Evaluate indefinite integrals of simple algebraic functions by method of: (i) substitution (ii) partial fraction (iii) by parts ● Define definite integral as area under the curve ● Understand fundamental theorem of Integral calculus and apply it to evaluate the definite integral ● Apply properties of definite integrals to solve the problems ● Identify the region representing C.S. and P.S. graphically ● Apply the definite integral to find consumer surplus-producer surplus ● Recognise a Differential equation ● Find the order and degree of a Differential equation ● Formulate Differential equations ● Verify the solution of Differential equations ● Solve simple Differential equations ● Define Growth and Decay Model ● Apply the Differential equations to solve Growth and Decay models
SEP	19	<p>Inferential Statistics</p> <ul style="list-style-type: none"> ● Define Population and Sample ● Differentiate between population and sample

		<ul style="list-style-type: none"> ● Define a representative sample from a population ● Differentiate between a representative and non-representative sample ● Draw a representative sample using simple random sampling ● Draw a representative sample using and systematic random sampling ● Define Parameter with reference to Population ● Define Statistics with reference to Sample ● Explain the relation between Parameter and Statistic ● Explain the limitation of Statistic to generalize the estimation for population ● Interpret the concept of Statistical Significance and Statistical inferences ● State Central Limit Theorem ● Explain the relation between Population-Sampling Distribution-Sample ● Define a hypothesis ● Differentiate between Null and Alternate hypothesis ● Define and calculate degree of freedom ● Test Null hypothesis and make inferences using t-test statistic for one group / two independent groups <p>Time Based Data</p> <ul style="list-style-type: none"> ● Identify time series as chronological data ● Distinguish between different components of time series ● Solve practical problems based on statistical data and Interpret the result ● Understand the long term tendency ● Demonstrate the techniques of finding trend by different methods
OCT	20	Revision & Second Terminal Examination (45% + 40% Syllabus)
NOV	15	Financial Mathematics <ul style="list-style-type: none"> ● Explain the concept of

		<p>perpetuity and sinking fund</p> <ul style="list-style-type: none"> ● Calculate perpetuity ● Differentiate between sinking fund and saving account ● Explain the concept of EMI ● Calculate EMI using various methods ● Explain the concept of rate of return and nominal rate of return ● Calculate rate of return and nominal rate of return ● Understand the concept of Compound Annual Growth Rate ● Differentiate between Compound Annual Growth Rate and Annual Growth Rate ● Calculate Compound Annual Growth Rate ● Define the concept of linear method of Depreciation ● Interpret cost, residual value and useful life of an asset from the given information ● Calculate depreciation <p>Linear Programming</p> <ul style="list-style-type: none"> ● Familiarise with terms related to Linear Programming Problem ● Formulate Linear Programming Problems ● Identify and formulate different types of LPP ● Draw the Graph for a system of linear inequalities involving two variables and to find its solution graphically ● Identify feasible, infeasible, bounded and unbounded regions ● Understand feasible and infeasible solutions ● Find optimal feasible solution
DEC	19	Revision & Pre-Board Examination- I (45% + 40% + 15% Syllabus)
JAN	20	Revision & Pre-Board Examination- II (45% + 40% + 15% Syllabus)
FEB	21	Board Examination

SUBJECT: MATHEMATICS (041)

MONTH	WORKING DAYS	TOPICS
APRIL	20	<p>Matrices Concept, notation, order, equality, types of matrices, zero and identity matrix, transpose of a matrix, symmetric and skew symmetric matrices. Operations on matrices: Addition and multiplication and multiplication with a scalar. Simple properties of addition, multiplication and scalar multiplication. Noncommutativity of multiplication of matrices and existence of non-zero matrices whose product is the zero matrix (restrict to square matrices of order 2). Invertible matrices and proof of the uniqueness of inverse, if it exists; (Here all matrices will have real entries).</p> <p>Determinants Determinant of a square matrix (up to 3 x 3 matrices), minors, co-factors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Consistency, inconsistency and number of solutions of system of linear equations by examples, solving system of linear equations in two or three variables (having unique solution) using inverse of a matrix.</p>
MAY	18	<p>Relations and Functions Types of relations: reflexive, symmetric, transitive and equivalence relations. One to one and onto functions.</p> <p>Inverse Trigonometric Functions Definition, range, domain, principal value branch. Graphs of inverse trigonometric functions.</p> <p>Continuity and Differentiability Continuity and differentiability, chain rule, derivative of inverse trigonometric functions, <i>like</i> $\sin^{-1}x$, $\cos^{-1}x$ and $\tan^{-1}x$, derivative of implicit functions. Concept of exponential and logarithmic functions.</p>

JUNE	09	<p>Derivatives of logarithmic and exponential functions. Logarithmic differentiation, derivative of functions expressed in parametric forms. Second order derivatives.</p> <p>Applications of Derivatives Applications of derivatives: rate of change of quantities, increasing / decreasing functions, maxima and minima (first derivative test motivated geometrically and second derivative test given as a provable tool). Simple problems (that illustrate basic principles and understanding of the subject as well as real life situations).</p>
JULY	24	<p>Revision & First Terminal Examination (45% Syllabus)</p>
AUG	20	<p>Integrals Integration as inverse process of differentiation. Integration of a variety of functions by substitution, by partial fractions and by parts, Evaluation of simple integrals of the following types and problems based on them.</p> $\int \frac{dx}{x^2 \pm a^2}, \int \frac{dx}{\sqrt{x^2 \pm a^2}}, \int \frac{dx}{\sqrt{a^2 - x^2}}, \int \frac{dx}{ax^2 + bx + c}, \int \frac{dx}{\sqrt{ax^2 + bx + c}},$ $\int \frac{px+q}{ax^2+bx+c} dx, \int \frac{px+q}{\sqrt{ax^2+bx+c}} dx, \int \sqrt{a^2 \pm x^2} dx,$ $\int \sqrt{x^2 - a^2} dx, \int \sqrt{ax^2 + bx + c} dx$ <p>Fundamental Theorem of Calculus (without proof). Basic properties of definite integrals and evaluation of definite integrals.</p> <p>Applications of the Integrals Applications in finding the area under simple curves, especially lines, circles/ parabolas/ellipses (in standard form only)</p>
SEP	19	<p>5. Differential Equations Definition, order and degree, general and particular solutions of a differential equation. Solution of differential equations by method of separation of variables, solutions of homogeneous differential equations of first order and first degree. Solutions of linear differential equation of the type: $dy/dx + py = q$, where p and q are functions of x or constants.</p>

		$dx/dy + px = q$, where p and q are functions of y or constants. Unit- IV: Vectors and Three-dimensional Geometry Vectors Vectors and scalars, magnitude and direction of a vector. Direction cosines and direction ratios of a vector. Types of vectors (equal, unit, zero, parallel and collinear vectors), position vector of a point, negative of a vector, components of a vector, addition of vectors, multiplication of a vector by a scalar, position vector of a point dividing a line segment in a given ratio. Definition, Geometrical Interpretation, properties and application of scalar (dot) product of vectors, vector (cross) product of vectors. Three- dimensional Geometry 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.
OCT	20	Revision & Second Terminal Examination (45% + 40% Syllabus)
NOV	15	Unit- V: Linear Programming 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), feasible and infeasible solutions, optimal feasible solutions (up to three non-trivial constraints). Probability Conditional probability, multiplication theorem on probability, independent events, total probability, Bayes' theorem, Random variable and its probability distribution, mean of random variable.
DEC	19	Revision & Pre-Board Examination-I (45% + 40% + 15% Syllabus)
JAN	20	Revision & Pre-Board Examination-II (45% + 40% + 15% Syllabus)
FEB	21	Board Examination

