

## ACCOUNTANCY

**THEORY: 80 MARKS**

**PROJECT: 20 MARKS**

UNITS		MARKS
PART A	<b>ACCOUNTING FOR PARTNERSHIP FIRMS AND COMPANIES</b>	
	UNIT 1. ACCOUNTING FOR PARTNERSHIP FIRMS	36
	UNIT 2: ACCOUNTING FOR COMPANIES	24
		60
PART B	<b>FINANCIAL STATEMENT ANALYSIS</b>	
	UNIT 3: ANALYSIS OF FINANCIAL STATEMENTS	12
	UNIT 4: CASH FLOW STATEMENTS	8
		20
	<b>PROJECT WORK</b>	20
PART C	PROJECT WORK	
	PROJECT FILE      12 MARKS	
	VIVA VOCE      08 MARKS	

Books for reference: 1) Accountancy NCERT Book- Part I & II, 2) T. S Grewal: Volume I , II & III: Double entry bookkeeping, Volume-III: analysis of financial statements.

MONTH/ PERIODS	UNIT	CONTENT	LEARNING OBJECTIVES	SUGGESTED ACTIVITIES/ COMPETENCIES
April/35 (MARCH INCLUDED)	1. FUNDAMENTAL OF PARTNERSHIP FIRM  <b>SDG 17: Partnerships for the Goals</b>  2. VALUATION OF GOODWILL <b>SDG 16: Peace, Justice, and Strong Institutions</b>	Meaning of partnership deed, accounting treatments in the absence of partnership deed, fixed /fluctuating capital, preparation of P/L appropriation account, past adjustments, guarantee of profits. Factors affecting goodwill, methods for calculation of goodwill-average, super profit and capitalization.	a) Learn fixed capital accounts and fluctuating accounts. d) Prepare past adjustment statements. c) Prepare a profit and loss appropriation account. d) Learn different methods of calculating goodwill.	Mind mapping  <b>Ethical Awareness &amp; Analytical Skills</b>

May/25	<p>3. CHANGE IN PROFIT SHARING RATIO <b>SDG 10: Reduced Inequalities</b></p> <p>4. ADMISSION OF A PARTNER <b>SDG 17: Partnerships for the Goals.</b></p>	<p>calculation of sacrificing and gaining ratio, revaluation and reassessment of assets and liabilities, treatment of reserves, accumulated profits and losses, preparation of revaluation account. Calculation of new ratio, sacrificing ratio, treatment of goodwill, treatments reserves and accumulated profits, adjustments of capital accounts.</p>	<p>a) Learn to prepare a revaluation account. b) Learn to record treatment of reserves, accumulated profits and losses. c) Learn to calculate new ratios and sacrificing ratios. d) Understand the process of preparing a revaluation account and new balance sheet.</p>	<p>Group discussion</p> <p><b>Ethical Awareness, critical assessment &amp; Application Skills</b></p>
		<b>SUMMER BREAK</b>		
July/30	<p>5. RETIREMENT AND DEATH OF A PARTNER <b>SDG 17: Partnerships for the Goals</b></p> <p>6. DISSOLUTION OF A PARTNERSHIP FIRM <b>SDG 16: Peace, Justice, and Strong Institutions</b></p>	<p>Calculation of gaining ratio, treatment of goodwill, revaluation account, adjustments of capital account, preparation of loan account of a retiring partner. Deceased share of profit till the date of death, preparation of deceased partners' capital account and his executor's account. Preparation of realization account, partners' capital account and bank account. Realization adjustments entries.</p>	<p>a) Learn to calculate the gaining ratio. b) Learn to prepare a revaluation account. c) Prepare a loan account for a retired partner. d) Prepare an executor's account. e) Learn to prepare a realization account, partners' capital and bank account.</p>	<p>Accounting quizzes</p> <p><b>Analytical assessment &amp; Application Skills</b></p>
August/32	<p>7. FINANCIAL STATEMENT, COMMON SIZE AND COMPARATIVE STATEMENT <b>SDG 16: Peace, Justice, and Strong Institutions</b></p> <p>8. ACCOUNTING RATIOS <b>SDG 8: Decent Work and Economic Growth</b></p>	<p>uses of financial statement, statement of profit and loss and balance sheet, comparative and common size statements Objectives and calculation of Liquidity ratio, solvency ratio, activity ratio, profitability ratio.</p>	<p>a) Learn to prepare common size statements. b) understand objectives of accounting ratio c) Learn to calculate accounting ratios.</p>	<p>Case study analysis</p> <p><b>Analytical assessment &amp; Application Skills</b></p>

Sept/16	9. CASH FLOW STATEMENT <b>SDG 9: Industry, Innovation, and Infrastructure.</b>	Meaning, objectives, cash and cash equivalents, preparation of cash flow statements.	Calculate cash inflow/outflow from operating activities, financing activities and investing activities.	Poster marking  <b>Ethical Awareness</b>
		<b>MID TERM EXAMINATION</b>		
Oct/32	10. ACCOUNTING FOR SHARE CAPITAL  <b>SDG 8: Decent Work and Economic Growth</b>	Issue and allotment of equity and preference shares, under subscription and oversubscription, calls in arrears and advance, issue of shares other than cash. Concept of private placement, ESOP, sweat equity, forfeiture and reissue of shares.	a) Learn allotment, forfeited and reissue of shares. b) Understand over and under subscription of share. c) Understand call in arrears and advance entries of shares. d) Learn to record entries of issues of shares other than cash.	Stock market stimulation  <b>Analytical And Application Skills</b>
Nov/25	11.ACCOUNTING FOR DEBENTURES <b>SDG 9: Industry, Innovation, and Infrastructure.</b>	Meaning, types, issue of debentures, issue of debentures with terms of redemption, debentures as collateral securities, interest on debentures, writing off loss on issue of debentures.	a) Learn to record debentures as collateral securities. b) Understand to write off discount/loss on the issue of debentures.	Presentation of PPT  <b>Analytical And Application Skills</b>
Dec/20		Revision & Pre-Board-I		<b>Long term learning &amp; recapitulation</b>
Jan/10		Revision & Pre-Board-II		<b>Long term learning &amp; recapitulation</b>
Feb/08		Practical viva		

**GENERAL COMPETENCIES:**

1. **Financial Analysis and Data Interpretation:** - recording financial data to interpreting them.
2. **Ethical Judgment and Integrity:** - a "True and Fair View" of financial health.
3. **Technological and Regulatory Literacy:** - Understanding the Companies Act, 2013 and the latest SEBI Disclosure Guidelines (2026).
4. **Numerical Dexterity and Precision:** - This develops "Data Accuracy," a critical skill in the 2026 job market.

## APPLIED MATHEMATICS

No.	UNITS	MARKS
I	Number, Quantification and Numerical Applications	11
II	Algebra	10
III	Calculus	15
IV	Probability Distribution	10
V	Inferential Statistics	05
VI	Time Based Data	06
VII	Financial Mathematics	15
VIII	Linear Programming	08
	Total	80
Suggested Books :		M.L.Aggarwal R.D.Sharma

MONTH & NO. OF PERIODS	UNITS	CONTENTS	LEARNING OBJECTIVES	SUGGESTED ACTIVITES
<b>APRIL (32)</b>	<b>UNIT II ALGEBRA A</b>	<p><b>MATRICES:</b> Concept, notation, order, equality, types of matrices, zero and identity matrix, transpose of a matrix, symmetric and skew symmetric matrices. Operation of matrices, addition and multiplication and multiplication with a scalar. Simple properties of addition, multiplication and scalar multiplication. Non - commutativity of multiplication of matrices and existence of non-zero matrices whose product is the zero matrix (restrict to square matrices of order 2). Concept of elementary row and column operations. Invertible matrices and Cramer's rule and its applications. Simple applications of matrices.</p> <p><b>DETERMINANT:</b> Determinants of a square matrix (up to 3X3 matrices), minors, cofactors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix, Consistence, in consistency and</p>	<p>*To learn about matrices and the study of basic laws of matrix algebra.</p> <p><b>SDG9- Industry &amp; Innovation</b></p> <p>*To learn about determinants their explanation minors and cofactors, their elementary properties and applications.</p>	<p><b>ACTIVITY:</b> To study about addition of matrices A and B using spread sheet. *To perform matrix multiplication by spread sheet in excel.</p> <p><b>Competencies:</b> Problem-Data representation and Problem solving in business &amp; industry</p> <p>*To Solve for simultaneous equation for fair resource distribution models</p> <p><b>Competency:</b> Logical</p>

	<b>UNIT V INFERENCE IAL STATISTICS</b>	<p>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> <p><b>POPULATION AND SAMPLE:</b> Population data from census, economic surveys same population. Examples of representative and non-representative sample .unbiased sampling</p>	<p><b>SDG16- Peace, justice and strong institutions</b></p> <p>To define index numbers as a special type of average. * To construct different types of index numbers. *Time Reversal test <b>SDG 4 Quality Education</b></p>	<p>Decision-making and systemic problem solving.</p> <p>*Evaluating the validity of a hypothesis by testing.</p> <p><b>Competency:</b> Data interpretation and evidence based decision making</p>
<b>May(26)</b>	<b>UNIT VIII LINEAR PROGRAMMING</b>	<b>LINEAR PROGRAMMING-</b> Introduction to linear programming problems and its formulations, and different types of linear programming problems. (bounded and unbounded region) Definition of decision variable, constraints, objective functions, corner points, feasible regions and their graphical representation.	<p>*To learn linear programming problems and their graphical presentation.</p> <p><b>SDG1-No poverty SDG2-Zero Hunger</b> *To learn derivatives of composition functions, chain rule, functions, logarithmic functions, exponential second order derivatives etc. <b>SDG3- Good health &amp; Well-being</b></p>	<p>* Food distribution Optimization</p> <p><b>Competency:</b> Analysing Efficient resource allocation &amp; economic planning.</p> <p>*To Study rate of spread of disease.</p> <p><b>Competencies:</b> To understand rate of change in health and science applications *Project suggested by CBSE.</p>
	<b>UNIT III CALCULUS</b>	<b>DIFFERENTIABILITY:</b> Derivative of composite functions, chain rule, ,implicit functions, concept of exponential functions, Applications of derivatives, Increasing /Decreasing functions, Maxima and Minima, Marginal cost and Marginal revenue using derivatives		
<b>July (30)</b>	<b>UNIT 1 NUMBERS,</b>	<b>Modulo Arithmetic-</b> Definition and meaning, Introduction to modulo operator, modular addition and subtraction	<b>Modulo Arithmetic-</b> Definition, apply arithmetic	competencies

	<p><b>QUANTIFICATION AND NUMERICAL APPLICATION</b></p>	<p><b>Congruence modulo</b>- Definition and meaning ,solution using congruence modulo</p> <p><b>*Alligation and Mixture</b>- Meaning and applications of rule of allegation, mean price of a mixture.</p> <p><b>* Numerical problems</b> – solve real life problems mathematically</p> <p><b>*Boats and Streams</b> –Problems based on speed of stream and the speed of boat in still water.</p> <p><b>*Pipes and Cisterns</b> – Calculation of the portion of tank filled by the pipe in unit time</p> <p><b>*Races and Games</b>-Calculation of time, distance covered, speed of each player.</p> <p><b>* Numerical inequalities</b> _ Comparison between two statements which can be compared numerically. Application of the technique of numerical solution of algebraic in equations.</p>	<p>operations using arithmetic rules.</p> <p><b>*Congruence modulo</b>- definition, apply the definition in various problems</p> <p><b>*Alligation and Mixture</b>- Rule of mixture to produce a mixture at a given price, find mean price of mixture.</p> <p><b>*Boats and Streams</b> – Express the problem in the form of equation.</p> <p><b>*Pipes and Cisterns</b> – Determine time taken by two or more pipes to fill or empty the tank.</p> <p><b>*Races and Games</b>- Compare the performance of two players w.r.t. time.</p> <p><b>SDG1 No Poverty</b> <b>SDG 8 Decent work and Economic Growth</b></p>	<p>Economics awareness, understanding interest</p> <p>. *Compare ratios in business data.</p> <p>*Interpret numerical data for decision-making.</p> <p><b>Competencies Developed</b></p> <ul style="list-style-type: none"> <li>• Financial literacy</li> <li>• Application of mathematics in commerce</li> <li>• Accuracy in calculations</li> <li>• Data interpretation skills</li> </ul>
<p><b>AUGUST (30)</b></p>	<p><b>UNIT III CALCULUS</b></p> <p><b>UNIT III CALCULUS</b></p>	<p><b>Maxima and Minima</b> - A point <math>x = c</math> is called the critical point if and only if is defined at <math>c</math> and <math>f'(c) = 0</math> or <math>f</math> is not differentiable at <math>c</math>.</p> <p>To find local maxima and minima by first and second derivative test. Contextualized real life problems.</p> <p>Calculation of Marginal cost and Marginal Revenue, Average Cost, Average Revenue function.</p>	<p><b>* To Determine</b> critical points of function.</p> <p><b>*To find</b> Absolute maximum and minimum value of function.</p> <p><b>SDG7-Affordable and clean energy</b></p>	<p><b>*To understand</b> the concept of local maxima and local minima and point of inflection.</p> <p><b>* Optimization</b> problems for minimum cost and maximum efficiency.*Energy consumption modelling.</p> <p><b>*Competency: Analyse&amp; Application.</b></p>

	UNIT IV PROBABILITY DISTRIBUTION	<p><b>PROBABILITY DISTRIBUTION</b>-Definition and example of discrete and continuous random variable and their distribution.</p> <p><b>MATHEMATICAL EXPECTATION</b>- To find expected value of discrete random variable by the probability of occurrence, variance and S.D.</p> <p><b>BINOMIAL DISTRIBUTION</b>- Characteristics of Binomial distribution by using Binomial formula.</p> <p><b>POISSON DISTRIBUTION</b>- Characteristics of Poisson probability distribution and formula.</p>	<p>*To understand the concept of random variables and its probability distribution, and its expected value</p> <p>*To calculate the variance and S.D. of random variables</p> <p>*To identify the Bernoulli Trials and apply binomial distribution, also evaluate mean, variance and S.D.</p> <p>*To understand the condition of P.D., Evaluate the mean and variance of P.D.</p>	<p>Optimization in environmental &amp; Economic planning.</p> <p>*To explain the concept of conditional probability.</p> <p>*Exam result statistical analysis.</p> <p><b>Competency:</b> Statistical analysis &amp; application</p>
SEPTEMBER (16)	UNIT IV PROBABILITY DISTRIBUTIONS	<p><b>POISSON DISTRIBUTION</b>- Probability distribution and formula.</p> <p><b>NORMAL DISTRIBUTION</b> – Characteristics of N.P.D., Total area under the curve = total probability = 1 . Standard normal variate</p>	<p>*To understand the condition of P.D, mean and variance of P.D.</p> <p>*To understand the normal distribution is a continuous distribution . *To evaluate value of standard normal variate .</p> <p><b>SDG3-Good Health</b> <b>SDG4-Quality Education</b></p>	
SEPTEMBER(16)		<b>REVISION &amp; HALF YEARLY EXAM</b>		
OCTOBER (32)	UNIT III CALCULUS	<p><b>INTEGRATION</b>-Simple integrals based on each method (non- trigonometric Evaluation of definite integrals using properties. Problems based in finding –</p>	<p>*To understand the indefinite integrals of simple</p>	<p><b>Competency:</b> <b>Analyse &amp; Application.</b></p>

	<p style="text-align: center;"><b>UNIT V INFERENCE STATISTICS</b></p>	<p>Total cost when marginal cost is given. Total revenue when marginal revenue is given. Equilibrium price and equilibrium quantity and hence consumer and producer surplus.</p> <p><b>DIFFERENTIAL EQUATIONS-</b> Definition, order, degree and examples. Formulation and solving differential equations. Applications of D.E.</p> <p><b>POPULATION AND SAMPLE :</b>Population data from census, same population . Examples of representative and non-representative sample .unbiased sampling .Problems based on random sampling using simple random sampling and systematic random sampling. Conceptual understanding of parameter and Statistics. Examples of parameter and limited to mean and S.D. Null and alternative hypothesis, by t-test.Use of t- tables</p>	<p>functions as anti-derivatives. *To evaluate indefinite integrals of simple algebraic functions by substitution, partial fraction by parts.</p> <p><b>SDG13-Climate-Action</b> *To recognize a differential equation. *To find the order and degree of a differential equation.</p> <p><b>SDG 3 – Good health</b> *To define population and sample. * To define parameter with reference to population. *To state central limit theorem. *To explain the relation between population – sampling distribution – sample. * To define a hypothesis ,null and alternative hypothesis.</p> <p><b>SDG 5 Gender Inequality</b></p>	<p>Optimization in environmental &amp; Economic planning.</p> <p>*Population growth model. <b>Competency:</b>Understanding,analyse &amp; application Inpredictive modelling</p> <p>* Statistical analysis &amp; Data analysis (literacy rate)</p> <p><b>*Competencies:</b> Data Interpretation. Evidence – based decision making.</p>
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## EXAMINATION SYLLABUS :

S.NO	EXAMINATION	SYLLABUS
1.	PT 1	Ch 3 Matrices Ch 4 Determinants
2.	PT 2	Ch 2 Linear Inequalities Ch 15 Linear programming Ch 5 differentiability
3.	MID - TERM	Unit I, II, III ( Ch 5 & 6), IV and V
4.	PT 3	Ch 7 Integrals Ch 8 Differential Equations Ch 10 Inferential Statistics
5.	PRE - BOARD	All Units ( I to VIII)

## ARTIFICIAL INTELLIGENCE

MONTH(NO. OF PERIODS)	UNIT	CONTENT (CBSE AI HANDBOOK for class XII)	LEARNING OBJECTIVES	ACTIVITY
APRIL(30)	<u>PART-B SUBJECT SPECIFIC SKILLS</u>			
	<u>UNIT 1: PYTHON PROGRAMMING - II</u>			
	<u>UNIT-01</u> Python Programming-II	<ul style="list-style-type: none"> <li>• Recap of NumPy library</li> <li>• Recap of Pandas Library</li> <li>• Importing and Exporting Data between CSV Files and DataFrames</li> <li>• Handling missing value</li> <li>• Linear Regression algorithm</li> </ul>	<p>To Apply the fundamental concepts of the NumPy and Pandas libraries to perform data manipulation and analysis tasks</p> <p>Import and export data between CSV files and Pandas Data Frames, ensuring data integrity and consistency.</p> <p>SDG 4 – Quality Education SDG 9 – Industry, Innovation &amp; Infrastructure SDG 13 – Climate Action</p>	<p>Import and Export Data between CSV Files and DataFrames</p> <p>Implement Linear Regression algorithm on Google Colab or any Python IDE.</p> <p>LEARNING OUTCOMES (Competency)</p> <ol style="list-style-type: none"> <li>1)Data literacy</li> <li>2)Analytical thinking</li> <li>3)Problem-solving</li> <li>4)Data cleaning and preprocessing</li> <li>5)Performing statistical operations</li> </ol>
<u>PART-C PRACTICAL &amp; PROJECT WORK</u>				
	Project Work	<ul style="list-style-type: none"> <li>• Project Guidelines-Project Preparation</li> <li>• Practical Work</li> </ul>	<p>To Prepare for the project</p> <p>SDG 3 – Good Health &amp; Well-being SDG 11 – Sustainable Cities &amp; Communities</p>	<p>LEARNING OUTCOMES (Competency)</p> <ol style="list-style-type: none"> <li>1) Problem-solving</li> <li>2) Computational thinking</li> <li>3) Data-driven decision making.</li> </ol>