SUBJECT: ACCOUNTANCY (055)

Part A: Accounting for Partnership Firms and Companies

Part B: Financial Statement Analysis

MONTH	WORKING DAYS	TOPICS	PROJECT / ASSESSMENT
APRIL	20	Unit- 1: Accounting for Partnership Firms Partnership: features, Partnership Deed. <ul style="list-style-type: none">• 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.	SOLVE QUESTION
MAY	18	Past adjustments (relating to interest on capital, interest on drawing, salary and profit sharing ratio). Goodwill: meaning, factors affecting, need for valuation, methods for calculation (average profits, super profits and capitalization), adjusted through partners capital/ current account. Accounting for Partnership firms - Reconstitution and Dissolution. <ul style="list-style-type: none">• 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, accumulated profits and losses. Preparation of revaluation account and balance sheet.	SOLVE QUESTION
JUNE	09	Admission of a partner- Effect of admission of a partner on change in the profit sharing ratio, treatment of goodwill (as per AS 26),	SOLVE QUESTION

		Treatment for revaluation of assets and re-assessment of liabilities, Treatment of Reserves, Accumulated profits and losses	
JULY	24	Adjustment of capital accounts and preparation of capital, current account and balance sheet. Revision & First Terminal Examination (45% Syllabus)	SOLVE QUESTION
AUG	20	Retirement and death of a partner: Effect of retirement / death of a partner on change in profit sharing ratio, treatment of goodwill (as per AS 26), treatment for revaluation of assets and reassessment of liabilities, adjustment of accumulated profits, losses and reserves, adjustment of capital accounts and preparation of capital, current account and balance sheet. Preparation of loan account of the retiring partner. <ul style="list-style-type: none"> • Calculation of deceased partner's share of profit till the date of death. Preparation of deceased partner's capital account and his executor's account. 	SOLVE QUESTION
SEP	19	Dissolution of a partnership firm: 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)). Unit- 3: Accounting for Companies Accounting for Share Capital <ul style="list-style-type: none"> • Features and types of companies. • Share and share capital: nature and types 	SOLVE QUESTION & SAMPLE PAPER

		<p>Accounting for share capital: issue and allotment of equity and preferences shares. Public subscription of shares - over subscription and under subscription of shares; issue at par and at premium, calls in advance and arrears (excluding interest), issue of shares for consideration other than cash.</p> <ul style="list-style-type: none"> • Concept of Private Placement and Employee Stock Option Plan (ESOP), Sweat Equity. • Accounting treatment of forfeiture and re-issue of shares. • Disclosure of share capital in the Balance Sheet of a company. 	
OCT	20	<p>Accounting for Debentures</p> <ul style="list-style-type: none"> • 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 (concept of TDS is excluded). Writing off discount / loss on issue of debentures. <p>Unit- 4: Analysis of Financial Statements Financial statements of a Company: Meaning, Nature, Uses and importance of financial Statement. Statement of Profit and Loss and Balance Sheet in prescribed form with major headings and sub headings (as per Schedule III to the Companies Act, 2013)</p> <p>Revision & Second Terminal Examination (45% + 40% Syllabus)</p>	<p>SOLVE QUESTION & SAMPLE PAPER</p> <p>PROJECT WORK</p>

NOV	15	<p>Financial Statement Analysis: Meaning, Significance Objectives, importance and limitations.</p> <ul style="list-style-type: none"> • Tools for Financial Statement Analysis: Comparative statements, common size statements, Ratio analysis, Cash flow 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. <p>Unit- 5: Cash Flow Statement Meaning, objectives Benefits, Cash and Cash Equivalents, Classification of Activities and preparation (as per AS 3) (Revised) (Indirect Method only).</p>	<p>SOLVE QUESTION & SAMPLE PAPER</p>
DEC	19	<p>Revision & Pre-Board Examination-I (45% +40% + 15% Syllabus)</p>	
JAN	20	<p>Revision & Pre-Board Examination-II (45% +40% + 15% Syllabus)</p>	<p>SAMPLE PAPER</p>
FEB	21	<p>Board Examination</p>	

SUBJECT: PHYSICS (042)

MONTH	WORKING DAYS	TOPICS	PRACTICAL
APRIL	20	<p>Unit- I: Electrostatics</p> <p>Chapter- 1: Electric Charges and Fields</p> <p>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 and its applications to find field due to infinitely long straight wire, uniformly charged infinite plane sheet and uniformly charged thin spherical shell (field inside and outside)</p> <p>Chapter- 2: Electrostatic Potential and Capacitance</p> <p>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.</p>	<p style="text-align: center;">SECTION- A</p> <p>1. To determine resistivity of two / three wires by plotting a graph for potential difference versus current.</p>

		<p>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).</p>	
MAY	18	<p>Unit- II: Current Electricity 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, 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.</p> <p>Unit- III: Magnetic Effects of Current and Magnetism Chapter- 4: Moving Charges and Magnetism Concept of magnetic field, Oersted's experiment. Biot-Savart</p>	<p>2. To find resistance of a given wire / standard resistor using metrebridge.</p>

		<p>law and its application to current carrying circular loop.</p> <p>Ampere's law and its applications to infinitely long straight wire.</p> <p>Straight solenoid (only qualitative treatment), force on a moving charge in uniform magnetic and electric fields.</p>	
JUNE	09	<p>Chapter- 4: Moving Charges and Magnetism</p> <p>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.</p> <p>Chapter- 5: Magnetism and Matter</p> <p>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</p>	<p>3. To verify the laws of combination (series) of resistances using a metrebridge.</p> <p style="text-align: center;">OR</p> <p>To verify the laws of combination (parallel) of resistances using a metre bridge.</p> <p>4. To determine resistance of a galvanometer by half-deflection method and to find its figure of merit.</p>

		<p>properties of materials-Para-, dia- and ferro- magnetic substances with examples, Magnetization of materials, effect of temperature on magnetic properties.</p> <p>Unit- IV: Electromagnetic Induction and Alternating Currents</p> <p>Chapter- 6: Electromagnetic Induction</p> <p>Electromagnetic induction; Faraday's laws, induced EMF and current; Lenz's Law, Self and mutual induction.</p>	
JULY	24	Revision & First Terminal Examination (45% Syllabus)	
AUG	20	<p>Chapter- 7: Alternating Current</p> <p>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, wattles current. AC generator, Transformer.</p> <p>Unit- V: Electromagnetic waves</p> <p>Chapter- 8: Electromagnetic Waves</p> <p>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</p>	<p>SECTION-B</p> <ol style="list-style-type: none"> To find the focal length of a convex lens by plotting graphs between u and v or between $1/u$ and $1/v$. To determine angle of minimum deviation for a given prism by plotting a graph between angle of incidence and angle of deviation.