<u>PART-B SUBJECT SPECIFIC SKILLS</u>			
<u>Unit-02 DATA SCIENCE METHODOLOGY: AN ANALYTIC APPROACH TO CAPSTONE PROJECT</u>			
<u>UNIT-02</u>  DATA SCIENCE METHODOLOGY: AN ANALYTIC APPROACH TO CAPSTONE PROJECT	<ul style="list-style-type: none"> <li>• Introduction to Data Science Methodology</li> <li>• Steps for Data Science Methodology</li> <li>• Model Validation Techniques</li> <li>• Model Performance Evaluation Metrics</li> </ul>	To integrate Data Science Methodology steps into the Capstone Project. <ul style="list-style-type: none"> <li>• To Identify the best way to represent a solution to a problem.</li> <li>• To understand the importance of validating machine learning models</li> <li>• To use key evaluation metrics for various machine learning tasks</li> </ul> SDG 4 – Quality Education  SDG 9 – Industry, Innovation & Infrastructure	Calculate MSE and RMSE values for the data given using MS Excel  Calculate Precision, Recall, F1 score, and Accuracy from the given confusion matrix  Python Code to Evaluate a Model
<u>PART-C PRACTICAL &amp; PROJECT WORK</u>			
Project work	<ul style="list-style-type: none"> <li>• Project Guidelines- Team forming,</li> <li>• Defining the Problem</li> </ul>	To form a competent team for the project To define the Problem from the users' perspective SDG 3 – Good Health & Well-being. SDG 11 – Sustainable Cities & Communities SDG 13 – Climate Action	Capstone Project LEARNING OUTCOMES (Competency) 1)Critical Thinking 2)Creativity Collaboration 3)Communication 4)Digital Literacy

<u>PART-B SUBJECT SPECIFIC SKILLS</u>			
<u>UNIT 3: MAKING MACHINES SEE</u>			
MAY(18)	<u>UNIT 3:</u> MAKING MACHINES SEE	<ul style="list-style-type: none"> <li>• How Machines See</li> <li>• Working of Computer Vision</li> <li>• Computer Vision Process</li> <li>• Applications of Computer Vision</li> <li>• Challenges of Computer Vision</li> <li>• The Future of Computer Vision(Working with OpenCV)</li> </ul>	<p>To explain computer vision and its significance in visual data analysis.</p> <p>To understand key stages of computer vision, including acquisition, preprocessing, feature extraction, and analysis.</p> <p>To identify real-world applications in fields like healthcare, surveillance, and autonomous vehicles.</p> <p>To Analyse challenges such as ethics, privacy, and technical limitations.</p> <p>To Develop basic skills in using OpenCV and deploying machine learning models online. SDG 4 – Quality Education</p> <p>SDG 10 – Reduced Inequalities</p>
			<p>Binary Art - Recreating Images with 0s and 1s</p> <p>Creating a Website Containing an ML Model</p> <p>Working with OpenCV to load, display and resize images.</p> <p>LEARNING OUTCOMES (Competency)</p> <p>1)Conceptual understanding</p> <p>2)Analytical thinking</p> <p>3) Technological awareness.</p>
<u>PART – A EMPLOYABILITY SKILLS</u>			

	<u>CH-01</u> COMMUNICATION SKILLS-IV	<ul style="list-style-type: none"> <li>• Introduction to communication</li> <li>• Active listening</li> <li>• Interviewing skills</li> </ul>	To learn about communication, active listening in communication & interviewing skills	Traditional telephone game: to see if the message circulated stays the same
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July(24)	<u>PART-B SUBJECT SPECIFIC SKILLS</u>			
	<u>UNIT 4: AI with ORANGE Data Mining Tool</u>			
	<u>UNIT 4:</u> AI WITH ORANGE DATA MINING TOOL	<ul style="list-style-type: none"> <li>• What is Data Mining?</li> <li>• Introduction to Orange Data Mining Tool</li> <li>• Beneficiaries of Orange data mining</li> <li>• Getting started with Orange tool</li> <li>• Components of Orange</li> <li>• Default Widget Catalogue</li> <li>• Key domains of AI with ORANGE DATA MINING TOOL</li> </ul>	<p>To develop proficiency in utilizing the Orange Data Mining tool, enabling them to navigate its interface, employ its features, and execute data analysis tasks effectively.</p> <p>To demonstrate the ability to apply Orange in real-world scenarios across diverse domains of artificial intelligence.</p>	<p>Load and visualize the Iris dataset using Scatter Plot and other widgets.</p> <p>Use classification widgets Evaluating the Classification Model with Orange</p> <p>Computer Vision with Orange Natural Language Processing with Orange</p> <p>LEARNING OUTCOMES (Competency)</p> <ol style="list-style-type: none"> <li>1) Critical Thinking</li> <li>2) Creativity</li> <li>3) Collaboration</li> <li>4) Digital Literacy</li> <li>5) Ethical AI Awareness</li> </ol>
	<u>PART – A EMPLOYABILITY SKILLS</u>			
<u>CH-02</u>	<ul style="list-style-type: none"> <li>• Motivation</li> <li>• Physiological &amp; psychological</li> <li>• Positive attitude</li> </ul>	To learn to describe the various factors influencing self-motivation	A simple trick to improve positive thinking. Watch this video:	

	SELF MANAGEMENT SKILLS-IV	<ul style="list-style-type: none"> <li>Stress</li> <li>Goal setting</li> <li>Personality types, traits, disorders</li> </ul>	<p>To be able to describe basic personality traits, types &amp; disorders.</p> <p>SDG 4 – Quality Education SDG 8 – Decent Work &amp; Economic Growth SDG 10 – Reduced Inequalities</p>	<p><a href="https://youtu.be/7xfltdq4jmk">https://youtu.be/7xfltdq4jmk</a></p> <p>LEARNING OUTCOMES (Competency)</p> <ol style="list-style-type: none"> <li>1)Effective communication</li> <li>2)Interpersonal skills</li> <li>3)Professional ethics</li> </ol>
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<u>PART-B SUBJECT SPECIFIC SKILLS</u>				
<u>UNIT 5: INTRODUCTION TO BIG DATA AND DATA ANALYTICS</u>				
August (24)	<u>UNIT 5:</u> INTRODUCTION TO BIG DATA AND DATA ANALYTICS	<ul style="list-style-type: none"> <li>Introduction to Big Data</li> <li>Types of Big Data</li> <li>Advantages and Disadvantages of Big Data</li> <li>Characteristics of Big Data</li> <li>Big Data Analytics</li> <li>Working on Big Data Analytics</li> <li>Mining Data Streams</li> <li>Future of Big Data Analytics</li> </ul>	<p>To understand Big Data, its types, advantages and disadvantages.</p> <p>To recognize the characteristics of Big Data.</p> <p>To explain the concept of Big Data Analytics and its significance.</p> <p>To analyse the future trends in the field of Big Data Analytics.</p> <p>To understand the term Mining Data Streams.</p> <p>SDG 4 – Quality Education SDG 3 – Good Health &amp; Well-being SDG 6 – Clean Water &amp; Sanitation SDG 8 – Decent Work &amp; Economic Growth</p>	<p>Performing Big Data analytics with Orange Data mining tool.</p> <ol style="list-style-type: none"> <li>1)Job market analytics</li> <li>2) Economic trend forecasting</li> <li>3) Business intelligence dashboards.</li> </ol> <p>LEARNING OUTCOMES (Competency)</p> <ol style="list-style-type: none"> <li>1) Data Literacy</li> <li>2) Analytical Thinking</li> <li>3) Statistical &amp; Mathematical Skills</li> <li>4) Problem-Solving Skills</li> </ol>

<u>PART – C Practical &amp; Project Work</u>				
	PROJECT WORK	<ul style="list-style-type: none"> <li>• Understanding User</li> <li>• Solution Brain Storming</li> <li>• Solution Designing</li> </ul>	<ul style="list-style-type: none"> <li>• To Understand the stakeholders &amp; end users of the solution</li> <li>• To brainstorm ideas for the Problem &amp; Design the solution</li> </ul>	<ul style="list-style-type: none"> <li>• CAPSTONE PROJECT</li> </ul>
	<u>PART – A EMPLOYABILITY SKILLS</u>			
	<u>CH-03</u> <u>ICT SKILLS- IV</u>	<ul style="list-style-type: none"> <li>• Introduction</li> <li>• Filter &amp; sorting</li> </ul>	<p>To learn about ICT skills</p> <p>To learn filtering and sorting data using excel</p> <p>SDG 4 – Quality Education</p> <p>SDG 9 – Industry, Innovation &amp; Infrastructure</p> <p>SDG 17 – Partnerships for the Goals</p>	<p>LEARNING OUTCOMES (Competency)</p> <p>1) Digital literacy</p> <p>2) Technical proficiency</p> <p>3) Cyber awareness</p>

<u>PART-B SUBJECT SPECIFIC SKILLS</u>				
<u>UNIT 6: UNDERSTANDING NEURAL NETWORKS</u>				
September(12)	UNIT 6: UNDERSTANDING NEURAL NETWORKS	<ul style="list-style-type: none"> <li>• Parts of a Neural Network</li> <li>• Components of a Neural Network</li> <li>• Working of a Neural Network</li> <li>• Types of Neural Network</li> </ul>	<p>To explain the basic structure and components of a neural network.</p> <p>To identify different types of neural networks and their respective applications.</p> <p>To understand machine learning and neural networks through Handson projects, interactive tools, and Python programming.</p>	<p>Explore Machine Learning for Kids to create a neural network for identifying animals and birds.</p> <p>Build a TensorFlow model to convert Celsius to Fahrenheit.</p>

		<ul style="list-style-type: none"> <li>• Future of Neural Networks and Societal Impact</li> </ul>	<p>SDG 3 – Good Health &amp; Well-being</p> <p>SDG 9 – Industry, Innovation &amp; Infrastructure</p>	<p>LEARNING OUTCOMES (Competency)</p> <p>1) Logical reasoning</p> <p>2) Mathematical thinking</p> <p>3) Model interpretation</p>
<u>PART – A EMPLOYABILITY SKILLS</u>				
	<u>CH-03</u> <u>ICT SKILLS- IV</u>	<ul style="list-style-type: none"> <li>• Formulae &amp; functions</li> <li>• Protecting calc work while saving</li> </ul>	<p>To learn applying formulas and functions on the data</p> <p>SDG 4 – Quality Education</p> <p>SDG 9 – Industry, Innovation &amp; Infrastructure</p>	<p>Online collaboration, and technological innovation for global development.</p> <p>LEARNING OUTCOMES (Competency)</p> <p>1) Digital literacy</p> <p>2) Technical proficiency</p> <p>3) Cyber awareness</p>

<u>PART-B SUBJECT SPECIFIC SKILLS</u>				
<u>UNIT 7: GENERATIVE AI</u>				
	<u>UNIT 7:</u>  GENERATIVE AI	<ul style="list-style-type: none"> <li>• Introduction to Generative AI</li> <li>• Working of Generative AI</li> <li>• Generative and Discriminative models</li> <li>• Applications of Generative AI</li> </ul>	<p>To know How Generative AI works.</p> <p>To be able to differentiate between Generative AI and Discriminative AI and identify their use cases.</p> <p>To explore ethical, social, and legal concerns.</p> <p>To gain hands-on experience using AI tools.</p>	<p>Write Python code to initialize the Gemini API and create a chat bot.</p> <p>Use Google Gemini to craft prompts and generate text outputs.</p>

October(24)	<u>PART-C Practical &amp; Project Work</u>			
	PROJECT WORK	<ul style="list-style-type: none"> <li>• Identify &amp; collect data</li> <li>• Build a Prototype</li> <li>• Test the Solution</li> <li>• Reflect as a team &amp; an Individual</li> </ul>	<p>To identify and collect data for the project  To build a prototype  To test the solution built  To reflect the learning as an individual and as a team.</p> <p>SDG 4 – Quality Education  SDG 3 – Good Health &amp; Well-being  SDG 8 – Decent Work &amp; Economic Growth  SDG 9 – Industry, Innovation &amp; Infrastructure</p>	<p>CAPSTONE PROJECT</p> <ol style="list-style-type: none"> <li>1)AI tutors for personalized learning</li> <li>2)Automated content generation for teachers</li> <li>3) Multilingual educational materials</li> <li>4) Accessibility tools for differently-abled learners</li> </ol> <p>LEARNING OUTCOMES (Competency)</p> <ol style="list-style-type: none"> <li>1) Critical Thinking &amp; Decision-Making</li> <li>2) Creativity</li> <li>3) Collaboration</li> <li>4) Communication</li> <li>5) Digital Literacy</li> <li>6) Ethical Awareness</li> </ol>
	<u>PART – A EMPLOYABILITY SKILLS</u>			
<u>CH-04</u> <u>ENTREPRENEURIAL</u> <u>SKILLS- IV</u>	<ul style="list-style-type: none"> <li>• Characteristics of entrepreneurship</li> <li>• Qualities of an entrepreneur</li> <li>• Types of entrepreneur</li> </ul>	<p>To learn about the different characteristics &amp; qualities of an entrepreneur  To learn about different types of entrepreneurs, their roles &amp; responsibilities</p>	<p>Collect small story/anecdote of a prominent successful entrepreneurs.</p>	

		<ul style="list-style-type: none"> <li>• Roles &amp; functions of an entrepreneur</li> <li>• Startups</li> <li>• Barriers to becoming an entrepreneur</li> <li>• Entrepreneurial attitudes</li> </ul>	<p>To learn about barriers and ways of overcoming the barriers.</p> <p>☑ SDG 8 – Decent Work &amp; Economic Growth</p> <p>☑ SDG 9 – Industry, Innovation &amp; Infrastructure</p>	<p>LEARNING OUTCOMES (Competency)</p> <p>1) Innovation &amp; creativity</p> <p>2) Business awareness</p> <p>3) Financial literacy</p>
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November(24)	<u>PART-C Practical &amp; Project Work</u>			
	Project Work	<ul style="list-style-type: none"> <li>• Creating a Video Pitch</li> </ul>	<ul style="list-style-type: none"> <li>• To create a video pitch for the project</li> </ul>	<ul style="list-style-type: none"> <li>• Capstone Project</li> </ul>
	<u>PART-B SUBJECT SPECIFIC SKILLS</u>			
	<u>UNIT 8: DATA STORYTELLING</u>			
	<p><u>UNIT 8:</u> DATA STORYTELLING</p>	<ul style="list-style-type: none"> <li>• Introduction to Storytelling</li> <li>• Elements of a Story</li> <li>• Introduction to Data Storytelling</li> <li>• Why is Data Storytelling Powerful?</li> <li>• Essential Elements of Data Storytelling</li> <li>• Narrative Structure of a Data Story (Freytag’s Pyramid)</li> <li>• Types of Data and Visualizations for Different Data</li> <li>• Steps to Create a Story Through Data</li> <li>• Ethics in Data Storytelling</li> </ul>	<p>To understand the benefits of storytelling.</p> <p>To appreciate the role of data storytelling in data analysis, data science, and AI.</p> <p>To learn to combine data, visuals, and narrative to present complex information effectively.</p> <p>To gain skills to draw meaningful insights from data stories.</p> <p>SDG 4 – Quality Education SDG 5 – Gender Equality SDG 10 – Reduced Inequalities</p>	<p>1) Create an effective data story using given data.</p> <p>2) Stories about girls in STEM or women leaders.</p> <p>3) Stories encouraging hygiene and emotional well-being.</p> <p>LEARNING OUTCOMES (Competency)</p> <p>1) Communication Skills</p> <p>2) Creativity &amp; Imagination</p> <p>3) Critical Thinking</p> <p>4) Emotional Intelligence</p> <p>5) Digital Literacy (for Digital Storytelling)</p>

<u>PART – A EMPLOYABILITY SKILLS</u>				
	<p><u>CH-05</u></p> <p>GREEN SKILLS- IV</p>	<ul style="list-style-type: none"> <li>• Introduction to green jobs</li> <li>• Benefits of green jobs</li> </ul>	<p>To learn about the different green jobs in the green skill space To learn about the benefits of landing a green job.</p> <p>SDG 13 – Climate Action</p> <p>SDG 12 – Responsible Consumption &amp; Production</p> <p>SDG 7 – Affordable &amp; Clean Energy</p>	<p>Choose any 4-5 green careers and prepare a brochure discussing all the aspects like educational qualifications, Skills etc.</p> <p>LEARNING OUTCOMES (Competency)</p> <p>1) Environmental awareness.</p> <p>2) Sustainable thinking.</p> <p>3) Responsible decision-making.</p>

## BIOLOGY

Month	No. of Periods	Chapter	Content	Suggested Activities
March/April	20	Chapter 1: Sexual reproduction in flowering plants	<ul style="list-style-type: none"> <li>• Flower a fascinating organ of angiosperms</li> <li>• Pre-fertilization – Structure and events</li> <li>• Double fertilization</li> <li>• Post fertilization: Structure and events</li> <li>• Apomixis &amp; Polyembryony</li> <li>• SDG-2 Zero hunger</li> <li>• SDG-15 Life on land</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare a temporary mount to observe pollen germination (critical thinking, Knowledge)</li> <li>• Study flowers adapted to pollination by different agencies (wind, insects, birds) (critical thinking, Knowledge, social responsibility)</li> <li>• Pollen germination on stigma through a permanent slide or scanning electron micrograph (Critical thinking, knowledge)</li> <li>• Controlled pollination - emasculation, tagging and bagging. (Knowledge, critical thinking)</li> </ul>
		Chapter 2: Human Reproduction	<ul style="list-style-type: none"> <li>• The male reproductive system</li> <li>• Female reproductive system</li> <li>• Gametogenesis: spermatogenesis</li> <li>• Gametogenesis: oogenesis</li> <li>• Hormonal control of gametogenesis</li> <li>• Menstrual Cycle</li> <li>• Fertilizations Implantation</li> <li>• Pregnancy &amp; Embryonic development</li> <li>• Parturitions, lactation</li> <li>• SDG-3 Good health</li> <li>• SDG-5 Gender Equality</li> </ul>	
April	20	Chapter 3: Reproductive health	<ul style="list-style-type: none"> <li>• Reproductive health problems &amp; strategies</li> <li>• Population Explosion and birth control</li> </ul>	<ul style="list-style-type: none"> <li>• Identification of stages of gamete development, i.e., T.S. of testis and T.S. of ovary through permanent slides</li> </ul>