		<p>rays) including elementary facts about their uses.</p> <p>Unit- VI: Optics</p> <p>Chapter- 9: Ray Optics and Optical Instruments</p> <p>Ray Optics:</p> <p>Reflection of light, spherical mirrors, mirror formula, refraction of light, total internal reflection and optical fibres, refraction at spherical surfaces, lenses, thin lens formula, lens maker's formula, magnification, power of a lens, combination of thin lenses in contact, refraction of light through a prism. Optical instruments: Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.</p>	
SEP	19	<p>Chapter- 10: Wave Optics</p> <p>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.</p> <p>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).</p>	<p>3. To determine refractive index of a glass slab using a travelling microscope.</p>

		<p>Unit- VII: Dual Nature of Radiation and Matter 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 wave-wave nature of particles, de-Broglie relation.</p> <p>Unit- VIII: 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).</p>	
OCT	20	<p>Revision & Second Terminal Examination (45% + 40% Syllabus)</p>	
NOV	15	<p>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.</p> <p>Unit- IX: Electronic Devices (10 Periods) Chapter- 14: Semiconductor Electronics: Materials, Devices</p>	4. To draw the I-V characteristics curve for a p-n diode in forward and reverse bias.

		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 as a rectifier.	
DEC	19	Revision & Pre-Board Examination-I (45% +40% + 15% Syllabus)	
JAN	20	Revision & Pre-Board Examination-II (45% +40% + 15% Syllabus)	
FEB	21	Board Examination	

Record of at least 6 Activities (with 3 each section), to be performed by the students.

ACTIVITIES

SECTION-A

1. To measure the resistance and impedance of an inductor with or without iron core.
2. To measure resistance, voltage (AC/DC), current (AC) and check continuity of a given circuit using multimeter.
3. To assemble a household circuit comprising three bulbs, three (on/off) switches, a fuse and a power source.
4. To assemble the components of a given electrical circuit.
5. To study the variation in potential drop with length of a wire for a steady current.
6. To draw the diagram of a given open circuit comprising at least a battery, resistor / rheost at, key, ammeter and voltmeter. Mark the components that are not connected in proper order and correct the circuit and also the circuit diagram.

SECTION-B

1. To identify a diode, an LED, a resistor and a capacitor from a mixed collection of such items.
2. Use of multimeter to see the unidirectional flow of current in case of a diode and an LED and check whether a given electronic component (e.g., diode) is in working order.

3. To study effect of intensity of light (by varying distance of the source) on an LDR.
4. To observe refraction and lateral deviation of a beam of light incident obliquely on a glass slab.
5. To observe diffraction of light due to a thin slit.
6. To study the nature and size of the image formed by a (i) convex lens or (ii) concave mirror, on a screen by using a candle and a screen (for different distances of the candle from the lens / mirror).
7. To obtain a lens combination with the specified focal length by using two lenses from the given set of lenses.

Suggested Investigatory Projects

1. To study various factors on which the internal resistance/EMF of a cell depends.
2. To study the variations in current flowing in a circuit containing an LDR because of a variation in
 - (a) The power of the incandescent lamp, used to 'illuminate' the LDR (keeping all the lamps at a fixed distance).
 - (b) The distance of an incandescent lamp (of fixed power) used to 'illuminate' the LDR.
3. To find the refractive indices of (a) water (b) oil (transparent) using a plane mirror, an equiconvex lens (made from a glass of known refractive index) and an adjustable object needle.
4. To investigate the relation between the ratio of (i) output and input voltage and (ii) number of turns in the secondary coil and primary coil of a self-designed transformer.
5. To investigate the dependence of the angle of deviation on the angle of incidence using a hollow prism filled one by one, with different transparent fluids.
6. To estimate the charge induced on each one of the two identical Styrofoam (or pith) balls suspended in a vertical plane by making use of Coulomb's law.
7. To study the factor on which the self-inductance of a coil depends by observing the effect of this coil, when put in series with a resistor/(bulb) in a circuit fed up by an A.C. source of adjustable frequency.
8. To study the earth's magnetic field using a compass needle-bar magnet by plotting magnetic field lines and tangent galvanometer.

SUBJECT: CHEMISTRY (043)

MONTH	WORKING DAYS	TOPICS	PRACTICALS
APRIL	20	UNIT- 2: Solutions Types of solutions, expression of concentration of solids in liquids, solubility of gases in liquids, solid solutions, Raoult's law, colligative properties- RLVP, elevation of boiling point, depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties, abnormal molecular mass, Van't Hoff factor. UNIT- 10: Haloalkanes and Haloarenes Haloalkanes: nomenclature, nature of C-X bond, physical and chemical properties, optical rotation, mechanism of substitution reactions.	Experiment-1 Experiment-2 Experiment-3
MAY	18	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. UNIT- 11: Alcohols, Phenol 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. Phenol: nomenclature, methods of preparation, physical and chemical properties, electrophilic substitution reaction, uses of phenol.	Experiment-4 Experiment-5 Experiment-6

		Ethers: nomenclature, methods of preparation, physical and chemical properties, uses.	
JUNE	09	<p>UNIT- 8: 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 $KMnO_4$.</p> <p>Lanthanoids - Electronic configuration, oxidation states, chemical reactivity and lanthanoid contraction and its consequences.</p> <p>Actinoids- Electronic configuration, oxidation states and comparison with lanthanoids.</p>	Experiment-7
JULY	24	Revision & First Terminal Examination (45% Syllabus)	
AUG	20	<p>UNIT- 9: Coordination Compounds 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, importance of coordination compounds (in qualitative analysis, extraction of metals and biological system).</p> <p>UNIT- 3: Electrochemistry Redox reactions, EMF of a cell, standard electrode potential, Nernst equation and its application to chemical cells, Relation</p>	Experiment-8 Experiment-9 Experiment-10

		<p>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.</p>	
SEP	19	<p>UNIT- 4: 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.</p> <p>UNIT- 12: Aldehydes, Ketones and 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.</p>	<p>Experiment-11 Experiment-12 Experiment-13</p>
OCT	20	<p>Revision & Second Terminal Examination (45% + 40% Syllabus)</p>	

NOV	15	<p>UNIT- 13: 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.</p> <p>UNIT- 14: Biomolecules 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.</p>	Experiment-14
DEC	19	Revision & Pre-Board Examination-I (45% + 40% + 15% Syllabus)	
JAN	20	Revision & Pre-Board Examination-II (45% + 40% + 15% Syllabus)	
FEB	21	Board Examination	

SUBJECT: BIOLOGY (044)

MONTH	WORKING DAYS	TOPICS	ACTIVITY
APRIL	20	<p>Unit-VI: Reproduction</p> <p>Flower structure; development of male and female gametophytes; pollination - types, agencies and examples; outbreeding 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.</p> <p>Male and female reproductive systems; microscopic anatomy of testis and ovary; gametogenesis - spermatogenesis and oogenesis; menstrual cycle; fertilization, embryo development upto blastocyst formation, implantation; pregnancy and placenta formation (elementary idea); parturition (elementary idea); lactation (elementary idea).</p>	<ol style="list-style-type: none">1. Prepare a temporary mount to observe pollen germination.2. Study the plant population density by quadrat method.

MAY	18	<p>Need for reproductive health and prevention of Sexually Transmitted Diseases (STDs); birth control - need and methods; medical termination of pregnancy (MTP); amniocentesis; infertility and assisted reproductive technologies - IVF, ZIFT, GIFT, AI (brief overview).</p>	<p>3. Study the plant population frequency by quadrat method.</p> <p>4. Prepare a temporary mount of onion root tip to study mitosis.</p>
JUNE	09	<p>Unit- VII: Genetics and Evolution Heredity 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; linkage and crossing over; Sex determination - in human being, birds, grasshopper and honey bee; Mutation, Pedigree analysis, sex linked inheritance - haemophilia, colour blindness; Mendelian disorders in humans –sickle cell anaemia, Phenylketonuria, thalassemia; chromosomal disorders in</p>	<p>5. Isolate DNA from available plant material such as spinach, green pea seeds, papaya, and starch.</p>

		<p>humans; Down's syndrome, Turner's and Klinefelter's syndromes.</p> <p>Structure of DNA and RNA; DNA packaging; Search for genetic material and DNA as genetic material; DNA replication; Central Dogma; transcription, genetic code, translation; gene expression and regulation - lac operon; Human genome project; DNA fingerprinting.</p>	
JULY	24	<p>Evolution:</p> <p>Origin of life on earth ; 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 combination) and natural selection with examples, types of natural selection; Gene flow and genetic drift; Hardy-Weinberg's principle; adaptive radiation; human evolution.</p> <p>First Terminal Examination</p>	

AUG	20	<p>Unit- VIII: Biology and Human Welfare</p> <p>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. Microbes in Human Welfare Microbes in food processing, industrial production, sewage treatment, energy generation and microbes as bio-control agents and bio-fertilizers. Antibiotics; production and judicious use.</p>	<p>6. Identification of stages of gamete development, i.e., T.S. of testis and T.S. of ovary through permanent slides (from grasshopper / mice).</p> <p>7. Meiosis in onion bud cell or grasshopper testis through permanent slides.</p> <p>8. T.S. of blastula through permanent slides (Mammalian).</p> <p>9. Common disease causing organisms like Ascaris, Entamoeba, Plasmodium, any fungus causing ringworm through permanent slides, models or virtual images or specimens. Comment on symptoms of diseases that they cause.</p>
SEP	19	<p>Unit- IX: Biotechnology and its Applications</p> <p>Biotechnology - Principles and Processes Genetic Engineering (Recombinant DNA Technology). Application of biotechnology in health and agriculture: genetically modified organisms - Bt crops; RNA interference, Human insulin, gene therapy; molecular</p>	

		diagnosis; transgenic animals; bio-safety issues, bio-piracy and patents.	
OCT	20	Revision & Second Terminal Examination	
NOV	15	<p>Unit- X: Ecology and Environment</p> <p>Organisms and Populations: Population interactions - mutualism, competition, predation, parasitism; population attributes - growth, birth rate and death rate, age distribution. (Topics excluded: Organism and its Environment, Major Abiotic Factors, Responses to Abiotic Factors, Adaptations)</p> <p>Ecosystems: Patterns, components; productivity and decomposition; energy flow; pyramids of number, biomass, energy (Topics excluded: Ecological Succession and Nutrient Cycles).</p> <p>Biodiversity and its Conservation: Biodiversity-Concept, patterns, importance; loss of biodiversity; biodiversity conservation; hotspots,</p>	

		endangered organisms, extinction, Red Data Book, Sacred Groves, biosphere reserves, national parks, wildlife, sanctuaries and Ramsar sites.	
DEC	19	Revision & Pre-Board Examination-I	
JAN	20	Revision & Pre-Board Examination-II	
FEB	21	Board Practical Exam	

SUBJECT: COMPUTER SCIENCE (083)

MONTH	WORKING DAYS	TOPICS	ACTIVITY
APRIL	20	PYTHON REVISION TOUR- I <ul style="list-style-type: none">• Tokens in python, Variables and assignments, Datatypes, Expressions, Statement Flow Control, If Conditionals, Looping Statements, Jump Statements, Loop Else Statements, Nested Loop PYTHON REVISION TOUR- II <ul style="list-style-type: none">• Strings, Lists, Tuples, Dictionaries in python WORKING WITH FUNCTIONS <ul style="list-style-type: none">• Introduction to Function	LAB ASSIGNMENTS
MAY	18	WORKING WITH FUNCTIONS <ul style="list-style-type: none">• Functions: types of function (built-in functions, functions defined in module, user defined functions), creating user defined function, arguments and parameters, default parameters, positional parameters, function returning value(s), flow of execution.• Scope of a variable (global scope, local scope) EXCEPTION HANDLING <ul style="list-style-type: none">• Introduction, handling exceptions using try-except-finally blocks FILE HANDLING <ul style="list-style-type: none">• Introduction to files, types of files (Text file, Binary file, CSV file), relative and absolute paths.	LAB ASSIGNMENTS

JUNE	09	<p>FILE HANDLING</p> <ul style="list-style-type: none"> • Text file: opening a text file, text file open modes (r, r+, w, w+, a, a+), closing a text file, opening a file using with clause, writing/appending data to a text file using write() and writelines(), reading from a text file using read(), readline() and readlines(). • seek and tell methods, manipulation of data in a text file. 	LAB ASSIGNMENTS
JULY	24	<p>Revision & First Terminal Examination (45% Syllabus)</p> <p>FILE HANDLING</p> <ul style="list-style-type: none"> • Binary file: basic operations on a binary file: open using file open modes (rb, rb+, wb, wb+, ab, ab+), close a binary file, import pickle module, dump() and load() method, read, write/create, search, append and update operations in a binary file. 	LAB ASSIGNMENTS
AUG	20	<p>FILE HANDLING</p> <ul style="list-style-type: none"> • CSV file: import csv module, open / close csv file, write into a csv file using csv.writerow() and read from a csv file using csv.reader() <p>DATA STRUCTURE</p> <ul style="list-style-type: none"> • Data Structure: Stack, operations on stack (push & pop), implementation of stack using list. 	LAB ASSIGNMENTS
SEP	19	<p>COMPUTER NETWORKS</p> <ul style="list-style-type: none"> • Evolution of networking: introduction to computer networks, evolution of networking 	LAB ASSIGNMENTS

(ARPANET, NSFNET, INTERNET)

- Data communication terminologies: concept of communication, components of data communication (sender, receiver, message, communication media, protocols), measuring capacity of communication media (bandwidth, data transfer rate), IP address, switching techniques (Circuit switching, Packet switching)
- Transmission media: Wired communication media (Twisted pair cable, Co-axial cable, Fiber-optic cable), Wireless media (Radio waves, Micro waves, Infrared waves); Network devices (Modem, Ethernet card, RJ45, Repeater, Hub, Switch, Router, Gateway, WIFI card).
- Network topologies and Network types: types of networks (PAN, LAN, MAN, WAN), networking topologies (Bus, Star, Tree).
- Network protocol: HTTP, FTP, PPP, SMTP, TCP/IP, POP3, HTTPS, TELNET, VoIP, wireless/mobile communication protocol such as GSM, GPRS and WLL, Mobile telecommunication technologies: 1G, 2G, 3G, 4G and 5G.
- Introduction to web services: WWW, Hyper Text Markup Language (HTML), Extensible Markup Language (XML), domain names, URL, website, web browser, web servers, web hosting.