May	10		<ul style="list-style-type: none"> <li>• Medical termination of Pregnancy</li> <li>• Sexually transmitted diseases</li> <li>• Infertility</li> <li>• SDG-3 Good Health</li> <li>• SDG-4 Quality Education</li> <li>• SDG-5 Gender Equality</li> </ul>	<p>(from grasshopper/mice) (critical thinking, Knowledge)</p> <ul style="list-style-type: none"> <li>• Meiosis in onion bud cell or grasshopper testis through permanent slides. (critical thinking, self-management)</li> </ul>
		Chapter 4: Principles of inheritance	<ul style="list-style-type: none"> <li>• Mendel's laws of inheritance</li> <li>• Inheritance of one gene</li> <li>• Law of Dominance</li> <li>• Law of segregation</li> <li>• Incomplete Dominance</li> <li>• Co dominance</li> <li>• Inheritance of two genes</li> <li>• Law of Independent Assortment</li> <li>• Chromosomal theory of inheritance</li> <li>• Linkage &amp; inheritance</li> <li>• Sex determination</li> <li>• SDG-3 Good Health</li> </ul>	
May	15	Chapter 5: Molecular Basis of Inheritance	<ul style="list-style-type: none"> <li>• The DNA</li> <li>• Structure of polynucleotide DNA</li> <li>• The search for DNA material</li> <li>• The genetic material is DNA</li> <li>• Properties of genetic materials</li> <li>• RNA world</li> <li>• Replication</li> <li>• Transcription</li> <li>• Genetic Code</li> <li>• Translation</li> </ul>	<ul style="list-style-type: none"> <li>• T.S. of blastula through permanent slides (Mammalian)(critical thinking, Knowledge)</li> <li>• Mendelian inheritance using seeds of different colour/sizes of any plant. (Critical thinking, creative thinking)</li> <li>• Prepared pedigree charts of any one of the genetic traits such as rolling of tongue, blood groups, ear lobes, widow's peak and colour-blindness.</li> </ul>

			<ul style="list-style-type: none"> <li>• Regulation of gene expression</li> <li>• The lac operon</li> <li>• Human Genome project</li> <li>• DNA Fingerprinting</li> <li>• SDG-3 Good Health</li> <li>• SDG-9 innovation</li> </ul>	<p>(critical thinking, self-management, social-responsibility)</p> <ul style="list-style-type: none"> <li>• Make a brochure containing information about sexual reproduction in flowering plants, pictures of male and female reproductive part and gametogenesis.(creative and critical thinking, digital and technological)</li> </ul>
<b>July</b>	23	Chapter-6: Evolution	<ul style="list-style-type: none"> <li>• Origin of life</li> <li>• Evolution of life forms</li> <li>• Evidences for evolution</li> <li>• Adaptive radiation</li> <li>• Biological evolution</li> <li>• Mechanism of evolution</li> <li>• Hardy- Weinberg Principle</li> <li>• A brief account of evolution</li> <li>• SDG-15 Life on land</li> </ul>	<ul style="list-style-type: none"> <li>• Common disease- causing organisms like Ascaris, Entamoeba, Plasmodium, any fungus causing ringworm through permanent slides, models or virtual images. Comment on symptoms of diseases. (Self-management, social responsibility)</li> <li>• Flashcards/models showing examples of homologous and analogous organs. (critical thinking , Knowledge)</li> </ul>
		Chapter-7: Human Health and Diseases	<ul style="list-style-type: none"> <li>• Common Human diseases</li> <li>• Immunity</li> <li>• AIDS</li> <li>• Cancer</li> <li>• Drugs and alcohol abuse</li> <li>• SDG-3 Good health</li> </ul>	
<b>August</b>	24	Chapter-8: Microbes in Human Welfare	<ul style="list-style-type: none"> <li>• Microbes in household products</li> <li>• Microbes in industrial products.</li> <li>• Microbes in sewage treatment</li> <li>• Microbes in the production of Biogas</li> </ul>	<ul style="list-style-type: none"> <li>• Isolate DNA from available plant material such as spinach, papaya, etc. (critical thinking, Knowledge)</li> </ul>

			<ul style="list-style-type: none"> <li>• Microbes as biocontrol agents</li> <li>• Microbes as biofertilizer.</li> <li>• SDG-6 Clean water</li> <li>• SDG-11 sustainable communities.</li> <li>• SDG-12 Responsible consumption</li> </ul>	
<b>September</b>	10	Chapter-9: Biotechnology Principles and Processes	<ul style="list-style-type: none"> <li>• Principles of Biotechnology</li> <li>• Tools of Recombinant DNA technology</li> <li>• Processes of RDT</li> <li>• SDG-2 Zero hunger</li> <li>• SDG-3 Good health</li> <li>• SDG-9 Innovation</li> </ul>	<ul style="list-style-type: none"> <li>• Study the plant population density quadrat method.( critical thinking, Knowledge, collaboration)</li> </ul>
	Revision and Mid Term Examination			
<b>October</b>	12	Chapter-10: Biotechnology and Its Application	<ul style="list-style-type: none"> <li>• Biotechnological application in agriculture</li> <li>• Applications in Medicine</li> <li>• Transgenic animals</li> <li>• Ethical issues</li> <li>• SDG-3 good health</li> <li>• SDG-13 climate action</li> <li>• SDG-15 Life on land</li> </ul>	<ul style="list-style-type: none"> <li>• Model/specimen showing symbiotic association in root nodules of leguminous plants, etc. (critical thinking, social responsibility)</li> </ul>
	14	Chapter-11: Organisms and Populations	<ul style="list-style-type: none"> <li>• Organism and its Environment</li> <li>• Population</li> <li>• Population growth</li> <li>• Life history variation</li> <li>• Population interaction</li> <li>• SDG-13 climate action</li> <li>• SDG-15 life on land</li> </ul>	
<b>November</b>		Chapter-12: Ecosystem	<ul style="list-style-type: none"> <li>• Ecosystems, patterns, components.</li> </ul>	

	10		<ul style="list-style-type: none"> <li>• Productivity and decomposition.</li> <li>• Energy flow, Pyramids of number, biomass and energy.</li> </ul>	
<b>November</b>	10	Chapter-13: Biodiversity and Conservation	<ul style="list-style-type: none"> <li>• Biodiversity and its types</li> <li>• Biodiversity loss and its conservation</li> <li>• SDG-14 life below water</li> <li>• SDG-15 life on land</li> </ul>	<ul style="list-style-type: none"> <li>• Study the plant population frequency by quadrat method(critical thinking, collaboration, Knowledge)</li> </ul>
<b>December/January</b>	10	Revision		
		Preboard 1		
		Preboard 2		

## BUSINESS STUDIES

Units		Marks
<b>Part A</b>	<b>Principles and Functions of Management</b>	
1.	Nature and Significance of Management	16
2	Principles of Management	
3	Business Environment	
4	Planning	14
5	Organising	
6	Staffing	20
7	Directing	
8	Controlling	
	<b>Total</b>	<b>50</b>
<b>Part B</b>	<b>Business Finance and Marketing</b>	
9	Financial Management	15
10	Financial Markets	
11	Marketing Management	15
12	Consumer Protection	
	<b>Total</b>	<b>30</b>
<b>Part C</b>	<b>Project Work &amp; VIVA</b>	<b>20</b>
	<b>TOTAL</b>	<b>100</b>

**Main book- Business Studies NCERT (PART A AND PART B)**

**SUGGESTED BOOKS FOR CASE STUDIES, HOTS, APPLICATION BASED AND REASONING:**

**BUSINESS STUDIES (PART A AND PART B)-BY SUBHASH DEY, ALKA DHAWAN AND POONAM GANDHI**



<p><b>MAY /25</b></p>	<p><b>3.BUSINESS ENVIRONMENT</b></p> <p><b>SDG 17: Partnerships for the Goals</b></p> <p><b>PART- B 11.MARKETING</b></p> <p><b>SDG 12: Responsible Consumption and Production</b></p> <p><b>12.CONSUMER PROTECTION</b></p> <p><b>SDG 16: Peace, Justice and Strong Institutions</b></p>	<p>Business environment Concept, importance, features Dimension and Demonetization</p> <p>Marketing – Concept, features, functions and philosophies *Marketing Mix – 4Product-branding, labeling and packaging Price - Concept, Factors determining price Physical Distribution Promotion</p> <p>Consumer Protection: Concept and importance scope of consumer protection.</p> <p>Meaning of consumer as per CPA 2019, Rights and responsibilities of consumers. Who can file a complaint? Redressal machinery Remedies available Consumer awareness - Role of consumer organizations and NGO</p>	<p>*To appreciate the importance and dimension of business environment and effect on nation</p> <p>To make understand 4 P’s of Marketing – Concept, functions and philosophies</p> <p>To understand the consumer their rights, duties according to the Consumer Protection Act, 2019 How the legal redressal machinery under Consumer protection Act, 2019.</p>	<p>Monthly Business Environment Tracker</p> <p><b>Environmental Scanning</b></p> <p>Classroom Market Simulation Activity.</p> <p><b>Value Creation</b></p> <p>Mind map and flow chart, role play based on consumer rights and duties.</p> <p><b>Rights Advocacy</b></p>
<p><b>JUNE</b></p>		<p><b>SUMMER VACATION</b></p>		

<p><b>JULY/30</b></p>	<p><b>PART-B</b>  <b>Unit 9:</b>  <b>FINANCIAL</b>  <b>MANAGEMENT</b></p> <p><b>SDG 8: Decent</b>  <b>Work and</b>  <b>Economic</b>  <b>Growth</b></p> <p><b>UNIT 10.</b>  <b>FINANCIAL</b>  <b>MARKET</b></p> <p><b>SDG 9:</b>  <b>Industry,</b>  <b>Innovation and</b>  <b>Infrastructure</b></p>	<p>Concept, role and objectives of financial management financial decisions:  Financial Planning - concept and importance  *Capital Structure – concept and factors affecting capital structure Fixed and Working Capital - Concept and factors affecting their requirements</p> <p>Concept, Functions and Types. *Money market (only concept)  *Capital market and its types  methods of flotation in the Primary market. Discuss the concept of capital Market.  *Distinguish between primary and Secondary markets.  *Stock Exchange - Functions and trading procedure  *Depository services and Demat account as used in the trading procedure of Securities.  *Securities and Exchange Board of India (SEBI) - objectives and functions</p>	<p>To understand the concepts of financial management.</p> <p>Understand the concept of financial Market.  Will make use of depository services</p> <p>Discuss the methods of flotation</p>	<p>Draw a flow chart and “Expansion Dilemma” Case Study</p> <p><b>Wealth Maximisation</b></p> <p>Project based on Stock market</p> <p>Dummy opening of Demat account and to do trading.</p> <p><b>Resource Mobilisation</b></p> <p><b>Quantitative and Qualitative Reasoning</b></p>
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AUG/32	<b>PART-A</b> <b>4. PLANNING</b>  <b>SDG 11: Sustainable Cities and Communities</b>          <b>5. ORGANISING</b>  <b>SDG 9: Industry, Innovation and Infrastructure</b>	<p>Concept, importance and limitation *Planning process *Describe the steps in the process of planning.  *Single use and standing plans. Objectives, Strategy, Policy, Procedure, method Rule, budget and Programme</p> <p>Concept and importance of organisational Structure (functional and divisional). Formal and informal Organization- concept.  *Delegation: concept, elements and Importance.</p>	<p>To develop an understanding of different types of plans and how any organisation goes through stepwise.</p> <p>Students will able to understand the concept of organizing as a structure and as a process.</p>	<p>PPT and Planning vs No Planning Experiment</p> <p><b>Future Goal-setting</b></p> <p><b>Strategic Thinking and Foresight</b></p> <p>By drawing organization structure and doing role play</p> <p><b>Structural Coordination</b></p> <p><b>Performance Evaluation and Accountability</b></p>
SEP/16		<p>*Decentralization: concept and importance.</p> <p><b><u>Revision of all chapters</u></b>  <b><u>MID TERM EXAMINATION-2025-26</u></b></p>	<p>To recapitulating concept so to make themselves solving HOTS</p>	<p>Assignment /Worksheets</p>

<p><b>OCT/32</b></p>	<p><b>6. Staffing</b>  <b>SDG 4: Quality Education</b>  <b>SDG 5: Gender Equality</b></p> <p><b>8.CONTROLLING</b>  <b>SDG 12: Responsible Consumption and Production</b></p>	<p>*Concept and importance of staffing *Staffing as a part of Human Resource  *Staffing and Recruitment 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> <p>Controlling—concept and Importance  *Relationship between Planning and Controlling  *Steps in Controlling</p>	<p>Understand the steps in the process of staffing.  To know the difference between different types of training.</p> <p>To appreciate the relation of Planning and Controlling.</p>	<p>Role play and presentation</p> <p><b>Workforce Planning and Analysis</b></p> <p><b>Ethical and Legal Awareness</b></p> <p>Flow charts/Mind map and presentation</p> <p><b>Analytical Evaluation</b>  <b>Strategic Prioritization</b>  <b>Problem-Solving &amp; Corrective Reasoning</b></p>
<p><b>NOV/25</b></p>	<p><b>7.DIRECTING</b>  <b>SDG 3: Good Health and Well-being</b></p>	<p>Concept of directing and its importance.  Supervision-concept  Motivation-meaning, importance, Maslow’s Theory-Assumption  Financial and non-financial incentives</p> <p>Leadership-Types of leadership  Communication-formal and Informal  Barriers of communication and measures and how to overcome barriers.</p>	<p>To understand different elements of Directing and how motivation and communication help in managing a organization effectively.</p> <p>Students will be able to know how to face viva exam for board</p>	<p>Presentation,  Different games  Role play for leadership.</p> <p><b>Effective Leadership</b>  <b>Motivational Intelligence</b>  <b>Communication Proficiency</b></p>
<p><b>DEC/20</b></p>	<p><b>PRACTICAL FILE</b>  <b>REVISION OF FULL COURSE</b></p>	<p>*Sample papers  *Chapter wise revision  *Project files  <b>PRE-BOARD I (Full course)</b></p>	<p>Recapitulation of all concepts</p>	<p>Assignments  Sample papers</p>

JAN/10		PRE-BOARD II (Full course)		
FEB/08		REVISION	Students will solve their queries	Assignments/sample papers

**COMPETENCIES:**

- **Influential Leadership & Communication**
- **Environmental Scanning**
- **Consumer Advocacy & Ethical Responsibility**
- **Investment & Market Awareness**
- **Financial Literacy & Decision-Making**

## CHEMISTRY

Month	Period	Units	Content	Learning Objectives
APRIL	15	<b>Halo alkanes and Haloarenes</b>	Nomenclature of haloalkanes and haloarenes, physical properties of haloalkanes and haloarenes, nature of C-X bond, Mechanism of substitution reactions, optical rotation, uses and environmental effects of dichloromethane, trichloromethane, tetrachloromethane, iodoform, freons, DDT. SDG 13 – Climate Action SDG 12 – Responsible Consumption and Production	Students will be able to – <ul style="list-style-type: none"> <li>• Recognize different types of alkyl halides (Conceptual Understanding)</li> <li>• Convert given name of alkyl halides to structure. (Critical thinking)</li> <li>• Write the order of reactivity. (Critical thinking)</li> <li>• Convert the given compound to another compound using chemical reactions. (Conceptual understanding)</li> </ul>
	14	<b>Alcohol, Phenol and Ethers</b>	Alcohols- Nomenclature, methods of preparation, physical properties of alcohols, chemical properties (of primary alcohols) identification of primary, secondary and tertiary alcohols. Mechanism of dehydration of alcohols, uses with special reference to methanol and ethanol acidic hydration of alkenes. Phenols- Nomenclature, methods of preparation, physical properties, chemical Properties of phenols, electrophilic substitution reaction of phenols. SDG 3 – Good Health and Well-being SDG 7 – Affordable and Clean Energy	Students will be able to – <ul style="list-style-type: none"> <li>• Name alcohols, according to IUPAC. (Conceptual understanding)</li> <li>• Discuss the preparation reactions involved in the formation of alcohols. (Conceptual understanding)</li> <li>• Correlate physical properties of alcohols with their structures. (Critical thinking)</li> <li>• Discuss chemical reactions of primary alcohols. (Knowledge based)</li> <li>• Distinguish between primary, secondary and tertiary alcohols. (comparative analysis)</li> <li>• Name phenol and ethers according to IUPAC. (Knowledge based)</li> <li>• Discuss the preparation reactions involved in the formation of phenols. (Conceptual understanding)</li> <li>• Discuss chemical reactions of phenols. (Conceptual understanding)</li> </ul>

<b>MAY</b>	<b>8</b>	<b>Alcohol, Phenol and Ethers</b>	Ethers- Nomenclature, methods of preparation, physical properties, chemical properties of ethers and uses. SDG 3 – Good Health and Well-being SDG 9 – Industry, Innovation and Infrastructure	Students will be able to – <ul style="list-style-type: none"> <li>• Name ethers according to IUPAC. (Knowledge based)</li> <li>• Discuss the preparation reactions involved in the formation of phenols and ethers. (Conceptual understanding)</li> <li>• Discuss chemical reactions of ethers. (Conceptual understanding)</li> </ul>
	<b>14</b>	<b>Aldehyde, Ketone and Carboxylic acid</b>	Aldehyde and ketone: Nomenclature, nature of carbonyl group, methods of preparation, physical properties SDG 3 – Good Health and Well-being SDG 12 – Responsible Consumption and Production	Students will be able to – <ul style="list-style-type: none"> <li>• Discuss the preparation reactions involved in the formation of aldehyde and ketone. (Conceptual understanding)</li> <li>• Understand how to name different aldehydes and ketones. (Knowledge based)</li> </ul>
<b>JULY</b>	<b>13</b>	<b>Aldehyde, Ketone and Carboxylic acid</b>	Chemical properties of aldehydes and ketone, Mechanism of nucleophilic addition, reactivity of alpha hydrogen. Carboxylic acid: Nomenclature, acidic nature, methods of preparation, physical and chemical properties and uses. SDG 3 – Good Health and Well-being SDG 9 – Industry, Innovation and Infrastructure	Students will be able to – <ul style="list-style-type: none"> <li>• Discuss the preparation reactions involved in the formation of aldehyde and ketone. (Conceptual understanding)</li> <li>• Understand how to name different aldehydes and ketones. (Knowledge based)</li> <li>• Discuss the reactivity of different carbonyl compounds towards nucleophilic reaction. (Conceptual understanding)</li> <li>• Write the products of addition reaction to carbonyl compounds. (Knowledge based)</li> <li>• To understand to differentiate between aromatic and aliphatic compounds. (Comparative analysis)</li> </ul>
	<b>15</b>	<b>Solution</b>	Types of solutions, expression of concentration of solutions of solids in liquids, solubility of	Students will be able to-

			<p>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.</p> <p>SDG 6 – Clean Water and Sanitation SDG 3 – Good Health and Well-being</p>	<ul style="list-style-type: none"> <li>• Distinguish between ideal and non-ideal solutions. (Conceptual understanding, comparative analysis)</li> <li>• Express concentration of solution in different unit. (Problem solving)</li> <li>• Classify different types of numerical. (Conceptual understanding)</li> <li>• Explain different types of colligative properties. (Conceptual understanding)</li> <li>• Solve different types of numerical on colligative properties. (Problem solving)</li> </ul>
<b>AUGUST</b>	<b>3</b>	<b>Solution</b>	<p>Determination of molecular masses using colligative properties, abnormal molecular mass, Van't Hoff factor.</p> <p>SDG 6 – Clean Water and Sanitation SDG 3 – Good Health and Well-being</p>	<p>Students will be able to -</p> <ul style="list-style-type: none"> <li>• Explain the abnormal molar masses. (Conceptual understanding)</li> </ul>
	<b>25</b>	<b>Electrochemistry</b>	<p>Redox reactions, EMF of a cell, standard electrode potential Nernst equation and its application to chemical cells, 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.</p> <p>SDG 7 – Affordable and Clean Energy SDG 9 – Industry, Innovation and Infrastructure</p>	<p>Students will be able to-</p> <ul style="list-style-type: none"> <li>• Distinguish between oxidizing agent and reducing agent. (conceptual understanding, comparative analysis)</li> <li>• Describe the formation of different types of cells. (Knowledge based)</li> <li>• Find the cell potential of electrochemical cell using the Nernst equation. (Problem solving)</li> <li>• Understand the conductivity and molar conductivity and effect of dilution. (Conceptual understanding).</li> <li>• Explain corrosion and ways to prevent it. (Application based)</li> </ul>

SEPTEMBER	12	Chemical Kinetics	<p>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.            SDG 9 – Industry, Innovation and Infrastructure            SDG 12 – Responsible Consumption and Production</p>	<p>Students will be able to-</p> <ul style="list-style-type: none"> <li>• Distinguish between slow, moderate, fast reaction (conceptual understanding, comparative analysis)</li> <li>• Define the average, instantaneous rate of reaction. (Conceptual understanding)</li> <li>• Discuss the factors affecting rate of a reaction. (Critical thinking)</li> <li>• Derive the integrated rate equation for the first and zero order of the reaction. (Problem solving)</li> <li>• Derive the half-life period for the zero and first order reaction. (Problem solving)</li> <li>• Differentiate between order and molecularity. (comparative analysis)</li> <li>• Understand the collision theory. (Conceptual understanding)</li> </ul>
OCTOBER	14	Amines	<p><b>Amines:</b> Nomenclature, classification, structure, methods of preparation, physical and chemical properties, uses, identification of primary, secondary and tertiary amines.</p> <p><b>Diazonium salts:</b> Preparation, chemical reactions and importance in synthetic organic chemistry.</p> <p>SDG 12 – Responsible Consumption and Production            SDG 9 – Industry, Innovation and Infrastructure</p>	<p>Students will be able to-</p> <ul style="list-style-type: none"> <li>• Provide both IUPAC and common names for amines. (Knowledge based)</li> <li>• Differentiate primary, secondary, and tertiary amines. (Comparative analysis)</li> <li>• Utilize the <math>pK_b</math> values of amine or the <math>pK_a</math> values of the conjugate acids of amines and arrange the order of basicity of amines. (Conceptual understanding)</li> <li>• Write the products using chemical reaction of diazonium salts. (Knowledge based)</li> </ul> <p>Students will be able to-</p> <ul style="list-style-type: none"> <li>• Define the biomolecules like carbohydrates, proteins, nucleic acids, and vitamins. (Conceptual understanding)</li> </ul>
	12	Biomolecules	<p><b>Carbohydrates</b> - Classification (aldoses and ketoses), monosaccharides (glucose and fructose), D-L configuration oligosaccharides (sucrose, lactose, maltose), polysaccharides</p>	

			<p>(starch, cellulose, glycogen); Importance of carbohydrates.</p> <p><b>Proteins</b> -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.</p> <p><b>Vitamins</b> - Classification and functions.</p> <p><b>Nucleic Acids:</b> DNA and RNA.</p> <p>SDG 3 – Good Health and Well-being SDG 12 – Responsible Consumption and Production</p>	<ul style="list-style-type: none"> <li>• Identify different types of bonding present in different type of biomolecule. (Knowledge based)</li> <li>• Write the classification of carbohydrate. (Conceptual understanding)</li> <li>• Compare and contrast the properties of DNA and RNA. (critical thinking, comparative analysis)</li> <li>• Understand the Fischer and Haworth structure of glucose, fructose and its chemical reactions. (conceptual understanding)</li> <li>• Explain the importance of vitamins in daily food materials for healthy body. (conceptual understanding)</li> </ul>
<b>NOVEMBER</b>	<b>10</b>	<b>D and F block elements</b>	<p>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 <math>K_2Cr_2O_7</math> and <math>KMnO_4</math>.</p> <p><b>Lanthanoids</b> - Electronic configuration, oxidation states, chemical reactivity and lanthanoid contraction and its consequences.</p> <p><b>Actinoids</b> - Electronic configuration, oxidation states and comparison with lanthanoids.</p> <p>SDG 9 – Industry, Innovation and Infrastructure SDG 12 – Responsible Consumption and Production</p>	<p>Students will be able to –</p> <ul style="list-style-type: none"> <li>• Distinguish between d &amp; f block elements. (Comparative analysis)</li> <li>• Write the general electronic configuration of d and f block elements. (Knowledge based)</li> <li>• Understand the physical and chemical properties of elements. (Conceptual understanding)</li> <li>• Calculate their magnetic moment and expresses it in correct unit. (problem solving)</li> <li>• Understand the splitting of d orbitals and explain colour of the compounds. (conceptual understanding)</li> <li>• Know the different methods used to obtain their compounds. (conceptual understanding)</li> <li>• Draw the structure of chromate, dichromate, manganate and permanganate ion. (Knowledge based)</li> <li>• Predict the reducing and oxidizing nature of their compounds. (Critical thinking)</li> </ul>

	16	<b>Coordination compounds</b>	<p>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). SDG 9 – Industry, Innovation and Infrastructure</p>	<ul style="list-style-type: none"> <li>• Explain lanthanoid contraction with evidence. (Conceptual understanding)</li> </ul> <p>Students will be able to -</p> <ul style="list-style-type: none"> <li>• Describe the term coordination complex &amp; ligand. (Conceptual understanding)</li> <li>• Give the name of coordination compound. (Knowledge based)</li> <li>• Describe the various type of isomerism in complex compound. (Knowledge based)</li> <li>• Mention the hybridization in complex compound (Conceptual understanding)</li> <li>• Identify low spin and high spin complex. (Conceptual understanding)</li> <li>• Describe crystal field splitting energy. (Conceptual understanding)</li> <li>• To appreciate the importance and applications of coordination compounds in our daily life. (Application based)</li> </ul>
<b>DECEMBER -JANUARY</b>	<b>Revision and Pre-boards</b>			

**PRACTICALS:**

**April**

1. Determination of concentration/molarity of  $\text{KMnO}_4$  solution by titrating it against a standard solution of
  - i. Oxalic acid
  - ii. Ferrous ammonium sulphate (Mohr salt)
2. Determination of one cation and one anion in a given salt.

**May**

1. Determination of one cation and one anion in a given salt.

## 2. Investigatory project

### July

Determination of one cation and one anion in the given salt.

### August

Determination of one cation and one anion in the given salt.

### September

**Chromatography**- separation of mixtures of red and blue ink by paper chromatography and determination of  $R_f$  values OR Separation of pigments from extracts of leaves and flowers by paper chromatography and determination of  $R_f$  values.

### October

**Tests for the functional group present in the organic compounds**- unsaturation, alcoholic, phenolic, aldehydic, ketonic, carboxylic and amino (primary groups).

### November

1. Preparation of inorganic compounds – potash alum, ferrous ammonium sulphate.
2. Characteristic tests of carbohydrates, fats and proteins in pure samples and their detection in given foodstuffs.

## COMPUTER SCIENCE

BOOK NAME: A TEXT BOOK OF COMPUTER SCIENCE WITH PYTHON .

PUBLISHER: SULTAN CHAND PUBLICATIONS

AUTHOR NAME: MS PREETI ARORA

UNIT	NAME	WEIGHTAGE
1	Computational Thinking and Programming – 2	40
2	Computer Networks	10
3	Database Management	20
	TOTAL	70

MONTH	PERIODS	CONTENT	LEARNING OBJECTIVES AND SDG	SUGGESTED ACTIVITIES AND LEARNING OUTCOMES
April	30	Review of Python Introduction to problem solving: Steps for problem solving (analysing the problem, developing an algorithm, coding, testing and debugging). representation of algorithms using flowchart and pseudo code, decomposition. Knowledge of data types, Operators Flow of control	To recap the program logic development.  To understand the usage of collections for advance python programming concepts,	1) Simple programs e.g.: absolute value, sort 3 numbers and divisibility of a number.  2) Generating pattern, summation of series, finding the factorial of a positive number etc.  3) To design at least five interfaces and link them as a module . The programs of the module should be based on python data collections.  4) Real-life Problem Solving Programs for:

		<p>introduction, use of indentation, sequential flow, conditional and iterative flow control.</p> <ul style="list-style-type: none"> <li>• Conditional statements: if, if-else, if-elif-else, flowcharts,</li> <li>• Iterative statements: for loop, range function, while loop, flowcharts, break and continue statements, nested loops.</li> </ul> <p>Strings: introduction, indexing, string operations. Lists: introduction, indexing, list operations . Dictionary:introduction and operations.</p>	<p>SDG 4 – Quality Education SDG 8 – Decent Work &amp; Economic Growth</p>	<p>a) Electricity bill calculation. b) Library fine calculation c) Income tax calculator</p> <p>LEARNING OUTCOMES (Competency)</p> <ol style="list-style-type: none"> <li>1) Problem Solving</li> <li>2) Debugging Skills</li> <li>3) Analytical Thinking</li> <li>4) Programming proficiency.</li> </ol>
May	26	<p>Functions in Python 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).</p>	<p>To implement a modular approach to programming.</p> <p>SDG 4 – Quality Education SDG 9 – Industry, Innovation &amp; Infrastructure</p>	<p>1)To design at least five interfaces and link them as a module . The programs of the module should be based on python data collections.</p> <p>2) Function-Based Mini Project. 3) Debugging Activity</p> <p>LEARNING OUTCOMES (Competency)</p> <ol style="list-style-type: none"> <li>1) Problem Solving</li> <li>2) Analytical Thinking</li> <li>3) Programming skills</li> <li>4) Logical Reasoning</li> </ol>
<b>SUMMER BREAK</b>				
July	30	<p>Data File Handling Types of files (Text file, Binary file, CSV file), relative and absolute paths.</p> <ul style="list-style-type: none"> <li>• 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()</li> </ul>	<p>To understand the concept of data files as data storage and manipulations.</p> <p>SDG 9 – Industry, Innovation &amp; Infrastructure.</p>	<p>To make program interfaces on:</p> <ol style="list-style-type: none"> <li>1) Text file writing ,reading and manipulating.</li> <li>2) Binary file to record I/O based operations.</li> <li>3) CSV to export data for further usage.</li> <li>4) Word Count Program-Count words, characters, and lines in a text file.</li> </ol>

		<p>and readlines(), seek and tell methods, manipulation of data in a text file.</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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( )</li> </ul>	<p>(Data storage and management systems for organizations)</p> <p>SDG 16 – Peace, Justice &amp; Strong Institutions. (Promotes secure and reliable data practices)</p>	<p>LEARNING OUTCOMES (Competency)</p> <ol style="list-style-type: none"> <li>1) Algorithmic Thinking</li> <li>2) Logical Reasoning</li> <li>3) Problem Solving</li> <li>4) Code Optimization</li> <li>5) Debugging Skills</li> </ol>
August	32	<p>Data Structure</p> <p>Stack, operations on stack (push &amp; pop), implementation of stack using list. Introduction to queue, operations on queue (enqueue, dequeue, is empty, peek, is full), implementation of queue using list.</p> <p>Exception Handling in python</p> <p>Errors and Exceptions.</p> <p>Handling Exceptions in Python, debugging.</p>	<p>To understand stack /queue operations.</p> <p>To understand the exception handling and using try block and exception block.</p> <p>SDG 4 – Quality Education</p> <p>SDG 9 – Industry, Innovation &amp; Infrastructure</p>	<ol style="list-style-type: none"> <li>1) To design a program interface on stack push and pop using a list as Data Structure.</li> <li>2) Using Python pdb lib for debugging.</li> <li>3) Undo-Redo Simulation —late undo-redo functionality using stack.</li> </ol> <p>LEARNING OUTCOMES (Competency)</p> <ol style="list-style-type: none"> <li>1) Algorithmic Thinking</li> <li>2) Logical Reasoning</li> <li>3) Problem Solving</li> <li>4) Code Optimization</li> <li>5) Data Management</li> <li>6) Critical Thinking</li> </ol>
September	16	<p>Data Management</p> <p>Relational databases: Concept of a database, relations, attributes and tuples.</p>	<p>To understand the concept of RDBMS.</p> <p>To create tables with validations.</p>	<ol style="list-style-type: none"> <li>1) Database Creation.-Create a student database with queries (SELECT, WHERE, GROUP BY).</li> <li>2) Mini Project – School Management DB</li> </ol>

		<p>keys- candidate key, primary key, alternate key, foreign key; Degree and cardinality of table.</p> <p>MID TERM EXAMINATION</p>	<p>SDG 4 – Quality Education</p> <p>SDG 12 -Responsible Consumption &amp; Production</p> <p>SDG 16 – Peace, Justice &amp; Strong Institutions</p>	<p>3) Data Analysis from File - Read file data and generate summary statistics (highest marks, average, etc.)</p> <p>LEARNING OUTCOMES (Competency)</p> <p>1) Logical and analytical thinking. 2) Data Analysis, Responsible Data Use 3) Data Organization 4) Decision-Making Skills</p>
October	28	<p>Data Management and SQL SQL - DDL ,DML,DQL,TCL DDL CREATE ,ALTER ,DESC DML -INSERT ,UPDATE ,DELETE DQL- SELECT(Clauses ,operators , group by ,order by, aggregate functions) JOINS - Natural ,Equi ,outer and inner.</p>	<p>To learn and apply tuple inserting , updating and deleting. To learn and apply all clauses of select query.</p>	<p>1) Table Creation/ data types/ constraints. 2) Adding/Updating/Deleting Tuples. 3) Alter Table Options. 4) Agg Functions</p> <p>LEARNING OUTCOMES (Competency)</p> <p>1) Data Management 2) Organizational Skills 3) Data Storage Understanding</p>
November	32	<p>Interface Python with SQL Connecting to MySQL from Python. Connection , cursor object and methods. Computer Networks Evolution of networking: introduction to computer networks, evolution of networking (ARPANET, NSFNET, INTERNET) ● Data communication terminologies ● Transmission media: Wired communication media (Twisted pair</p>	<p>To learn the steps to establish connection creating connection objects , cursor objects and executing queries.</p> <p>SDG 4 – Quality Education</p>	<p>1)Python Stub program to connect and send queries to MySQL Server. 2)Exception handling programs with commit and rollback. 3)Practical and Project file for annual assessment. 4) Aggregate Functions Practice 5) Query Writing Challenge</p> <p>LEARNING OUTCOMES (Competency)</p>

		<p>cable, Coaxial cable, Fiber-optic cable), Wireless media (Radio waves, Microwaves, Infrared waves)</p> <ul style="list-style-type: none"> <li>● Network devices</li> <li>● Network topologies and Network types: types of networks (PAN, LAN, MAN, WAN), networking topologies (Bus, Star, Tree)</li> <li>● Network protocol: HTTP, FTP, PPP, SMTP, TCP/IP, POP3, HTTPS, TELNET, VoIP, wireless/mobile communication protocol such as GSM, GPRS and WLL</li> <li>● Mobile telecommunication technologies: 1G, 2G, 3G, 4G and 5G</li> <li>● Introduction to web services:</li> </ul>	<p>SDG 12 – Responsible Consumption &amp; Production</p> <p>Case Study based concepts for network setup.</p> <p>SDG 9 – Industry, Innovation &amp; Infrastructure</p> <p>SDG 16 – Peace, Justice &amp; Strong Institutions</p>	<p>1) Optimization Skills 2) Logical Thinking 3) Integration Skills 4) Analytical Skills</p> <p>1) Network Topology Chart- Draw and compare Star, Bus, Ring, Mesh topologies. 2) IP Address Classification- Identify the class of given IP addresses. 3) Networking Case Study-Design a network layout for a school computer lab.</p> <p><b>LEARNING OUTCOMES (Competency)</b> 1) Conceptual Understanding, Analytical Skills 2) Digital Citizenship, Communication Skills 3) Planning Skills, Real-world Application</p>
December	20	Revision for Pre board Examination	Annual Project as s/w design.	