		<p>DATABASE MANAGEMENT</p> <ul style="list-style-type: none"> • Database concepts: introduction to database concepts and its need. • Relational data model: relation, attribute, tuple, domain, degree, cardinality, keys (candidate key, primary key, alternate key, foreign key). 	
OCT	20	<p>Revision & Second Terminal Examination (45% + 40% Syllabus)</p> <p>DATABASE MANAGEMENT</p> <ul style="list-style-type: none"> • Structured Query Language: introduction, Data Definition Language and Data Manipulation Language. • Data type (char(n), varchar(n), int, float, date), constraints (not null, unique, primary key). • Create database, use database, show databases, drop database, show tables, create table, describe table, alter table (add and remove an attribute, add and remove primary key), drop table, insert, delete, select, operators (mathematical, relational and logical), aliasing, distinct clause, where clause, in, between, order by, meaning of null, is null, is not null, like, update command, delete command, aggregate functions (max, min, avg, sum, count), group by, having clause • Joins: cartesian product on two tables, equi-join and natural join. 	LAB ASSIGNMENTS

NOV	15	CONNECTING SQL WITH PYTHON <ul style="list-style-type: none"> • Interface of python with an SQL database: connecting SQL with Python, performing insert, update, delete queries using cursor, display data by using fetchone(), fetchall(), rowcount • Creating database connectivity applications 	LAB ASSIGNMENTS
DEC	19	Revision & Pre-Board Examination-I (45% + 40% + 15% Syllabus)	
JAN	20	Revision & Pre-Board Examination-II (45% + 40% + 15% Syllabus)	
FEB	21	Board Examination	

SUBJECT: HISTORY (027)

MONTH	WORKING DAYS	TOPICS	ACTIVITY
APRIL	20	PART- I: Theme One BRICKS, BEADS AND BONES The Harappan Civilisation	Map Skill
		Theme Two KINGS, FARMERS AND TOWNS Early States and Economies (c. 600 BCE – 600 CE)	Map Skill
MAY	18	Theme Three KINSHIP, CASTE AND CLASS Early Societies (c. 600 BCE – 600 CE)	Map Skill
		Theme Four THINKERS, BELIEFS AND BUILDINGS Cultural Developments (c. 600 BCE – 600 CE)	Map Skill
JUNE	09	PART-II Theme Five THROUGH THE EYES OF TRAVELLERS Perceptions of Society (c. tenth to seventeenth centuries)	
JULY	24	REVISION & FIRST TERMINAL EXAMINATION (45% SYLLABUS)	
AUG	20	Theme Six BHAKTI-SUFI TRADITIONS Changes in Religious Beliefs and Devotional Texts (c. eighth to eighteenth centuries)	Map Skill
		Theme Seven AN IMPERIAL CAPITAL:	Map Skill

		VIJAYANAGARA (c. fourteenth to sixteenth centuries) Theme Eight PEASANTS, ZAMINDARS AND THE STATE Agrarian Society and the Mughal Empire (c. sixteenth – seventeenth centuries)	
SEP	19	Theme Eight PEASANTS, ZAMINDARS AND THE STATE (Contd.) PART- III Theme Ten COLONIALISM AND THE COUNTRYSIDE Exploring Official Archives Theme Eleven REBELS AND THE RAJ 1857 Revolt and Its Representations	Map Skill
OCT	20	Revision & Second Terminal Examination (45% + 40% Syllabus)	
NOV	15	Theme Thirteen MAHATMA GANDHI AND THE NATIONALIST MOVEMENT Civil Disobedience and Beyond Theme Fifteen FRAMING THE CONSTITUTION The Beginning of a New Era	Map Skill and Project
DEC	19	Revision & Pre-Board Examination- I (45% + 40% + 15% Syllabus)	
JAN	20	Revision & Pre-Board Examination- II (45% + 40% + 15% Syllabus)	
FEB	21	Board Examination	

SUBJECT: POLITICAL SCIENCE (028)

MONTH	WORKING DAYS	TOPICS	ACTIVITY
APRIL	20	<p>PART- A</p> <p>1. The End of Bipolarity</p> <ul style="list-style-type: none"> • The Soviet System • Gorbachev and the disintegration • Causes and Consequences • Shock Therapy and its Consequences • India's relations with Russia and post-communist countries <p>PART- B</p> <p>1. Challenges of Nation Building</p> <ul style="list-style-type: none"> • Challenges for the New Nation • Partition: Displacement and Rehabilitation • Integration of Princely States • Reorganisation of States <p>2. Era of One-Party Dominance</p> <ul style="list-style-type: none"> • Congress Dominance in the first three general elections • Emergence of Opposition Parties 	Member countries of NATO and WARSAW PACT.
MAY	18	<p>PART-A</p> <p>2. Contemporary Centres of Power</p> <ul style="list-style-type: none"> • European Union • ASEAN • Rise of China as an economic power • Japan and South Korea as emerging powers <p>PART-B</p> <p>3. Politics of Planned Development</p> <ul style="list-style-type: none"> • Political Contestation 	Main features of NITI Aayog.

		<ul style="list-style-type: none"> • Early Initiatives 	
JUNE	09	<p>PART-A</p> <p>3. Contemporary South Asia</p> <ul style="list-style-type: none"> • Military and Democracy in Pakistan and Bangladesh • Monarchy and Democracy in Nepal • Ethnic Conflict and Democracy in Sri Lanka • India-Pakistan Conflict • India and its neighbours • SAARC <p>PART-B</p> <p>4. India's External Relations</p> <ul style="list-style-type: none"> • The Policy of Non-Alignment • India's Nuclear Policy • The Chinese Invasion 1962 • Bangladesh War 1971 	Major features of 'No First Use Policy'.
JULY	24	<p>Revision & First Terminal Examination (45% Syllabus)</p>	
AUG	20	<p>PART- A</p> <p>4. International Organisations</p> <ul style="list-style-type: none"> • Evolution of the UN • Principal Organs and Reforms of the UN • India and the UN <p>4. Security in the Contemporary World</p> <ul style="list-style-type: none"> • Traditional and Non-traditional Notion of Security • New Sources of Threats • India's Security Strategy 	Role of UNESCO, UNICEF and ILO.

		<p>PART- B</p> <p>5. Challenges to and Restoration of the Congress System</p> <ul style="list-style-type: none"> • Challenge of Political Succession • Fourth General Election • Split in the Congress • 1971 Election: Restoration of the Congress 	
SEP	19	<p>PART- A</p> <p>6. Environment and Natural Resources</p> <ul style="list-style-type: none"> • Common but Differentiated Responsibilities • India's Stand on Environmental Issues • Resource Geopolitics <p>PART-B</p> <p>6. The Crisis of Democratic Order</p> <ul style="list-style-type: none"> • Background of Emergency • Declaration of Emergency • Lessons of the Emergency • Politics after Emergency <p>7. Regional Aspirations</p> <ul style="list-style-type: none"> • Region and the Nation • Punjab • The North-East 	
OCT	20	<p>Revision & Second Terminal Examination (45% + 40% Syllabus)</p>	
NOV	15	<p>PART-A</p> <p>7. Globalisation</p> <ul style="list-style-type: none"> • Concept of Globalisation • Causes and Consequences • India and Resistance to Globalisation 	PROJECT WORK

		<p>PART-B</p> <p>8. Recent Developments in Indian Politics</p> <ul style="list-style-type: none"> • Context of 1990s • Era of Coalition • Political Rise of the Backward Classes • Communalism, Secularism and Democracy • Lok Sabha Elections 2004 • Emergence of New Consensus 	
DEC	19	Revision & Pre-Board Examination-I (45% + 40% + 15% Syllabus)	
JAN	20	Revision & Pre-Board Examination-II (45% + 40% + 15% Syllabus)	
FEB	21	Board Examination	

SUBJECT: ECONOMICS (030)