## ECONOMICS

<b>Part A</b>	<b>Introductory Macro Economics</b>	<b>Marks (40)</b>
Unit 1	National Income and Related Aggregates	10
Unit 2	Money and Banking	6
Unit 3	Determination of Income and Employment	12
Unit 4	Government Budget and the Economy	6
Unit 5	Balance of Payments and Foreign exchange rate	6
<b>Part B</b>	<b>Indian Economic Development</b>	<b>(40)</b>
Unit 6	Development experience and Economic Reforms	8
Unit 7	Current challenges facing Indian economy	22
Unit 8	Development experience of India- comparison with neighbors	10
<b>Part C</b>	<b>Annual Project</b>	<b>(20)</b>

### **Suggested Books:**

**Introductory Macro Economics and Indian Economic Development published by NCERT, TR Jain, JP Goel, IC Dhingra, ID Mangla, Sandeep Garg, and Deepashree.**

Month/ Period	Unit	Content	Learning Objective	Suggested Activity/ Learning Outcome
April / 35	<b>PART A: Introductory Macro Economics</b> <b>Unit 1:</b> National Income and Related Aggregates (continued)  <b>SDG 8: Decent work and Economic Growth</b> <b>SDG 1 :</b> <b>No Poverty</b>	Macro Economics: Its meaning, Some basic concepts of Macro Economics, Consumption Goods, Capital Goods, Final Goods, Intermediate Goods, Stocks and Flows, Gross investment and Depreciation. Circular Flow of Income: Real Flow, Money Flow. Concepts related to National Income: Gross National Product (GNP), Net National Product (NNP), Gross Domestic Product (GDP), and Net Domestic Product (NDP) at Market price and at Factor Cost.	To understand nature of Goods used. To study the flow of Money within sectors. To understand concept related to National Income	Prepare mind maps / flowcharts of Formula and components to calculate National Income.  <b>Learning Outcome</b> <b>Assess and</b> <b>Interpret</b> <b>methods of</b> <b>calculating</b> <b>National Income.</b>
May / 25 Periods	<b>Unit 1:</b> National Income and Related Aggregates <b>UNIT 2 :</b> Money and Banking(continued)  <b>SDG 9 :</b> <b>Industry Innovation and infrastructure.</b>	Real and Nominal GDP, Methods of Estimating National Income, GDP and Welfare. <b>Unit 2: Money and Banking:</b> Its meaning, Supply of Money- Currency held by the Public and Net Demand deposits held by Commercial banks. Money Creation by Commercial banking System.	To understand different methods of calculating N.I.  To understand how Money is circulated and created in the economy	Compare purchasing power parity of Indian currency with other currencies in the world.  <b>Learning Outcome</b> <b>Assess functions</b> <b>of money and</b> <b>currency in an</b> <b>economy.</b>
<b>SUMMER VACATION</b>				

<p><b>July / 30</b></p>	<p><b>Unit 2:</b> Money and Banking</p> <p><b>Unit 3:</b> Determination of Income and Employment (continued)</p> <p><b>SDG 8:</b> Decent work and Economic Growth</p>	<p>Central bank and its functions (example of the RBI): Bank of issue, Banker to Government, Bankers bank, Controller of credit through Bank Rate, CRR, SLR, Repo rate, Open market operations, Margin requirement.</p> <p><b>Unit 3:</b> Aggregate demand and its components, Propensity to consume and propensity to save (average and marginal). Short run equilibrium output: Investment Multiplier Meaning of Full employment and involuntary unemployment. Problems of excess demand and deficient demand; Measures to correct them- changes in the government spending, taxes and money supply.</p>	<p>To understand the role and working of RBI in India.</p> <p>To analyse how countries solve their economic problems and attain stability.</p>	<p><b>Learning Outcome</b> <b>Critically analyse the role of Banks in the economic system.</b></p> <p>To discuss and analyse the scenario of boom or depressions occurred in the world. <b>Learning outcome</b> <b>Critically analyse the economic conditions of different countries on various parameters learned.</b></p>
<p><b>August / 32</b></p>	<p><b>Unit 4:</b> Government budget and Economy. <b>SDG 8:</b> Decent work and Economic Growth <b>SDG 10</b> Reduced Inequalities</p> <p><b>Unit 5:</b> Balance of Payments (continued)</p>	<p><b>Unit 4:</b> Government Budget - Meaning, objectives and components. Classification of Receipts- Revenue Receipts and Capital Receipts; classification of expenditure- Revenue expenditure and Capital expenditure. Balanced, surplus and deficit budget. Measures of Govt. Deficit- Revenue deficit, fiscal deficit, primary deficit-meaning. <b>Unit 5:</b> Balance of Payment Accounts-meaning and</p>	<p>To study different tools used in the economic system to solve economic problems.</p> <p>To understand the process of budgeting done by the govt.</p>	<p>To analyse the role of the government and compare the changes in the government policy under different budgets.</p> <p><b>Learning outcome</b> <b>Critically assess the annual budgets of the government.</b></p>

	<b>SDG 17 Partnerships for Goals</b>	components, BOP Surplus and deficit-meaning,		<b>Analyse Newspaper articles and prepare BOP tables</b>
<b>September /16</b>	<b>Unit 5:</b> Balance of Payments  <b>SDG 17 Partnerships for Goals</b>  <b>PART B: Indian Economic Development:</b> (continued)	<b>Unit 5:</b> 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. <b>Unit 6:</b> A brief introduction of the state of Indian economy on the eve of independence.	To analyse how the country deals with international community and manage its funds.	To compare exchange rate of different currencies in relation to Indian currency  <b>Learning outcome Analyse Newspaper articles on rupee values.</b>
<b>MID TERM EXAMINATION</b>				
<b>October /32</b>	<b>PART B: Indian Economic Development:</b> <b>Unit 6:</b> Development Experience(1947-1990) and Economic Reforms since 1991  <b>SDG 1: No Poverty</b> <b>SDG 2 : Zero Hunger</b> <b>SDG 8: Decent work and Economic Growth</b>  <b>Unit 7:</b> Current challenges facing Indian Economy.  <b>SDG 4: Quality</b>	Indian economic system and common goals of Five year plans. Main features, problems and policies of agricultural (institutional aspects and new agricultural strategy), Industry (IPR 1956; SSI-role and importance) and Foreign Trade Economic Reforms since 1991: Features and appraisal of Liberalisation, Privatisation and Globalisation, Concept of Demonetisation and GST. <b>Unit 7:</b> Human Capital Formation: How people become resource; Role of Human capital in economic development;	To gain knowledge about state of our country before and after independence.  To study the efforts taken by the government to solve economic crisis.	Make comparative analysis of Indian economy before and after Independence in different sectors  <b>Learning outcome Analysis of Indian economy before and after Independence in different sectors</b>

	<b>Education SDG 13 : Climatic Action</b>	Growth of Education Sector in India. Rural Development: key issues- Credit and marketing-role of cooperatives; agricultural diversification. Alternative farming, organic farming.		<b>Learning outcome Identify causes of unemployment. Analyse environmental issues Suggest sustainable development strategies.</b>
<b>November / 25</b>	<b>Unit 7:</b> Current challenges facing Indian Economy.  <b>Unit 8:</b> Development Experience of India  <b>SDG 17 Global Partnerships</b>	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. <b>Unit 8:</b> Development Experience of India- A comparison with neighbors. India, Pakistan and China. Issues: Economic growth, population, Sectoral development and other Human development Indicators.	To study various challenges our country is facing since independence and the efforts taken by government to solve them.  To analyse the extent of success of Indian economic issues, in comparison with China and Pakistan.	Collect information about the government initiatives under different development parameters.  Collect information about China and Pakistan and compare it with India. <b>Learning outcome Compare and analyse growth indicators. Interpret HDI data</b>
<b>December/20</b>	Revision	Introductory Macro Economics		
<b>PRE BOARD EXAMINATION 1</b>				
<b>January / 10</b>	<b>PART C:</b> Development of Project in Economics	Preparation of Project Report in the form of Practical File.	To prepare a report on the knowledge acquired by the students after the completion of syllabus.	Preparation of Project on any topic from syllabus or any other topic related to current economic scenario.

	<b>SDG 4 : Quality Education SDG 8: Decent work and Economic Growth</b>			<b>Learning Outcome: Practical application of concepts learned</b>
	<b>PRE BOARD EXAMINATION 2</b>			
<b>February /8</b>	<b>Revision</b>	Revision/Practical Exam.	Clarification of doubts	<b>Long term learning</b>

Competencies:

- The students develop Understanding, Critical Analysis, Evaluating and Interpretation skills in aggregate economic variables.
- The students identify and critically assess the role of the households, firms, government and external economies in the country.
- The students will acquire basic and fundamental skills to judge the timeline of changes seen in the Indian economy since independence.
- Analytical Thinking: Evaluating economic policies and their impact.
- Data Interpretation: Reading and interpreting economic graphs and tables.
- Application: Using theoretical concepts to explain real-world economic events.

<b>Name of Examination</b>	<b>Syllabus</b>
Periodic Test 1	Introductory Macro Economics: Unit 1: National Income and Related Aggregates.
Periodic Test 2	Unit 2: Money and Banking, Unit 3: Determination of Income and Employment.
Mid Term Exam	Introductory Macro Economics (Full Syllabus): Indian Economic Development: Unit 6: Indian Economy on the eve of Independence.
Periodic Test 3	Indian Economic Development: Unit 7: Indian Economy during 1950-1991, New Economic Policy 1991.
Pre Board Exam	Introductory Macro Economics ( Full Syllabus) Indian Economic Development ( Full Syllabus)

## ENGLISH CORE

MONTH & PERIOD	CONTENT/TOPIC		LEARNING OBJECTIVES	SUGGESTED ACTIVITIES
<b>APRIL</b>  <b>(38)</b>	<b>Flamingo</b>	<ul style="list-style-type: none"> <li>• The Last Lesson (SDG-4,10,16 &amp; 17)</li> <li>• My Mother at sixty six (Poem) (SDG-3,10 &amp; 16)</li> </ul>	To encourage students to share their insights on the emotional nuances of the poem/prose.	--
	<b>Vistas</b>	<ul style="list-style-type: none"> <li>• The Third Level (SDG-3,11 &amp; 16)</li> </ul>		
	<b>Writing Skill</b>	<ul style="list-style-type: none"> <li>• Notice Writing (SDG- As themes)</li> <li>• Reading Comprehension</li> </ul>		
<b>MAY</b>  <b>(35)</b>	<b>Flamingo</b>	<ul style="list-style-type: none"> <li>• The lost Spring (SDG-1, 4, 8 &amp; 10)</li> </ul>	To deepen understanding through creative activities related to the themes of the chapters	Students to write a creative response, such as a letter from one character to another or a diary entry reflecting on the challenges faced.
	<b>Vistas</b>	<ul style="list-style-type: none"> <li>• The Tiger King (SDG-3, 12, 15 &amp; 16)</li> </ul>		
	<b>Writing Skill</b>	<ul style="list-style-type: none"> <li>• Letter to Editor (SDG- As themes)</li> <li>• Job Application (SDG-8 &amp; 4)</li> </ul>		
<b>JUNE</b>	<b>SUMMER BREAK</b>			
<b>JULY</b>  <b>(35)</b>	<b>Flamingo</b>	<ul style="list-style-type: none"> <li>• Keeping Quiet (Poem) (SDG-3, 13, 14, 15 &amp; 16)</li> </ul>	To assess comprehension through a reflective discussion and written responses.	Discussion of PROJECT FILE [ALS]
	<b>Writing Skill</b>  <b>ALS PROJECT DISCUSSION</b>	<ul style="list-style-type: none"> <li>• Invitations &amp; Replies (SDG- As themes)</li> <li>• Report Writing (SDG- As themes)</li> <li>• Article Writing (SDG- As themes)</li> </ul>		
<b>AUGUST</b>	<b>Flamingo</b>	<ul style="list-style-type: none"> <li>• Deep Water (SDG-3, 4 &amp; 16)</li> <li>• Rattrap (SDG-1, 4, 10 &amp; 16)</li> </ul>	To understand the contextual elements	Students to share their insights on the themes of female empowerment and artistic expression.

<b>(32)</b>			presented in the images.	
	<b>Vistas</b>	<ul style="list-style-type: none"> <li>• Journey to the End of the Earth (SDG- 4, 12, 13 &amp; 15)</li> <li>• The Enemy (SDG-3, 4, 10 &amp; 16)</li> </ul>		
<b>SEPTEMBER (16)</b>	<b>Flamingo</b>	<ul style="list-style-type: none"> <li>• Indigo (SDG-1, 4, 10 &amp; 16)</li> <li>• Thing of Beauty [Poem] (SDG-3 ,13 &amp; 15)</li> </ul>	To engage students and introduce the historical context and themes	Brief written response where students express their personal connections to the themes of the chapters.
	<b>ASL</b>	LISTENING ACTIVITY		
<b>MID –TERM EXAMINATION</b>				
<b>OCTOBER (35)</b>	<b>Flamingo</b>	<ul style="list-style-type: none"> <li>• Poets and Pancakes (SDG- 4, 8, 10 &amp; 16)</li> <li>• Going Places (SDG-3, 4, 8 &amp; 10)</li> <li>• The Roadside Stand (Poem) (SDG-1, 8, 10 &amp; 11)</li> </ul>	To introduce students to the themes and narrative techniques.	
	<b>Vistas</b>	<ul style="list-style-type: none"> <li>• Memories of Childhood (SDG- 4, 10 &amp; 16)</li> </ul>		
<b>NOVEMBER (28)</b>	<b>Flamingo</b>	<ul style="list-style-type: none"> <li>• The Interview (SDG-1, 4, 8 &amp; 10)</li> <li>• Aunt Jennifer (Poem) (SDG- 3,5, 10 &amp; 16)</li> </ul>	To assess written responses for understanding of theme analysis, interpretation, and personal reflection	Conducting a thematic exploration, discussion, focusing on how societal structures contribute to challenges faced by artists.
	<b>Vistas</b>	<ul style="list-style-type: none"> <li>• On the Face of it (SDG- 3, 4, 10 &amp; 16)</li> </ul>		
<b>DECEMBER (16)</b>	<b>Writing Section:</b> Revision of entire writing skills <b>Flamingo &amp; Vistas:</b> Revision of all chapters & Poetry.		To enable written communicative skills i.e. how to correspond in	Worksheets For Practice

		official matters particularly.	
<b>PRE-BOARD I</b>			
<b>JANUARY (8)</b>	<ul style="list-style-type: none"> <li>• LISTENING ACTIVITY</li> <li>• REVISION OF THE WHOLE SYLLABUS AND PRACTICE OF SAMPLE PAPERS</li> </ul>	<ul style="list-style-type: none"> <li>• To Recapitulate</li> <li>• To gain confidence with regular practice</li> </ul>	-----
	<b>PRE-BOARD II</b>		
<b>FEBRUARY (10)</b>	PRACTICE OF SAMPLE PAPERS	<ul style="list-style-type: none"> <li>• Assess written responses for understanding of theme analysis, interpretation and personal reflection.</li> </ul>	Worksheets For Practice

	<b>READING SECTION</b>	<b>WRITING SECTION</b>	<b>LITERATURE SECTION</b>	<b>ACTIVITIES</b>
COMPETENCY	<ul style="list-style-type: none"> <li>• Inference and Interpretation</li> <li>• Vocabulary in Context</li> <li>• Analysis of Data</li> </ul>	<ul style="list-style-type: none"> <li>• Shift from simple rote learning of formats to functional <b>communication.</b></li> <li>• Contextual Adaptation of Tone</li> <li>• Information Synthesis and Organization</li> <li>• Critical Thinking and Value Integration</li> <li>• Visual-to-Textual Interpretation</li> <li>• Learning the "Power of Economy. (brevity)</li> </ul>	<ul style="list-style-type: none"> <li>• Critical Analysis and Inference (Determining the symbolic significance of objects or characters.)</li> <li>• Thematic Synthesis (Cross-Textual Linking by comparing how different authors treat the same theme, such as poverty or oppression.)</li> <li>• Evaluation of Literary Devices</li> <li>• Empathy and Social Awareness</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Communication &amp; Linguistic Proficiency</b></li> <li>• <b>Advanced Analytical Writing</b></li> <li>• <b>Creative Expression</b></li> </ul>

			<p>(Understanding socio-economic disparities and gender struggles.)</p> <ul style="list-style-type: none"><li>• Formulating Evaluative Responses (developing builds creative writing and perspective-taking skills.</li></ul>	
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## GEOGRAPHY

### BOOKS :

1. FUNDAMENTALS OF HUMAN GEOGRAPHY [ NCERT ]
2. INDIA : PEOPLE & ECONOMY [ NCERT ]
3. PRACTICAL GEOGRAPHY [ NCERT ]

#### PART - 1

UNIT	NAME	WEIGHTAGE
1	HUMAN GEOGRAPHY	3
2	POPULATION DISTRIBUTION, DENSITY & GROWTH  HUMAN DEVELOPMENT	8
3	ECONOMIC ACTIVITIES	19
	MAP WORK	5
	TOTAL	35

#### PART – 2

UNIT	NAME	WEIGHTAGE
1	POPULATION DISTRIBUTION, DENSITY & GROWTH	5
2	HUMAN SETTLEMENTS	3
3	RESOURCES  PLANNING & SUSTAINABLE DEVELOPMENT	10
4	TRANSPORT & COMMUNICATION  INTERNATIONAL TRADE	7
5	GEOGRAPHICAL PERSPECTIVE ON SELECTED ISSUES	5
	MAP WORK	5
	TOTAL	35

MONTH	UNIT & SDG	CONTENT	LEARNING OBJECTIVES	ACTIVITY SUGGESTED + LEARNING OUTCOMES
March-April 35	<p>HUMAN GEOGRAPHY</p> <p>WORLD POPULATION</p> <p><b>SDG – 5</b> [attain gender equality &amp; empowerment]</p> <p>HUMAN DEVELOPMENT</p> <p><b>SDG – 3</b> [attain healthy life for all at all stages ]</p>	<p>Human Geography : Nature &amp; scope</p> <p>World Population:</p> <p>a]Distribution, density &amp; growth of population.</p> <p>b] Determinants of population change , pattern &amp; structure.</p> <p>c]Population Composition.</p> <p>Sources of Data : Types of data &amp; data collection.</p> <p>Human Development: Concept, indicator &amp; International comparison.</p> <p>Primary activities : Gathering, pastoralism, types of farming, mining.</p> <p>Data Processing :Measures of Central Tendency –Mean ,Median, Mode</p>	<p>Ch-1 : To define human geography &amp; compare environment determinism, possibilism &amp; neo-determinism.</p> <p>Ch- 2: Analyse distributrion, density, growth &amp; the Demographic Transition theory.</p> <p>Ch- 3 : Contrast growth/development &amp; evaluate HDI &amp; HPI</p> <p>Ch-4 : To identify primary economic activities (farming, mining etc.)</p>	<p>Discussion on pattern of population growth in the world.</p> <p><b>L. OUTCOMES –</b> Understand the relation between nature and humans</p> <p>Role play on different economic activities.</p> <p><b>L. OUTCOMES-</b> Grasp the concept of equity &amp; empowerment</p>
May 25	<p>ECONOMIC ACTIVITIES</p> <p><b>SDG – 9</b> [ promote sustainable industrialization ]</p>	<p>Secondary activities: Factors affecting location of industries ,types of industries ,major industries around the world.</p> <p>Tertiary Activities: service sector, BPO &amp; KPO activities, Digital divide</p> <p>Data Processing :Measures of Central</p>	<p>Ch- 5 &amp; 6 : To identify secondary activities ( manufacturing, industrial locations.)</p>	<p>Class presentation by students on types of industries.</p> <p><b>L. OUTCOMES –</b> Evaluate the importance of manufacturing, services and outsourcing and their role in economic development.</p>

		Tendency –Mean ,Median, Mode		
		SUMMER VACATION		
July 30	<p>ECONOMIC ACTIVITIES</p> <p><b>SDG – 8 &amp; 11</b> [promote sustainable economic growth , build economic and safe human settlement.</p>	<p>Tertiary Activities: service sector, BRO &amp; KPO activities, Digital divide.</p> <p>Transport &amp; Communication: Significance of good network of transport &amp; communication , important highways, transcontinental railway routes, panama &amp; suez canal .</p> <p>Representation of Data: Bar Graphs</p>	Ch- 7 : To differentiate tertiary/quaternary activities and analyze global transport networks.	<p>Map work for railway routes, canals,air ports &amp; sea ports.</p> <p><b>L. OUTCOMES-</b> Understand the role of global networks in shrinking the world .</p>
August 32	<p>INTERNATIONAL TRADE</p> <p>POPULATION</p> <p>LAND RESOURCES</p> <p><b>SDG- 2 &amp; 15</b> [ achieve nutrition &amp; food security for all , protect and restore terrestrial ecosystem.</p>	<p>International Trade : Volume, &amp; balance of trade &amp; Regional Trade Blocs in the world.</p> <p>Population: Distribution , density , growth &amp; composition , phases of population growth in India.</p> <p>Migration: types, causes, consequences</p> <p>Land Resources and Agriculture: Land utilisation, degradation &amp; conservation.</p> <p>Agricultural reforms.</p> <p>Representation of Data: flow diagram , pie charts</p>	<p>Ch- 8 : To understand the basis of International trade and the role &amp; duties of WTO.</p> <p>Ch- 1 &amp; 2: To analyze India’s demographic composition, rural – urban migration and settlement types.</p> <p>Ch 3 &amp; 4 : To evaluate landuse, crop seasons, water resources, and conservation methods.</p>	<p>Collage on process of migration in India.</p> <p><b>L. OUTCOMES –</b> Analyse the basis of trade, evaluate demographic structure of India, analyse land use changes.</p>

September 16	HUMAN SETTLEMENT  <b>SDG – 11</b> [ build safe & sustainable cities]	Human Settlement: Classification of urban & rural settlements on different basis.  MID TERM EXAMINATION	To know about the development of human societies with the passage of time	<b>L. OUTCOMES –</b> Identify types of settlement.
October 32	MINERAL & ENERGY RESOURCES  <b>SDG- 7</b> [ ensure reliable modern energy services ]	Mineral & Energy resources : types of minerals, distribution of mineral ores in India, sources of energy.  Planning & Sustainable Development: types of planning, case studies.  Representation of Data: Thematic maps- dot, choropleth, isopleths.	Ch- 5 & 6 : To identify major mineral resources & understand sustainable development, including target area planning.	Map making with rotting method.  <b>L. OUTCOMES –</b> Map the distribution of minerals and the shift towards renewable energy.
November 25	TRANSPORT & COMMUNICATION <b>SDG- 9</b> [ promote sustainable industrialization]	Transport & Communication International Trade.  Spatial Information System	Ch- 7 & 8 : To examine India's transportation networks ( roads, rail, ports ) and trade patterns.	Data collection & report making. <b>L. OUTCOMES –</b> Analyse role of transport & communication and their importance in trading activities.
December 20	Geographical perspective on selected issues  <b>SDG – 6 &amp; 13</b> [ secure water & sanitation and promote actions to address climate change ]	Geographical aspects on selected issues  Revision of complete syllabus  PRE BOARD EXAMINATION -I	Ch-9: To analyze environmental issues, pollution, and urban-rural migration.	<b>L. OUTCOMES –</b> Critical analysis of pollution ,urban waste management and rural urban migration.