MONTH	WORKING DAYS	TOPICS	ACTIVITY
APRIL	20	<p>Part- B: Indian Economic Development</p> <p>Unit- 6: Development Experience (1947-90) and Economic Reforms since 1991.</p> <ul style="list-style-type: none">• A brief introduction of the state of Indian economy on the eve of independence.• Indian economic system and common goals of Five Year Plans.• Main features, problems and policies of agriculture (institutional aspects and new agricultural strategy), industry (IPR 1956; SSI – role & importance) and foreign trade. <p>Economic Reforms since 1991:</p> <ul style="list-style-type: none">• Features and appraisals of Liberalisation, Globalisation and Privatisation (LPG policy);• Concepts of demonetisation and GST. <p>Part- A: Introductory Macroeconomics</p> <p>Unit- 1: National Income and Related Aggregates</p> <ul style="list-style-type: none">• What is Macroeconomics?• Basic concepts in macroeconomics: consumption	<p>Report on Micro and Small Scale Industries</p> <p>Formula Tree on National Income and Related Aggregates.</p>

		<p>goods, capital goods, final goods, intermediate goods; stocks and flows; gross investment and depreciation.</p> <ul style="list-style-type: none"> • Circular flow of income (two sector model) • Methods of calculating National Income -Value Added or Product method, Expenditure method, Income method. • Aggregates related to National Income: Gross National Product (GNP), Net National Product (NNP), Gross Domestic Product(GDP) and Net Domestic Product (NDP) – at market price, at factor cost. • Real and Nominal GDP. • GDP and Welfare 	
MAY	18	<p>Unit- 2: Money and Banking</p> <ul style="list-style-type: none"> • Money - meaning and its functions, Supply of money - Currency held by the public and net demand deposits held by commercial banks. • Money creation by the commercial banking system. • Central Bank and its functions (example of the Reserve Bank of India): Bank of issue, Govt. Bank, Banker's Bank, Control of Credit through Bank Rate, CRR,SLR, Repo and Reverse Repo Rate, Open Market Operations, Margin Requirement 	<p>Project Report on Money and its Functions</p> <p>Sarva Shiksha Abhiyan- Cost</p>

		<p>Part- B: Indian Economic Development</p> <p>Unit- 7: Current challenges facing Indian Economy</p> <ul style="list-style-type: none"> • Human Capital Formation: How people become resource; Role of human capital in economic development; Growth of Education Sector in India • Rural development: Key issues - credit and marketing - role of cooperatives; agricultural diversification; Alternative farming- Organic farming 	Ratio Benefit
JUNE	09	<p>Unit- 7: Current challenges facing Indian Economy (Contd...)</p> <ul style="list-style-type: none"> • Employment: Growth and changes in work force participation rate in formal and informal sectors; problems and policies • Sustainable Economic Development: Meaning, Effects of Economic Development on Resources and Environment, including global warming 	Rain Water Harvesting- a solution to water crisis
JULY	24	Revision & First Terminal Examination (45% Syllabus)	
AUG	20	<p>Part- A: Introductory Macroeconomics</p> <p>Unit- 3: Determination of Income and Employment</p> <ul style="list-style-type: none"> • Aggregate demand and its components. Propensity to consume and propensity to save 	Investment Multiplier and it's Mechanism

		<p>(average and marginal).</p> <ul style="list-style-type: none"> • Short-run equilibrium output; investment multiplier and its mechanism. • Meaning of full employment and involuntary unemployment. <p>Problems of excess demand and deficient demand; measures to correct them -changes in government spending, taxes and money supply.</p> <p>Unit- 4: Government Budget and the Economy</p> <ul style="list-style-type: none"> • Government budget – meaning, objectives and components. • Classification of receipts – revenue receipts and capital receipts; classification of expenditure – revenue expenditure and capital expenditure. • Measures of government deficit – revenue deficit, fiscal deficit, primary deficit their meaning. 	<p>Trends in Budgetary conditions of India</p>
SEP	19	<p>Unit- 5: Balance of Payments</p> <ul style="list-style-type: none"> • Balance of payments account – meaning and components. • Balance of payments -Surplus and Deficit • Foreign exchange rate – meaning of fixed and flexible rates and managed floating. • Determination of exchange rate in a free market • Merits and Demerits of fixed and 	<p>Currency War- Reasons and Repercussions</p>

		flexible exchange rates and managed floating exchange rate system.	
OCT	20	Revision & Second Terminal Examination (45% + 40% Syllabus)	
NOV	15	<p>Part- B: Indian Economic Development</p> <p>Unit- 8: Development Experience of India:</p> <ul style="list-style-type: none"> • A comparison with neighbours India and Pakistan India and China Issues: economic growth, population, sectoral development and other Human Development Indicators 	Make in India- The way ahead
DEC	19	Revision & Pre-Board Examination-I (45% + 40% + 15% Syllabus)	
JAN	20	Revision & Pre-Board Examination-II (45% + 40% + 15% Syllabus)	
FEB	21	Board Examination	

SUBJECT: BUSINESS STUDIES (054)

MONTH	WORKING DAYS	TOPICS	ACTIVITY
APRIL	20	PART- 1: Principles And Functions Of Management Nature and Significance of Management <ul style="list-style-type: none"> • Management - concept, objectives, and importance • Management as Science, Art and Profession • Levels of Management • Management functions-planning, organizing, staffing, directing and controlling Coordination- concept and importance	Case studies
MAY	18	Principles of Management <ul style="list-style-type: none"> • Principles of Management- concept and significance • Fayol's principles of management • Taylor's Scientific management- principles and techniques Business Environment <ul style="list-style-type: none"> • Business Environment- concept and importance • Dimensions of Business Environment- Economic, Social, Technological, Political and Legal • Demonetization - concept and features 	Case studies/Flow chart Case studies
JUNE	09	Planning <ul style="list-style-type: none"> • Planning: Concept, importance and limitation • Planning process • Single use and Standing Plans. Objectives, Strategy, Policy, Procedure, Method, 	Case studies Case

		<p>Rule, Budget and Programme</p> <p>Organising</p> <ul style="list-style-type: none"> • Organising: Concept and importance • Organising Process • Structure of organisation- functional and divisional concept • Formal and informal organization – concept • Delegation: concept, elements and importance • Decentralization: concept and importance 	<p>studies/Flow chart</p>
JULY	24	<p>Staffing</p> <ul style="list-style-type: none"> • Staffing: Concept and importance of staffing • Staffing as a part of Human Resource Management concept <p>Staffing</p> <ul style="list-style-type: none"> • Staffing process • Recruitment process • Selection – process • Training and Development - Concept and importance, Methods of training - on the job and off the job - vestibule training, apprenticeship training and internship training <p>Revision & First Terminal Examination (45% Syllabus)</p>	<p>Case studies/Flow chart</p>
AUG	20	<p>Directing</p> <ul style="list-style-type: none"> • Directing: Concept and importance • Elements of Directing • Motivation - concept, Maslow’s hierarchy of needs, Financial and non-financial incentives • Leadership - concept, styles - 	

		<p>authoritative, democratic and laissez faire</p> <ul style="list-style-type: none"> • Communication - concept, formal and informal communication; barriers to effective communication, how to overcome the barriers? <p>Controlling</p> <ul style="list-style-type: none"> • Controlling - Concept and importance • Relationship between planning and controlling • Steps in process of control <p>Part- B: Business Finance and Marketing</p> <p>Financial Management</p> <ul style="list-style-type: none"> • Financial Management: Concept, role and objectives • Financial decisions: investment, financing and dividend - Meaning and factors affecting • Financial Planning - concept and importance • Capital Structure – concept and factors affecting capital structure • Fixed and Working Capital - Concept and factors affecting their requirements 	
SEP	19	<p>Financial Markets</p> <ul style="list-style-type: none"> • Financial Markets: Concept • Money Market: Concept • Capital market and its types (primary and secondary) • Stock Exchange - Functions and trading procedure • Securities and Exchange Board of India (SEBI) - objectives and function 	

OCT	20	<p>Marketing</p> <ul style="list-style-type: none"> • Marketing –Concept, functions and philosophies • Marketing Mix – Concept and elements • Product – branding, labelling and packaging – Concept • Price Concept, Factors determining price • Physical Distribution – concept, components and channels of distribution • Promotion – Concept and elements; Advertising, Personal Selling, Sales Promotion and Public Relations <p>Revision & Second Terminal Examination (45% + 40% Syllabus)</p>	PROJECT WORK
NOV	15	<p>Consumer Protection</p> <ul style="list-style-type: none"> • Consumer Protection: Concept and importance • The Consumer Protection Act, 2019 • Meaning of consumer • Rights and responsibilities of consumers • Who can file a complaint? • Redressal machinery Remedies available • Consumer awareness - Role of consumer organizations and Non-Governmental Organizations (NGOs) 	
DEC	19	<p>Revision & Pre-Board Examination-I (45% + 40% + 15% Syllabus)</p>	
JAN	20	<p>Revision & Pre-Board Examination-II (45% + 40% + 15% Syllabus)</p>	
FEB	21	<p>Board Examination</p>	

SUBJECT: PHYSICAL EDUCATION (048)

MONTH	WORKING DAYS	TOPICS	ACTIVITY
APRIL	20	<p>UNIT- I: Management of Sporting Events</p> <ol style="list-style-type: none">1. Functions of Sports Events Management (Planning, Organising, Staffing, Directing & Controlling)2. Various Committees & their Responsibilities (Pre, During & Post)3. Fixtures and their Procedures – Knock-Out (Bye & Seeding) & League (Staircase, Cyclic, Tabular method) and Combination tournaments.4. Intramural & Extramural Competition – Meaning, Objectives & Its Significance5. Community sports programmes (Sports Day, Health Run, Run for Fun, Run for Specific Cause & Run for Unity) <p>UNIT- II: Children & Women in Sports</p> <ol style="list-style-type: none">1. Exercise guidelines of WHO for different age groups.2. Common postural deformities-Knock Knees, Flat Foot, Round Shoulders, Lordosis, Kyphosis, Scoliosis, and Bow Legs and their respective corrective measures.3. Women’s participation in Sports – Physical, Psychological, and social benefits.4. Special consideration (Menarche and Menstrual Dysfunction)5. Female Athlete Triad (Osteoporosis, Amenorrhea, Eating Disorders).	SAI Khelo India Test

MAY	18	<p>UNIT- III: Yoga as Preventive measure for Lifestyle Disease</p> <p>1. Obesity: Procedure, Benefits & Contraindications for Tadasana, Katichakrasana, Pavanmuktasana, Matsayasana, Halasana, Pachimottansana, Ardha– Matsyendrasana, Dhanurasana, Ushtrasana, Suryabedhan pranayama.</p> <p>2. Diabetes: Procedure, Benefits & Contraindications for Katichakrasana, Pavanmuktasana, Bhujangasana, Shalabhasana, Dhanurasana, Supta-vajarasana, Paschimottanasana, Ardha-Mastendrasana, Mandukasana, Gomukasana, Yogmudra, Ushtrasana, Kapalabhati.</p> <p>3. Asthma: Procedure, Benefits & Contraindications for Tadasana, Urdhwahastottansana, UttanMandukasana, Bhujangasana, Dhanurasana, Ushtrasana, Vakrasana, Kapalabhati, GomukhasanaMatsyaasana, Anuloma- Viloma.</p> <p>4. Hypertension: Procedure, Benefits & Contraindications for Tadasana, Katichakransan, Uttanpadasana, ArdhaHalasana, SaralaMatyasana, Gomukhasana, UttanMandukan-a, Vakrasana, Bhujangasana, Makarasana, Shavasana, Nadi-shodhanapranayam, Sitlipranayam.</p> <p>5. Back Pain and Arthritis: Procedure, Benefits & Contraindications of Tadasan, Urdhawahastootansana, Ardha-Chakrasana, Ushtrasana, Vakrasana, SaralaMaysyendrsana, Bhujandgasana, Gomukhasana, Bhadrasana, Makarasana, Nadi-Shodhana pranayama.</p>	Brockport Physical Fitness Test
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JUNE	9	<p>UNIT- IV: Physical Education and Sports for CWSN (Children with Special Needs - Divyang)</p> <ol style="list-style-type: none"> 1. Organizations promoting Disability Sports (Special Olympics; Paralympics; Deaflympics) 2. Concept of Classification and Divisioning in Sports. 3. Concept of Inclusion in sports, its need, and Implementation; 4. Advantages of Physical Activities for children with special needs. 5. Strategies to make Physical Activities assessable for children with special needs. <p>UNIT-V: Sports & Nutrition</p> <ol style="list-style-type: none"> 1. Concept of balanced diet and nutrition 2. Macro and Micro Nutrients: Food sources & functions 3. Nutritive & Non-Nutritive Components of Diet 4. Eating for Weight control – A Healthy Weight, The Pitfalls of Dieting, Food Intolerance, and Food Myths 5. Importance of Diet in Sports-Pre, During and Post competition Requirements 	
JULY	24	<p>Revision And First Terminal Examination (45% Syllabus)</p>	
AUG	20	<p>UNIT- VI: Test & Measurement in Sports</p> <ol style="list-style-type: none"> 1. Fitness Test – SAI Khelo India Fitness Test in school: Age group 5-8 years/ class 1-3: BMI, Flamingo Balance Test, Plate Tapping Test Age group 9-18yrs/ class 4-12: BMI, 50mt Speed test, 600mt Run/Walk, Sit & Reach flexibility test, Strength Test (Abdominal Partial Curl Up, 	

		<p>Push- Ups for boys, Modified Push-Ups for girls).</p> <p>2. Measurement of Cardio- Vascular Fitness – Harvard Step Test – Duration of the Exercise in Seconds $\times 100/5.5 \times$ Pulse count of 1-1.5 Min after Exercise.</p> <p>3. Computing Basal Metabolic Rate (BMR)</p> <p>4. Rikli & Jones - Senior Citizen Fitness Test</p> <ul style="list-style-type: none"> • Chair Stand Test for lower body strength • Arm Curl Test for upper body strength • Chair Sit & Reach Test for lower body flexibility • Back Scratch Test for upper body flexibility • Eight Foot Up & Go Test for agility • Six-Minute Walk Test for Aerobic Endurance <p>5. Johnson – Methney Test of Motor Educability (Front Roll, Back Roll, Jumping. Half-Turn, Jumping full-turn)</p> <p>UNIT- VII: Physiology & Injuries in Sport</p> <p>1. Physiological factors determining components of physical fitness</p> <p>2. Effect of exercise on the Muscular System</p> <p>3. Effect of exercise on the Cardio-Respiratory System</p> <p>4. Physiological changes due to ageing</p> <p>5. Sports injuries: Classification (Soft Tissue Injuries -Abrasion, Contusion, Laceration, Incision, Sprain & Strain; Bone & Joint Injuries - Dislocation, Fractures - Green Stick, Comminuted, Transverse Oblique & Impacted)</p>	<p>Games and Sport (Skill of Anyone IOA Recognised Sport/Game of choice)</p>
SEP	19	<p>UNIT- VIII: Biomechanics and Sports</p> <p>1. Newton’s Law of Motion & its application in sports</p> <p>2. Types of Levers and their application in sports.</p> <p>3. Equilibrium – Dynamic & Static and Centre of</p>	<p>Yogic Practice</p>