January 10	REVISION	SAMPLE PAPERS  PRE BOARD EXAMINATION - II		
February 08	REVISION	Practice papers & worksheets		

## INFORMATICS PRACTICES

BOOK NAME: A TEXT BOOK OF INFORMATICS PRACTICES WITH PYTHON .

AUTHOR NAME: MS PREETI ARORA

PUBLISHER: SULTAN CHAND PUBLICATIONS

UNIT	NAME	WEIGHTAGE
1	Data Handling using Pandas and Data Visualization	25
2	Database Query using SQL	25
3	Introduction to Computer Networks	10
4	Societal Impacts	10
	TOTAL	70

MONTH	PERIODS	CONTENT	LEARNING OBJECTIVES	SUGGESTED ACTIVITY
April	30	Data Management II Revision Of Data Management I Relational databases: Concept of a database, relations, attributes and tuples. keys- candidate key, primary key, alternate key, foreign key; Degree and cardinality of table. SQL - DDL ,DML,DQL,TCL DDL CREATE ,ALTER ,DESC DML -INSERT ,UPDATE ,DELETE	To understand the concept of RDBMS. To create tables with validations. To learn and apply tuple inserting , updating and deleting. To learn and apply all clauses of select query. SDG 4 – Quality Education	1) Table Creation/ data types/ constraints. 2) Adding/Updating/Deleting Tuples. 3) Alter Table Options. 4) Agg Functions. 5) Data Report Generation 6) Generate summary reports (highest marks, average salary).  LEARNING OUTCOMES

		DQL- SELECT(Clauses ,operators , group by ,order by, aggregate functions) JOINS - Natural ,Equi ,outer and inner.	SDG 16 – Peace, Justice & Strong Institutions	(Competency) 1) Data Organization Skills 2) Query Writing Skills 3) Decision-Making Skills 4) Accuracy & Precision
May	27	MORE ON SQL Ordering records -order by clause Group by clause with having. Group by with aggregate functions (min() ,max(),sum(),count(),avg()) Functions in SQL 1) String functions 2) Numeric functions 3) Date and Time functions	To learn and apply select clauses order by for sorting data. To learn and apply group by with having and agg functions.  SDG 16 – Peace, Justice & Strong Institutions  SDG 10 – Reduced Inequalities	1) Select query on tables with order by clause options. 2) Select query on tables with group by and having clause. 3) Scholarship database analysis. 4) Hospital patient record systems.  LEARNING OUTCOMES (Competency) 1) Computational Thinking 2) Data Analysis & Interpretation 3) Problem Solving
<b>SUMMER BREAK</b>				
July	30	Data Handling using Pandas Introduction to Python libraries- Pandas, Matplotlib. Data structures in Pandas Series and data frames.  Series: Creation of series from ndarray, dictionary, scalar value, mathematical operations. Series attributes, head and tail functions, selection, indexing and slicing.	Create a pandas series from different methods.  Create pandas dataframe objects from different methods.	1)Create series from ndarray, list, dictionary etc.  2)Create pandas objects from ndarray , nested list ,list ,series etc.

		<p>Data Frame: Creation of data frames from dictionary of series, list of dictionaries, text/CSV files, display, iteration.</p> <p>Operations on rows and columns: add ( insert /append) , select, delete (drop column and row), rename, Head and Tail functions, indexing using labels, Boolean indexing</p> <p>Importing/Exporting Data between CSV files and Data Frames.</p> <p>Descriptive Statistics: max, min, count, sum, mean, median, mode, quartile, Standard deviation, variance.</p> <p>Dataframe operations: Aggregation, group by, Sorting, Deleting and Renaming Index, Pivoting. Handling missing values – dropping and filling.</p>	<p>Read and write data from csv file to dataframe</p> <p>Apply aggregate functions on dataframe data.</p> <p>SDG 4 – Quality Education</p> <p>SDG 9 – Industry, Innovation &amp; Infrastructure</p> <p>SDG 13 – Climate Action</p>	<p>3) Create a csv file by exporting dataframe data using different parameters of to_csv() function and read_csv() function.</p> <p>4) Analyze literacy rate datasets.</p> <p>5) Study industry growth data.</p> <p>6) Process climate change datasets (temperature, rainfall).</p> <p>LEARNING OUTCOMES (Competency)</p> <p>1) Data literacy</p> <p>2) Analytical thinking</p> <p>3) Problem-solving</p> <p>4) Data cleaning and preprocessing</p> <p>5) Performing statistical operations</p>
August	32	<p>Data Visualization</p> <p>Purpose of plotting, drawing and saving of plots using Matplotlib (line plot, bar graph, histogram).</p> <p>Plotting from a dataframe object.</p> <p>Creating bar charts, line graphs, histograms, pie charts</p> <p>Comparing datasets visually.</p>	<p>Customizing plots: color, style (dashed, dotted), width; adding label, title, and legend in plots.</p> <p>SDG 13 – Climate Action</p> <p>SDG 3 – Good Health &amp; Well-being</p> <p>SDG 6 – Clean Water &amp; Sanitation</p>	<p>Take data from an open source (e.g. data.gov.in), aggregate and summarize it. Then plot it using different plotting functions of the Matplotlib library.</p> <p>1) Visualize pollution levels.</p> <p>2) Represent disease statistics.</p> <p>3) Compare water consumption trends.</p>

		<p>Identifying trends and patterns.</p> <p>Visualizing pollution levels, health statistics, rainfall trends</p>		<p>LEARNING OUTCOMES (Competency)</p> <p>1)Data interpretation 2)Critical thinking 3)Presentation skills</p>
September	16	<p>Societal Impacts</p> <p>Digital footprint, net and communication etiquettes, data protection, intellectual property rights (IPR), plagiarism, licensing and copyright, free and open source software (FOSS), cybercrime and cyber laws, hacking, phishing, cyber bullying, overview of Indian IT Act. E-waste: hazards and management</p> <p>MID TERM EXAMINATION</p>	<p>Understanding digital footprint</p> <p>Awareness of cyber laws &amp; data privacy</p> <p>Promoting cyber safety.</p> <p>SDG 16 – Peace, Justice &amp; Strong Institutions</p> <p>SDG 5 – Gender Equality</p> <p>SDG 4 – Quality Education</p>	<p>1)Creating awareness campaigns 2)Practicing safe and ethical online behavior 3)Cyber safety awareness campaigns. 4)Promoting digital equality. 5)Ethical use of technology programs.</p> <p>LEARNING OUTCOMES (Competency)</p> <p>1)Ethical reasoning 2)Responsible digital citizenship 3)Decision-making</p>
October	28	<p>Computer Networks</p> <p>Evolution of networking: introduction to computer networks, evolution of networking (ARPANET, NSFNET, INTERNET)</p> <ul style="list-style-type: none"> <li>● Data communication terminologies</li> <li>● Transmission media: Wired communication media (Twisted pair cable, Coaxial cable, Fiber-optic cable), Wireless media (Radio waves, Microwaves, Infrared waves) .</li> </ul>	<p>Case Study based concepts for network setup.</p> <p>Understanding network types &amp; topologies</p> <p>Learning internet protocols (HTTP, FTP, TCP/IP)</p> <p>Awareness of cyber security threats.</p>	<p>1)Online education systems. 2)Digital governance platforms. 3)Secure communication systems. 4)Safe internet usage 5)Secure digital communication</p> <p>LEARNING OUTCOMES (Competency)</p> <p>1)Digital literacy 2)Technical awareness 3) Cyber responsibility</p>

November	32	<p>Computer Networks</p> <ul style="list-style-type: none"> <li>● Network devices</li> <li>● Network topologies and Network types: types of networks (PAN, LAN, MAN, WAN), networking topologies (Bus, Star, Tree)</li> <li>● Network protocol: HTTP, FTP, PPP, SMTP, TCP/IP, POP3, HTTPS, TELNET, VoIP, wireless/mobile communication protocol such as GSM, GPRS and WLL</li> <li>● Mobile telecommunication technologies: 1G, 2G, 3G, 4G and 5G</li> <li>● Introduction to web services.</li> </ul>	<p>Case Study based concepts for network setup.</p> <p>SDG 9 – Industry, Innovation &amp; Infrastructure. SDG 17 – Partnerships for the Goals SDG 4 – Quality Education</p>	<p>4) Critical Thinking 5) Creativity 6) Collaboration 7) Communication 8) Digital Literacy 9) Ethical &amp; Responsible Use of Technology</p>
December	18	Revision for Pre board exam	Annual Project as s/w design.	

## MATHEMATICS

NO.	UNITS	MARKS
1.	RELATIONS AND FUNCTIONS	08
2.	ALGEBRA	10
3.	CALCULUS	35
4.	VECTOR AND THREE DIMENSIONAL GEOMETRY	14
5.	LINEAR PROGRAMMING	05
6.	PROBABILITY	08
	TOTAL	80

**SUGGESTED BOOKS : NCERT EXAMPLER , M L AGGARWAL, R. D. SHARMA ,  
R S AGGARWAL**

<u>MONTH &amp; NO. OF PERIODS</u>	<u>UNITS</u>	<u>CONTENTS</u>	<u>LEARNING OBJECTIVES/ COMPENTENCY</u>	<u>SUGGESTED ACTIVITES</u>
APRIL- (32)	Chapter 2	<b>INVERSE TRIGONOMETRIC FUNCTIONS:</b> Definition, range, Domain, Principal value branch. Graphs of inverse trigonometric functions.	*To understand the graph of inverse trigonometric functions and its domain and range.  <b>SDG11- Sustainable Cities and Communities</b>	*To identify domain , range and principal value branch of trigonometric functions & Inverse trigonometric functions ( By using graph) . <b>Competencies:</b> Application of Trigonometry in sustainable infrastructure planning.
	Chapter 3	<b>MATRICES:</b> Concept, notation, order, equality, types of matrices, zero and identity matrix, transpose of a matrix, symmetric and skew symmetric matrices. Operation of matrices, addition and multiplication and multiplication with a scalar. Simple properties of addition, multiplication and scalar multiplication. Non -commutativity of multiplication of matrices and existence of non-zero matrices whose product is the zero matrix	*To learn about matrices and shall confine about the study of basic laws of matrix algebra.  <b>SDG9- Industry &amp; Innovation</b>	*To study about addition of matrix A and B by using spreadsheet. *use matrices to represent production data Of industries. <b>Competencies:</b> Problem-Data representation and Problem solving in

		(restrict to square matrices of order. Invertible matrices and proof of uniqueness of inverse, if it exists;(for all real entries.)		business & industry.
MAY-(24)	Chapter 4	<b>DETERMINANTS:</b> Determinants of a square matrix (up to 3X3 matrices), minors, cofactors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix, Consistence, in consistency 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.	*To learn about determinants their explanation minors and cofactors, their elementary properties and applications.  <b>SDG16- Peace, justice and strong institutions</b>	*To Solve for simultaneous equation for fair resource distribution models <b>Competency:</b> Logical Decision-making and systemic problem solving.
	CHAPTER 12	<b>LINEAR PROGRAMMING-</b> Introduction to linear programming problems and its formulations, and different types of linear programming problems. (bounded and unbounded region)	*To learn linear programming problems and their graphical presentation.  <b>SDG1-No poverty SDG2-Zero Hunger</b>	*Food distribution Optimization  <b>Competency:</b> Analysing Efficient resource allocation & economic planning.
	CHAPTER 5	<b>CONTINUITY AND DIFFERENTIABILITY:</b> Derivative of composite functions, chain rule, derivative of inverse trigonometric functions', implicit functions, concept of exponential and logarithmic functions. Derivative of logarithmic and exponential functions, of second order.	*To know about the important concept of continuity and Differentiability *To learn derivatives of composition functions, chain rule, inverse trigonometric functions, logarithmic functions, 2 <sup>nd</sup> order derivative exponential functions.  <b>SDG3- Good health &amp; Well-being</b>	<b>ACTIIVTY: To</b> find analytically the limit of function $f(x)$ at $x = c$ . and also check the continuity of the function at the point. *Study rate of spread of disease.  <b>Competencies:</b> To understand rate of change in health and science applications.
JUNE		<b>SUMMER VACATION</b>		

JULY (30)	CHAPTER 6	<p><b>APPLICATION OF DERIVATIVES;</b> Application of derivatives: rate of change of bodies, increasing /decreasing functions, use of derivatives. Maxima and minima (second derivative test as a provable tool). simple problems. that illustrate base principles and understanding of the subjects as well as real –life situations).</p>	<p>*To study application of derivative in various disciplines such as engineering, science and many other fields. *To learn how derivative can be used to determine to rate of change of quantities, *To find turning point, Problem of related to maxima and minima. <b>SDG7-Affordable and clean energy</b></p>	<p>*To understand the concept of local maxima and local minima and point of inflection * Optimization problems for minimum cost and maximum efficiency ,Energy consumption modelling. <b>Competency: Analyse&amp; Application.</b> Optimization in environmental &amp; Economic planning. *To evaluate the definite integral <math>\int_a^b \sqrt{1-x^2}</math> as limit as sum and verify by integration form <b>Competency:</b> Environmental data interpretation using integration.</p>
	CHAPTER 7	<p><b>Introduction</b>, integration as an inverse process of differentiation, methods of integration, integrals of some particular functions, integration by partial fractions, by parts. Definite Integral, Fundamental theorem of Calculus.</p>	<p>*To study indefinite and definite integrals and their elementary properties including some techniques.  <b>SDG13-Climate-Action</b></p>	
AUGUST (30)	CHAPTER 1	<p><b>RELATION AND FUNCTIONS:</b> Introduction , types of relation, types of functions.</p>	<p>* To learnt different types of relations and functions.  <b>SDG4-Quality Education SDG9- Industry,Innovation&amp; Infrastructure</b></p>	<p>*To demonstrate function which is one but not onto. *Mapping student attendance data using function. <b>Competency:</b> Analyze real life educational data using function</p>
	CHAPTER 8	<p><b>Applications of integrals: I</b> Introduction, area under simple curves.</p>	<p>*To learnt formula to calculate areas of geometrical figures</p>	<p>*Calculate area under population growth.</p>

			including triangle rectangle and circles.  <b>SDG3 – Attains healthy life.</b>	<b>*Competencies</b> Practical application in resource management.
<b>SEPTEMBER (16)</b>		<b>REVISION &amp; MID TERM EXAM</b>		
<b>OCTOBER (30)</b>	<b>CHAPTER 9</b>  <b>CHAPTER 10</b>	<b>Differential Equations:</b> Introduction, basic concepts, General and particular solutions of a differential equation, whose general solution is given, methods of solving first order, first Degree differential equations.  <b>Vector algebra:</b> Introduction, some basic concepts, types of vectors, addition of vectors, multiplication of a vector by a scalar, product of two vectors.	* To study basic concepts related to differential equation, general and particular solutions. <b>SDG3-Good Health</b> <b>SDG15-Life on Land</b>  * To study some basic concepts about vectors, their relation in space, types of vectors and their properties. Applicability of vectors in various areas.  <b>SDG9- Industry,Innovation&amp; Infrastructure</b>	*Population growth model.  <b>Competency:</b> Understanding,analyse & application Inpredictive modelling *To verify that angle in semi - circle is a right angle using vector method *Navigation system & satellite direction modelling.  <b>Competency:</b> Critical thinking & Application in engineering and technology.