		<p>Gravity and its application in sports</p> <p>4. Friction & Sports</p> <p>5. Projectile in Sports</p> <p>UNIT- IX: Psychology and Sports</p> <p>1. Personality; its definition & types (Jung Classification & Big Five Theory)</p> <p>2. Motivation, its type & techniques.</p> <p>3. Exercise Adherence: Reasons, Benefits & Strategies for Enhancing it</p> <p>4. Meaning, Concept & Types of Aggressions in Sports</p> <p>5. Psychological Attributes in Sports – Self-Esteem, Mental Imagery, Self- Talk, Goal Setting</p>	
OCT	20	Revision And Second Terminal Examination (45% + 40% Syllabus)	
NOV	15	<p>UNIT- X: Training in Sports</p> <p>1. Concept of Talent Identification and Talent Development in Sports</p> <p>2. Introduction to Sports Training Cycle – Micro, Meso, Macro Cycle.</p> <p>3. Types & Methods to Develop – Strength, Endurance, and Speed.</p> <p>4. Types & Methods to Develop – Flexibility and Coordinative Ability.</p> <p>5. Circuit Training - Introduction & its importance</p>	
DEC	19	Revision & Pre-Board-I (45% + 40% + 15% Syllabus)	
JAN	20	Revision & Pre-Board- II (45% + 40% + 15% Syllabus)	
FEB	21	Board Examination	

PRACTICAL (Max. Marks 30)

Physical Fitness Test: SAI Khelo India Test, Brockport Physical Fitness Test (BPFT)* 6 Marks

Proficiency in Games and Sports (Skill of any one IOA recognized Sport/Game of Choice) 7 Marks**

Yogic Practices 7 Marks

Record File * 5 Marks**

Viva Voce (Health/ Games & Sports/ Yoga) 5 Marks

Ø *Test for CWSN (any 4 items out of 27 items. One item from each component: Aerobic Function, Body Composition, Muscular strength & Endurance, Range of Motion or Flexibility)

Ø **CWSN (Children With Special Needs – Divyang): Bocce/Boccia , Sitting Volleyball, Wheel Chair Basketball, Unified Badminton, Unified Basketball, Unified Football, Blind Cricket, Goalball, Floorball, Wheel Chair Races and Throws, or any other Sport/Game of choice.

Ø **Children with Special Needs can also opt any one Sport/Game from the list as alternative to Yogic Practices. However, the Sport/Game must be different from Test - 'Proficiency in Games and Sports'

***Record File shall include:

Ø Practical-1: Fitness tests administration. (SAI Khelo India Test)

Ø Practical-2: Procedure for Asanas, Benefits & Contraindication for any two Asanas for each lifestyle disease.

Ø Practical-3: Anyone one IOA recognized Sport/Game of choice. Labelled diagram of Field & Equipment. Also, mention its Rules, Terminologies & Skills.

SUBJECT: PAINTING (049)

MONTH	WORKING DAYS	TOPICS	ACTIVITY PRACTICAL
APRIL	20	<p>UNIT- I</p> <p>A brief introduction to Indian Miniature paintings.School of Western India, Pala School, Central Indian Paintings.</p> <p>a) The Rajasthani school of Miniature paintings.</p> <ol style="list-style-type: none">1. Origin and development.2. Sub-school Mewar, Bundi, Jodhpur, Bikaner, Kishangarh and Jaipur.3. Factors responsible for the development of Rajasthani School.4. Main features of Rajasthani school of Miniature Painting. (Subject matter and composition with keywords and minute details). <ol style="list-style-type: none">1. MARU-RAGINI2. CHAUGAN-PLAYERS3. KRISHNA ON SWING4. RADHA(BANI-THANI)5. BHARAT MEETS RAMA AT CHITRAKUTA <p>REVISION</p>	STILL-LIFE PENCIL
MAY	18	<p>The Pahari school of Miniature paintings</p> <ol style="list-style-type: none">1.Origin and development2. Sub school Basohli, Guler, Kangra, Chamba and garhwal3. Main features of Pahari-school4. Painting description (Subject matter and composition with key words and minute details). <ol style="list-style-type: none">1. KRISHNA WITH GOPIS	STILL-LIFE WATER COLOUR

		2. NAND, YASHODA AND KRISHNA WITH KINSMEN GOING TO VRINDAVAN REVISION	
JUNE	9	UNIT- II The Mughal school of miniature paintings(16th -19th century) a) The Mughal school Origin and Development b) Main Features c) Painting description(Subject matter and composition with keywords and minute details). 1. KRISHNA LIFTING MOUNT GOVERDHANA 2. FALCON ON THE BIRD'S REST 3. KABIR AND RAIDAS 4. MARRIAGE PROCESSION OF DARA SHIKOH	Composition
JULY	24	The Deccan school of Miniature Painting 1. Origin and development 2. Main features of Deccan-school 3. Painting description (Subject matter and composition with key words and minute details). 1. Chand Bibi Playing Polo 2. Hazarat Nizamuddin Auliya and Amir Khusro Revision & First Terminal Examination	Nature-study monochromatic
AUG	20	UNIT-III The Bengal school of Painting and modern trends in Indian Arts a) About the beginning to mid of the 20 th century. 1. Evolution of Indian national flag, colour significance ratio	Nature-study colour

		<p>2. Introduction Of Bengal School Of Painting</p> <p>3. Main features</p> <p>4. Contribution of Indian artist towards National Freedom Movement</p> <p>5. Painting description (Subject matter and composition with key words and minute details).</p> <p>i) Journey's End</p> <p>ii) Shiv And Sati</p> <p>iii) Radhika</p> <p>iv) Meghdoot</p> <p>REVISION</p>	
SEPT	19	<p>The Modern Trends in Indian Art</p> <p>Modern Indian Contemporary Paintings</p> <p>i) Rama Vanquishing the pride of Ocean</p> <p>ii) Mother and Child</p> <p>iii) Haldi Grinders</p> <p>iv) Mother Teresa</p> <p>REVISION</p>	Poster on social A warness
OCT	20	<p>Graphic- prints</p> <p>Technique and medium used</p> <p>i) Children</p> <p>ii) Devi</p> <p>iii) Of Walls</p> <p>iv) Man Woman and Tree</p> <p>Revision & Second Terminal Examination</p> <p>Revision</p>	Folk Art
NOV	15	<p>SCULPTURES</p> <p>Techniques and medium used</p> <p>i) Triumph of Labour</p> <p>ii) Santhal Family</p> <p>iii) Cries un-heard</p> <p>iv) Ganesha</p>	Composition of Nature with human and animal figure
DEC	19	Revision and Pre-Board -I	
JAN	20	Revision and Pre-Board- II	
FEB	21	Board Examination	