<b>NOVEMBER (26)</b>	<b>CHAPTER 11</b>	<b>Three Dimensional Geometry:</b> Introduction, direction Cosines and directions of a line, equation of a line in space, angle between two lines, shortest distance between two lines,	* To study direction cosines, direction ratios of line joining two points. S.D. between two lines, distance of a point from a plane.  <b>SDG11- Sustainable Cities and Communities</b>	*To measure the shortest distance between two skew lines and verify it analytically. <b>Competency:</b> Critical thinking & Application in engineering
	<b>CHAPTER 13</b>	<b>PROBABILITY:</b> Introduction, conditional probability, multiplication theorem on probability, independent events, Bayes theorem, Random variables and its probability distributions and its mean.	*To study different types of probabilities and its application in actuarial science and other fields.  <b>SDG3-Good Health SDG4-Quality Education</b>	*To explain the concept of conditional probability *Exam result statistical analysis. <b>Competency:</b> Statistical analysis & application
<b>DECEMBER (14)</b>		<b>REVISION AND I-PREBOARD EXAM</b>		
<b>JANUARY (10) &amp; FEBRUARY( 08)</b>		<b>II-PREBOARD EXAM</b> Revision of Annual Examination in the month of January and February		
<b>Competencies Developed : The chapters aim to develop conceptual understanding, mathematical reasoning, procedural fluency, visualization skills and application of mathematical concepts.</b>				

EXAMINATION SYLLABUS :

S.NO	EXAMINATION	SYLLABUS
1.	PT 1	CH-2 - Inverse Trigonometric functions CH-3 – Algebra of Matrices
2.	PT 2	CH-4 – Determinants CH- 5- Continuity and Differentiability
3.	MID - TERM	CH – 2,3,4,5 CH- 6- Application of Derivatives , CH- 7- Integration CH – 1 --Relation and Functions CH – 8 –AOI CH -12 – LPP

4.	PT 3	CH 9 --Differential equations Ch 10 -- Vector Algebra CH 11 -- Three – Dimensional Geometry
5.	PRE - BOARD	All Chapters ( Ch 1 – Ch 13)

## PHYSICAL EDUCATION

Month/ No of Periods	TOPIC	CONTENT	Learning objectives	Learning Outcomes with specific competencies	Relevant SDGs Activity Integration
APRIL/10	<b>Management of Sporting Events</b>	<ul style="list-style-type: none"> <li>*Functions of Sports Events Management (Planning, Organising, Staffing, Directing &amp; Controlling)</li> <li>*Various Committees &amp; their Responsibilities (pre; during &amp; post)</li> <li>*Fixtures and their Procedures – Knock-Out (Bye &amp; Seeding) &amp; League (Staircase, Cyclic, Tabular method) and Combination tournaments.</li> <li>*Intramural &amp; Extramural tournaments – Meaning, Objectives &amp; Its Significance</li> <li>*Community sports program (Sports Day, Health Run, Run for Fun, Run for Specific Cause &amp; Run for Unity)</li> </ul>	<ul style="list-style-type: none"> <li>*To make the students understand the need and meaning of planning in sports, committees, and their responsibilities for conducting the sports event or tournament.</li> <li>*To teach them about the different types of tournaments and the detailed procedure of drawing fixtures for KnockOut, League Tournaments, and Combination tournaments.</li> <li>*To make the students understand the need for the meaning and significance of intramural and extramural tournaments.</li> <li>*To teach them about the different types of community sports and their importance in our society.</li> </ul>	<p><b>After completing the unit, the students will be able to:</b></p> <ul style="list-style-type: none"> <li>Describe the functions of Sports Event management</li> <li>*Classify the committees and their responsibilities in the sports event</li> <li>*Differentiate the different types of tournaments.</li> <li>*Prepare fixtures of knockout, league &amp; combination.</li> <li>*Distinguish between intramural and extramural sports events</li> <li>Design and prepare different types of community.</li> </ul>	<p>SDG 12: Responsible Consumption &amp; Production</p> <p>Organize "Intramural" tournament, focusing on Waste Management (Zero Waste).</p> <p>Focuses on organizing eco-friendly events, waste management during tournaments, and sustainable resource use.</p>
APRIL/11	<b>Children &amp; Women in Sports</b>	<ul style="list-style-type: none"> <li>*Exercise guidelines of WHO for different age groups.</li> <li>*Common postural deformities-knock knees, flat foot, round shoulders, Lordosis, Kyphosis, Scoliosis, and bow legs and their respective corrective measures.</li> <li>*Women's participation in Sports – Physical, Psychological, and social benefits.</li> </ul>	<ul style="list-style-type: none"> <li>*To make students understand the exercise guidelines of WHO for different age groups.</li> <li>*To make students aware of the common postural deformities.</li> <li>*To make students aware of women's sports participation</li> </ul>	<p>After completing the unit, the students will be able to:</p> <ul style="list-style-type: none"> <li>*Differentiate exercise guidelines for different stages of growth and development.</li> <li>*Classify common postural deformities</li> </ul>	<p><b>SDG 5: Gender Equality &amp; SDG 10: Reduced Inequality</b></p> <p>Organize a girls' Kho-Kho or</p>

		<p>*Special consideration(menarche and menstrual dysfunction) Female athlete triad (osteoporosis, amenorrhea, eating Disorders.</p>	<p>in India and about the special conditions of women. *To make students understand menarche and menstrual dysfunction among women athletes.</p>	<p>and identify corrective measures. *Recognize the role and importance of sports participation of women in India. *Identify special considerations relate to menarche and menstrual dysfunction. *Express female athlete triad according to eating disorders.</p>	<p>Kabaddi tournament.</p> <p>Promoting equal participation, breaking gender stereotypes, and ensuring inclusive opportunities for all children.</p>
MAY/15	<p><b>Yoga as Preventive measure for Lifestyle Disease</b></p>	<p><b>*Obesity:</b> Procedure, Benefits &amp; Contraindications for Tadasana, Katichakrasana, Pavanmuktasana, Matsayasana, Halasana, Pachimottansana, Ardha – Matsyendrasana, Dhanurasana, Ushtrasana, Suryabedhanpranayama.</p> <p><b>*Diabetes:</b> Procedure, Benefits &amp; Contraindications for Katichakrasana, Pavanmuktasana, Bhujangasana, Shalabhasana, Dhanurasana, Supta-vajarasana, Paschimottanasana, Ardha-Mastendrasana, Mandukasana, Gomukasana, Yogmudra, Ushtrasana, Kapalabhati.</p> <p><b>*Asthma:</b> Procedure, Benefits &amp; Contraindications for Tadasana, Urdhwahastottansana, UttanMandukasan-a, Bhujangasana, Dhanurasana, Ushtrasana, Vakrasana, Kapalabhati, Gomukhasana Matsyaasana, Anuloma-Viloma.</p> <p><b>*Hypertension:</b> Procedure, Benefits &amp; Contraindications for Tadasana, Katichakrasana, Uttanpadasana, ArdhaHalasana, Sarala Matyasana,</p>	<p>To make students Understand about the main life style disease - Obesity, Hypertension, Diabetes, Back Pain and Asthma.</p> <p>To teach about different Asanas in detail this can help as preventive Measures for those Lifestyle Diseases.</p>	<p>After completing the unit, the students will be able to: *Identify the asanas beneficial for different ailments and health problems. *Recognize importance of various asanas for preventive measures of obesity, diabetes, asthma, hypertension, back pain and arthritis. *Describe the procedure for performing a variety of asanas for maximal benefits. *Distinguish the contraindications associated with performing different Asanas.</p>	<p><b>SDG 3: Good Health &amp; Well-being</b></p> <p>Yoga for Health" Workshop (Diabetes/Hypertension)</p> <p>Using yoga to manage obesity, diabetes, and hypertension, contributing to healthy lives at all ages.</p>

		<p>Gomukhasana, UttanMandukasan-a, Vakrasana, Bhujangasana, Makarasana, Shavasana, Nadi-shodhanapranayam, Sitlipranayam.</p> <p><b>* Back Pain and Arthritis:</b> Procedure, Benefits &amp; Contraindications of Tadasan, Urdhawahastootansana, Ardh-Chakrasana, Ushtrasana, Vakrasana, Sarala Maysyendrsana, Bhujandgasana, Gomukhasana, Bhadrasana, Makarasana, Nadi-Shodhana pranayama</p>			
MAY/07	<p><b>Physical Education &amp; Sports for CWSN (Children with Special Needs - Divyang)</b></p>	<p>*Organizations promoting Disability Sports (Special Olympics; Paralympics; Deaflympics)</p> <p>*Concept of Classification and Divisioning in Sports.</p> <p>*Concept of Inclusion insports, its need, and Implementation.</p> <p>*Advantages of Physical Activities for children withspecial needs.</p> <p>*Strategies to make Physical Activities assessable for childrenwith special needs</p>	<p>*To make students understand the concept of Disability and Disorder.</p> <p>*To teach students about the types of disabilities &amp; disorders, their causes and their nature.</p> <p>*To make them aware of Disability Etiquette.</p> <p>*To make the students Understand the advantage of physicalactivity for CWSN.</p> <p>*To make the students aware of different strategies for making physical activity accessible for Children with Special Needs.</p>	<p>After completing the unit,the students will be able to: -Value the advantagesof physical activities for children with special needs.</p> <p>*Differentiate between methods of categorization in sports for CWSN.</p> <p>*Understand concepts and the importance of inclusionin sports.</p> <p>*Create advantages for Children with Special Needs through Physical Activities.</p> <p>*Strategies physical activities accessiblefor children with special needs</p>	<p><b>SDG 4: Quality Education &amp; SDG 10: Reduced Inequality.</b></p> <p>Design adapted games for visually impaired students.</p> <p>Ensuring inclusive and equitable education and sports access for Children with Special Needs (CWSN).</p>
JULY/11	<p><b>Sports &amp; Nutrition</b></p>	<p>*Concept of balanced dietand nutrition.</p> <p>*Macro and Micro Nutrients: Food sources &amp; functions.</p> <p>*Nutritive &amp; Non-NutritiveComponents of Diet Eating for Weight control. – A Healthy Weight,</p> <p>*ThePitfalls of Dieting, Food Intolerance, and Food Myths.</p> <p>*Importance of Diet in Sports-Pre, During and Post competition Requirements</p>	<p>To make the students understand the importance of a balanced diet.</p> <p>*To clear the concept of Nutrition – Micro &amp; Macro nutrients, Nutritive &amp; non-Nutritive Components of diet</p> <p>*To make them aware of eating for weight loss and the results of the pitfalls of dieting.</p>	<p>After completing the unit, the students will be able to:</p> <p>Understand the concept of a balanced diet and nutrition. *Classify Nutritiveand Non-Nutritive components of the Diet</p> <p>*Identify the ways to maintain a healthy</p>	<p><b>SDG 2: Zero Hunger &amp; SDG 3: Good Health.</b></p> <p>Balanced Diet" lunchbox competition (local food).</p>

			To understand food intolerance & food myths	weight. Know about foods commonly causing food intolerance *Recognize the Pitfalls of dieting and foodmyths.	Focuses on balanced diets, understanding malnutrition, and the impact of nutrition on physical performance
JULY/11	<b>Test &amp; Measurement in Sports</b>	<p>*Fitness Test – SAI KheloIndia Fitness Test in school:</p> <p>*Age group 5-8 years/ class 1-3: BMI, Flamingo Balance Test, Plate Tapping Test</p> <p>Age group 9-18yrs/ class 4-12: BMI, 50mt Speed test, 600mt Run/Walk, Sit &amp; Reach flexibility test, Strength Test (Partial Abdominal Curl Up, Push-Ups for boys, Modified Push-Ups for girls).</p> <p>*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.</p> <p>*Computing Basal Metabolic Rate (BMR)</p> <p>*Rikli &amp; Jones - SeniorCitizen Fitness Test</p> <p>Chair Stand Test for lowerbody strength</p> <p>Arm Curl Test for upperbody strength</p> <p>Chair Sit &amp; Reach Test forlower body flexibility</p> <p>Back Scratch Test forupper body flexibility</p> <p>Eight Foot Up &amp; Go Testfor agility</p> <p>Six-Minute Walk Test forAerobic Endurance</p> <p>*Johnsen – Methney Test</p> <p>of Motor Educability (FrontRoll, Roll, Jumping Half-Turn, Jumping full-turn</p>	<p>To make students Understand and conduct SAI KHELO INDIA Fitness Test and to make students Understand and conduct General Motor Fitness Test.</p> <p>*To make students to determine physical fitness Index through Harvard Step Test/Rockport Test</p> <p>*To make students to calculate Basal MetabolicRate (BMR)</p> <p>*To measure the fitness level of Senior Citizens through Rikli and Jones Senior Citizen FitnessTest.</p>	<p>After completing the unit,the students will be able to:</p> <p>Perform SAI Khelo India Fitness Test in school [Age group 5-8 years/ (class 1-3) and Age group 9-18yrs/ (class 4-12)</p> <p>*Determine physical fitness Index through Harvard Step Test/Rockport Test</p> <p>*Compute Basal Metabolic Rate (BMR)</p> <p>*Describe the procedure ofRikli and Jones - Senior Citizen Fitness Test</p>	<p><b>SDG 3: Good Health &amp; Well-being.</b></p> <p>Perform Senior Citizen Fitness Test.</p> <p>Monitoring fitness levels to ensure long-term health and early identification of health-related risks.</p>
AUG/10	<b>Physiology &amp; Injuries in Sports</b>	<p>*Physiological factors determining componentsof physical fitness</p> <p>*Effect of exercise on theMuscular System</p> <p>*Effect of exercise on theCardio-Respiratory System</p> <p>*Physiological changes due to aging</p> <p>*Sports injuries: Classification (Soft TissueInjuries -Abrasion, Contusion, Laceration, Incision, Sprain &amp; Strain; Bone &amp; Joint Injuries - Dislocation,</p>	<p>Understanding the physiological factors determining the Components of physical fitness.</p> <p>*Learning the effects of exercises on the Muscular system.</p>	<p>After completing the unit,the students will be able to:</p> <p>Recognize the physiological factors determining the components of physical fitness.</p>	<p><b>SDG 3: Good Health &amp; Well-being</b></p> <p>Practical CPR demonstration</p>

		Fractures - Green Stick, Comminuted, Transverse Oblique & Impacted)	<ul style="list-style-type: none"> <li>*Learning the effects of exercises on Cardiovascular system.</li> <li>*Learning the effects of exercises on the Respiratory system.</li> <li>*Learning the changes caused due to aging.</li> <li>*Understanding the Sports Injuries (Classification, Causes, and Prevention)</li> <li>Understanding the Aims &amp; Objectives of First Aid</li> </ul>	Comprehend the effects of exercise on the Muscular system and cardiorespiratory systems. Figure out the physiological changes due to ageing. Classify sports injuries with its Management.	Understanding body functions and injury prevention to maintain physical longevity and safety.
AUG/10	<b>Biomechanics &amp; Sports</b>	<p>Newton's Law of Motion &amp; its application in sports</p> <p>Types of Levers and their application in Sports.</p> <p>Equilibrium – Dynamic &amp; Static and Centre of Gravity and its application in sports</p> <p>Friction &amp; Sports</p> <p>Projectile in Sports</p>	<ul style="list-style-type: none"> <li>. Understanding Newton's Laws of Motion and their Application in Sports.</li> <li>*Make students understand the lever and its application in sports.</li> <li>*Make students understand the concept of Equilibrium and its application in Sports.</li> <li>*Understanding Friction in Sports.</li> <li>*Understanding the concept of Projectile in Sports.</li> </ul>	<p>After completing the unit, the students will be able to:</p> <p>Understand Newton's Law of Motion and its application in sports.</p> <p>*Recognize the concept of Equilibrium and its application in sports.</p> <p>Know about the Centre of Gravity and will be able to apply it in sports.</p> <p>Define Friction and application in sports.</p> <p>Understand the concept of Projectile in sports.</p>	<p><b>SDG 9: Industry, Innovation &amp; Infrastructure</b></p> <p>Analyze Newton's Laws in sports movements.</p> <p>Use of technology and scientific equipment to enhance performance and safety in sports.</p>
<b>SEPT</b>		<b>EXAM (HALF YEARLY)</b>			
Sept/10	<b>Psychology &amp; Sports</b>	<p>Personality; its definition &amp; types (Jung Classification &amp; Big Five Theory)</p> <p>Motivation, its type &amp; techniques.</p> <p>Exercise Adherence: Reasons, Benefits &amp; Strategies for Enhancing it</p> <p>Meaning, Concept &amp; Types of Aggressions in Sports</p>	<p>To make students understand Personality &amp; its classifications.</p> <p>To make students understand motivation and its techniques.</p> <p>To make students about Exercise Adherence and</p>	<p>After completing the unit, the students will be able to:</p> <p>*Classify different types of personality and their relationship with sports performance.</p>	<p><b>SDG 3: Good Health &amp; Well-being</b></p> <p>Practicing mindfulness/meditation before competition</p>

		Psychological Attributes in Sports – Self-Esteem, Mental Imagery, Self- Talk, Goal Setting	Strategies for enhancing Adherence to Exercise. To make them aware of Aggression in sports and types. To make students understand Psychological Attributes in Sports.	Recognise the concept of motivation and identify various types of motivation. Identify various reasons to exercise, its associated benefits and strategies to promote exercise adherence. Differentiate between different types of aggression in sports. Explain various Psychological attributes in sports.	Addressing mental health, motivation, and emotional stability through physical activity.
OCT/15	<b>Training in Sports</b>	*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 & its importance	Making the students understand the concept of talent identification and methods in sports Making the students Understand sports training and the different cycle in sports training. Making the students Understand different types & methods of strengths, endurance, and speed. Making the students Understand different types & methods of flexibility and Coordinative ability. Making the students understand Circuit training and its Importance.	After completing the unit, the students will be able to: *understand the concept of talent identification and methods used for talent development in sports Understand sports training and the different cycle used in the training process. Understand different types & methods to develop -strength, endurance, and speed in sports training. Understand different types & methods to develop – flexibility and coordinative ability. Understand Circuit training and its importance.	<b>SDG 3: Good Health &amp; Well-being</b>  Developing a weekly circuit training program.  Developing systematic training loads and recovery to promote overall physical fitness.
NOV & DEC		<b>REVISION OF UNITE-I TO X AND CBSE PAPER PRE- BOARD EXAM</b>			

**Practical Max. Marks 30**

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

02. Proficiency in Games and Sports

(Skill of any one IOA recognised Sport/Game of Choice)\*\* 7 Marks

**03.** Yogic Practices 7 Marks

**04.** Record File \*\*\* 5 Marks

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

\* 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)

\*\*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.

\*\*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:**

❖ Practical-1: Fitness tests administration.

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

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

## PHYSICS

<b>UNIT</b>	<b>CHAPTERS</b>	<b>MARKS</b>
<b>Unit-I</b>	<b>Electrostatics</b>	<b>16</b>
	Chapter-1: Electric Charges and Fields	
	Chapter-2: Electrostatic Potential and Capacitance	
<b>Unit-II</b>	<b>Current Electricity</b>	<b>16</b>
	Chapter-3: Current Electricity	
<b>Unit-III</b>	<b>Magnetic Effects of Current and Magnetism</b>	<b>17</b>
	Chapter-4: Moving Charges and Magnetism	
	Chapter-5: Magnetism and Matter	
<b>Unit-IV</b>	<b>Electromagnetic Induction and Alternating Currents</b>	
	Chapter-6: Electromagnetic Induction	<b>17</b>
	Chapter-7: Alternating Current	
<b>Unit-V</b>	<b>Electromagnetic Waves</b>	
	Chapter-8: Electromagnetic Waves	<b>18</b>
<b>Unit-VI</b>	<b>Optics</b>	
	Chapter-9: Ray Optics and Optical Instruments	
	Chapter-10: Wave Optics	<b>18</b>
<b>Unit-VII</b>	<b>Dual Nature of Radiation and Matter</b>	
	Chapter-11: Dual Nature of Radiation and Matter	<b>12</b>
<b>Unit-VIII</b>	<b>Atoms and Nuclei</b>	
	Chapter-12: Atoms	
	Chapter-13: Nuclei	<b>12</b>
<b>Unit-IX</b>	<b>Electronic Devices</b>	
	Chapter-14: Semiconductor Electronics: Materials, Devices and Simple Circuits	<b>7</b>
<b>Total</b>		

MONTH/ PERIODS	UNIT	TOPICS	LEARNING OBJECTIVES
APRIL (14)	RAY OPTICS AND OPTICAL INSTRUMENTS <b>SDG 3: Good Health and Well-being</b> <b>SDG 4: Quality Education</b>	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.	<ul style="list-style-type: none"> <li>• To make the learners understand the applications of different lenses, mirrors and optical instruments in our daily life.</li> <li>• To make them aware of mathematical formulae and their applications.</li> <li>• To make them able to understand numerical problems. <b>(Mathematical Applications and Diagrammatic Skills)</b></li> </ul>
APRIL (6)	DUAL NATURE OF RADIATION AND MATTER <b>SDG 7: Affordable and Clean Energy</b> <b>SDG 12: Responsible consumption and Reduction</b>	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	<ul style="list-style-type: none"> <li>• To make the learners aware about the dual nature of radiation of light i.e. (particle and wave) along with experimental and Mathematical Verification. <b>(Conceptual Understanding, Graph Interpretation and Problem Solving)</b></li> </ul>

<p>APRIL (9)</p>	<p>ELECTRO STATICS (ELECTRIC CHARGES AND FIELD) <b>SDG 7: Affordable and Clean Energy</b> <b>SDG 12: Responsible consumption and Reduction</b></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 a 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>	<ul style="list-style-type: none"> <li>• To make the learners understand the theoretical and mathematical concepts of Electric charges and the properties and electrostatic forces and fields of different charge distribution. <b>(Conceptual Understanding, Circuit Analysis and Problem Solving)</b></li> </ul>
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MAY (12)	<p>ELECTROSTATICS (ELECTROSTATIC POTENTIAL AND CAPACITANCE) <b>SDG 9: Industry, Innovation and Infrastructure</b> <b>SDG 13: Climate Action</b></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. Conductors and insulators, free charges, and bound charges inside a conductor. Dielectrics and electric polarization, capacitors and capacitance, a combination of capacitors in series and in parallel, the capacitance of a parallel plate capacitor with and without dielectric medium between the plates, energy stored in a capacitor. (No derivation, formulae only)</p>	<p>To enable the learner to</p> <ul style="list-style-type: none"> <li>• Appreciate the knowledge of electric charges and fields</li> <li>• Find the analogy between gravitational force and electrostatic force</li> <li>• Identify electrostatic force as conservative force</li> </ul> <p><b>(Conceptual Understanding, Applying logical Reasoning and Problem Solving)</b></p>
MAY (10)	<p>ATOMS AND NUCLEI <b>SDG 7: Affordable and Clean Energy</b> <b>SDG 3: Good Health and Well-being</b> <b>SDG 6: Clean Water and Sanitation</b></p>	<p>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 his orbit, of hydrogen line spectra (qualitative treatment only). 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>	<ul style="list-style-type: none"> <li>• To make the learners understand the basic structure of atom, composition of nucleus</li> <li>• To make them understand theories given by different scientists Rutherford &amp; Bohr's Atomic Model etc.) In addition, its importance in one life.</li> </ul> <p><b>(Conceptual and Analytical understanding)</b></p>

<p>JULY (18)</p>	<p>CURRENT ELECTRICITY  <b>SDG 7: Affordable and Clean Energy</b>  <b>SDG 12: Responsible consumption and Reduction</b></p>	<p>Electric current, the flow of electric charges in a metallic conductor, drift velocity, mobility and their relation with electric current; Ohm's law, electrical resistance, V-I characteristics (linear and nonlinear), electrical energy and power, electrical resistivity and conductivity; temperature dependence of resistance. Internal resistance of a cell, potential difference, and emf of a cell, a combination of cells in series and in parallel, Kirchhoff's rules, Wheatstone bridge</p>	<p>To enable the learner to:</p> <ul style="list-style-type: none"> <li>• Derive and define drift velocity, mobility, electric current,</li> <li>• Draw V-I graphs for ohmic and non ohmic materials and Resistivity Temperature graphs for different materials</li> <li>• Derive the equivalent resistance in series and parallel combination</li> <li>• Define and write the relation between internal resistance and emf, equivalent emf and internal resistance in series and parallel combination</li> <li>• Write and apply Kirchhoff's rules</li> <li>• Describe the construction and the principle of Wheatstone bridge</li> <li>• Solve numerical problems based on the above topics.</li> </ul> <p><b>(Circuit Analysis and Problem Solving)</b></p>
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<p>JULY (10)</p>	<p>SEMICONDUCTOR ELECTRONICS: MATERIALS, DEVICES AND SIMPLE CIRCUITS  <b>SDG 7: Affordable and Clean Energy</b>  <b>SDG 9: Industry, Innovation and Infrastructure</b>  <b>SDG 12: Responsible consumption and Reduction</b></p>	<p>Energy bands in conductors, semiconductors and insulators(qualitative ideas only)Intrinsic and extrinsic semiconductors p and n type  Semiconductor Diode-I-V Characteristics in forward and reverse bias, application of junction diode as a rectifier</p>	<ul style="list-style-type: none"> <li>To make the learners aware about the semiconductor electronics.  <b>(Component Understanding, Application based Reasoning)</b></li> </ul>
<p>AUGUST (18)</p>	<p>MOVING CHARGES AND MAGNETISM  <b>SDG 7: Affordable and Clean Energy</b>  <b>SDG 9: Industry, Innovation and Infrastructure</b></p>	<p>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 and toroidal solenoids (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</p>	<p>To enable the learner to:</p> <ul style="list-style-type: none"> <li>Concept of magnetic field, Oersted's experiment.</li> <li>Biot - Savart law and its application to current carrying circular loop.</li> <li>Ampere's law and its applications.</li> </ul> <p><b>(Conceptual Understanding, Mathematical Application and Derivation, Application Based Analysis)</b></p>

		galvanometer-its current sensitivity and conversion to ammeter and voltmeter.	
AUGUST (10)	MAGNETISM AND MATTER <b>SDG 12: Responsible consumption and Reduction</b>	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	To enable the learner to: <ul style="list-style-type: none"> <li>• Earth's magnetic field and magnetic elements.</li> <li>• Para-, dia- and ferro - magnetic substances</li> </ul> <b>(Conceptual Understanding and Problem Solving)</b>
SEPTEMBER (12)	REVISION  MID TERM EXAMINATION 2026-2027		
OCTOBER (20))	ELECTROMAGNETIC INDUCTION AND ALTERNATING CURRENT <b>SDG 7: Affordable and Clean Energy</b> <b>SDG 13: Climate Action</b>	Electromagnetic induction; Faraday's laws, induced EMF and current; Lenz's Law, Self and mutual induction. 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.	To enable the learner to: <ul style="list-style-type: none"> <li>• Changing magnetic field induces electromotive force (EMF) in a circuit. They will be able to calculate EMF and determine the direction of induced current using the right-hand rule in certain cases.</li> <li>• Derivation of Mean or average value of</li> </ul>

			<p>a.c. Root – mean-square (rms) or effective or virtual value of a.c.</p> <p>Impedance, For LCR series circuit.</p> <p><b>(Circuit Analysis and Numerical Proficiency)</b></p>
OCTOBER (6)	<p>ELECTROMAGNETIC WAVES</p> <p><b>SDG 3: Good Health and Well-being</b></p> <p><b>SDG 11: Sustainable cities and Communities</b></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 rays) including elementary facts about their uses.</p>	<p>To enable the learners to understand</p> <ul style="list-style-type: none"> <li>• Derivation of displacement current and Numerical based on electromagnetic wave velocity</li> </ul> <p><b>(Numerical and Conceptual Application)</b></p>
NOVEMBER (16)	<p>WAVE OPTICS</p> <p><b>SDG 3: Good Health and Well-being</b></p> <p><b>SDG 4: Quality Education</b></p>	<p>Wave front and Huygens’s principle, reflection and refraction of plane wave at a plane surface using wave fronts. Proof of laws of reflection and refraction using Huygens’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)</p>	<ul style="list-style-type: none"> <li>• To enable the learners to understand</li> <li>• Huygens’s Principle, and diffraction</li> <li>• Interference patterns of a single slit diffraction pattern</li> </ul> <p><b>(Conceptual and Analytical Skills)</b></p>
NOVEMBER (10)	<p>REVISION FOR PRE -BOARD EXAMINATION</p>		

DECEMBER	REVISION PRE-BOARD EXAMINATION- I (2026-27)
JANUARY	REVISION PRE-BOARD EXAMINATION-II (2026-27)

### PRACTICALS

- Record of at least 8 Experiments [with 4 from each section], to be performed by the students.
- Record of at least 6 Activities [with 3 each from section A and section B], to be performed by the students.
- The Report of the project carried out by the students.

### LIST OF EXPERIMENTS

#### SECTION A

1. To determine resistivity of two / three wires by plotting a graph for potential difference versus current.
2. To find resistance of a given wire / standard resistor using metre bridge.
3. To verify the laws of combination (series) of resistances using a metre bridge.

OR

- To verify the laws of combination (parallel) of resistances using a metre bridge.
4. To determine resistance of a galvanometer by half-deflection method and to find its figure of merit.

#### SECTION B

1. To find the value of  $v$  for different values of  $u$  in case of a concave mirror and to find the focal length.
2. To determine angle of minimum deviation for a given prism by plotting a graph between angle of incidence and angle of deviation.
3. To determine refractive index of a glass slab using a travelling microscope
4. To draw the I-V characteristic curve for a p-n junction diode in forward and reverse bias.

### LIST OF ACTIVITIES

#### SECTION A

1. To assemble the components of a given electrical circuit.
2. To study the variation in potential drop with length of a wire for a steady current.

3. To draw the diagram of a given open circuit comprising at least a battery, resistor/rheostat, 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 observe refraction and lateral deviation of a beam of light incident obliquely on a glass slab.

## POLITICAL SCIENCE

Chapter No.	Chapter Name	Marks Allotted
<b>PART A-CONTEMPORARY WORLD POLITICS</b>		
<b>1</b>	The End of Bipolarity	6
<b>2</b>	Contemporary Centers of Power	6
<b>3</b>	Contemporary South Asia	6
<b>4</b>	International Organizations	6
<b>5</b>	Security in the Contemporary World	6
<b>6</b>	Environment and Natural Resources	6
<b>7</b>	Globalization	4
	PART A - Total	<b>40</b>
<b>PART B-POLITICS IN INDIA SINCE INDEPENDENCE</b>		
<b>1</b>	Challenges of Nation-Building	6
<b>2</b>	Era of One-Party Dominance	4
<b>3</b>	Politics of Planned Development	2
<b>4</b>	India's External Relations	6
<b>5</b>	Challenges to and Restoration of the Congress System	4
<b>6</b>	The Crisis of Democratic Order	4
<b>7</b>	Regional Aspirations	6
<b>8</b>	Recent Developments in Indian Politics	8
	PART B - Total	<b>40</b>
	<b>TOTAL</b>	<b>80</b>

MONTHS/ PERIODS	BOOK	CONTENT	LEARNING OBJECTIVES	ACTIVITY SUGGESTED/ COMPETENCIES
<p><b>APRIL/35</b> <b>(March included)</b></p>	<p><b>PART A</b></p>	<p><b>CH-1 The End of Bipolarity</b> Topics to be focused: a) The Soviet System b) Gorbachev and the disintegration c) Causes and Consequences of disintegration of Soviet Union d) Shock Therapy and its Consequences e) New entities in world politics f) India's relations with Russia and other post-communist countries</p>	<p>Identify the basic features of the Soviet System.</p> <p>Discuss the background and outcome of disintegration of the Soviet Union.</p> <p>Examine the consequences of unipolar world</p> <p>Assess the features of Shock Therapy</p>	<p>Create a timeline starting from the fall of the Berlin Wall (1989) to the official dissolution of the USSR (December 1991). Include key events like the 1991 Coup and Boris Yeltsin's rise.</p> <p><b>Analytical Thinking</b></p>
		<p><b>CH-2 Contemporary Centers of Power</b> Topics to be focused: a) European Union b) Association of Southeast Asian Nations c) Rise of China as an economic power d) Japan and South Korea as emerging powers</p>	<p>Compare and contrast the importance of European Union and ASEAN.</p> <p>Evaluate the extent of rise of Chinese economy and its impact on world politics.</p> <p>Summaries India's relations with China.</p>	<p><b>EU and ASEAN Mapping:</b> Identify and mark member states on a world map.</p> <p><b>Conceptual Understanding of Regional Integration</b></p>
	<p><b>PART-B</b></p>	<p><b>CH-1 Challenges of Nation Building</b> Topics to be focused: a) Challenges for the new Nation. b) Partition: Displacement and Rehabilitation. Consequences of Partition. Integration of Princely States. Reorganization of States.</p>	<p>Analyze the challenges which Independent India faced.</p> <p>Describe the factors that led to the partition of India.</p> <p>Explain the circumstances under which different princely states signed the Instrument of Accession.</p>	<p>Research the integration of <b>Junagadh, Hyderabad, Manipur, and Kashmir</b>.</p> <p><b>Application &amp; Geographic Skills</b></p>

MAY/25	PART A	<b>CH-3 Contemporary South Asia</b> Topics to be focused: a) Military and Democracy in Pakistan and Bangladesh b) Monarchy and Democracy in Nepal c) Ethnic Conflict and Democracy in Sri Lanka d) India-Pakistan Conflicts e) India and its Neighbours f) Peace and Cooperation	Identify & locate the seven countries of the South Asian region.  Appreciate the mixed record of democracy in the South Asian region.  Examine the role of Political leaders Reflect upon the causes of various conflicts and movements in this region.	On a political map of South Asia, colour-code countries based on their current and historical political systems (e.g., Stable Democracy, Transitioning from Monarchy, Military influence).  <b>Evaluation of Regional Cooperation</b>
		<b>CH-4 International Organizations</b> Topics to be focused: a) Meaning and importance of International Organizations b) Evolution of the UN c) Structure and function of International Organizations d) Principal Organs of UN	Define International Organization Appreciate the role of United Nations and its agencies  Reflect on the events taking place in the post-cold war era  Understand the need for reforms in the United Nations	Debate the resolution on "Cyber Warfare and AI Governance" or "Climate Justice for the Global South".
		e) Reform of the UN after Cold War f) Reform of Structures, Processes and Jurisdiction of the UN g) India and the UN Reforms h) Key Agencies		<b>Functional Understanding</b>
JULY/30	PART A	<b>CH-5 Security in the Contemporary World</b> Topics to be focused: a) Meaning and Type of Security. b) Traditional concept of Security c) Non-tradition notions of Security. d) New Sources of Threats	Recognize the causes of security threats  Enhance analytical skills to provide solutions to security concerns.  Develop critical thinking about the role of various stakeholders in	Role-play: A meeting between two rival nations. Students must negotiate a <b>CBM agreement</b> (e.g., exchanging information on troop movements or setting up a military hotline)

		e) Cooperative Security f) India's Security strategy	ensuring security today.	to reduce the risk of accidental war.
	<b>PART B</b>	<b>CH-2 Era of One-Party Dominance</b>  Topics to be focused: a) Challenge of building democracy. b) Congress dominance in the first three general elections.	Appreciate the sustenance of democratic politics in the country.  Evaluate the electoral politics post- Independence  Assess the dominance of the Indian National	Using a political map of India, shade the states where the Congress won majorities in 1952, 1957, and 1962. <b>Critical Evaluation of Modern Threats</b>
<b>AUGUST/32</b>	<b>PART A</b>	<b>CH-6 Environment and Natural Resources</b>  Topics to be focused: a) Environmental Concerns b) Global Commons c) Common but differentiated responsibilities d) India's Stand on Environment Issues e) e) Rights of Indigenous peoples f) Environmental Movements g) Resource Geopolitics	Enlist and explain the facts related to global environmental issues.  Recognize and understand the need to conserve critical resources  Demonstrate knowledge and appreciation towards India's responsibility in protecting environment	Research: The Antarctic Treaty (1959) and explain why no single nation can "own" this continent.  <b>Conceptual Understanding of Global Assets</b>
		<b>CH-7 Globalization</b>  Topics to be focused: a) Concept of globalization b) Causes and Consequences of globalization c) India and globalization d) Resistance to globalization e) India and resistance to globalization	Appreciate the significance of Globalization  Elucidate the political, economic, and cultural dimensions of Globalization.  Critically evaluate the impact of globalization on India.	Group Discussion: The <b>1991 LPG reforms</b> (Liberalization, Privatization, Globalization) in India.  <b>Critical Perspective &amp; Resistance</b>

<p>SEPTEMBER/ 16</p>	<p>PART B</p>	<p><b>CH-3 Politics of Planned Development</b></p> <p>Topics to be focused:</p> <p>a) Political contestation. b) The Early Initiatives c) Rapid Industrialization.</p>	<p>Identify the varied options considered by the government to balance growth and socio-economic justice.</p> <p>Know the difference between Left and Right Ideology</p> <p>Understand the need for the formation of the Planning Commission.</p>	<p>Imagine you are a farmer in the 1950s. Write a letter to the government about how the Green Revolution changed your life—or how a new dam displaced your village</p>
		<p><b>CH-4 India's External Relations</b></p> <p>Topics to be focused:</p> <p>a) International Context</p>	<p>Recognize the significance of NAM</p> <p>Interpret, compare and contrast multi-lateral aspects of Indo-China relationship</p> <p>Demonstrate knowledge on Indo-Pak wars</p>	<p>Debate India's refusal to sign the NPT (Nuclear Non-Proliferation Treaty) and CTBT</p> <p><b>COMMUNICATION SKILLS</b></p>
		<p>b) Peace and conflict with China</p> <p>c) The Chinese Invasion 1962</p> <p>d) India's Nuclear Policy.</p> <p><b>MID TERM EXAMINATION</b></p>	<p>Appreciate the steps taken by Indian government to develop military capacity</p> <p>Reflect and introspect on the choices that the country must consider for the cause of development and peace building.</p>	<p><b>Comparative &amp; Contextual Skills</b></p> <p><b>Critical Evaluation of Major Outcomes</b></p>

OCTOBER/32	PART B	<p><b>CH-5 Challenges to and Restoration of the Congress System</b></p> <p>Topics to be focused:</p> <ul style="list-style-type: none"> <li>a) Challenge of Political Succession</li> <li>b) Fourth General Election 1967</li> <li>c) Split in the Congress</li> <li>d) The 1971 Election and Restoration of Congress</li> </ul>	<p>Understand the challenges of political succession after Nehru.</p> <p>Evaluate the opposition unity and the Congress split as a challenge to Congress dominance.</p> <p>Compare and contrast the new Congress and the old Congress.</p> <p>Summarise the initiatives taken by Indira Gandhi to overcome the challenges faced by her.</p> <p>Analyze the process of restoration of the Congress system</p>	<p>On a political map of India, identify the nine states where the Congress lost power in the 1967 elections (e.g., <u>Punjab</u>, <u>Bihar</u>, <u>West Bengal</u> and <u>Madras</u>)</p> <p>Research the story of Gaya Lal, a Haryana MLA who changed his party three times in a fortnight in 1967. Use this to discuss the impact of <b>defections</b> on political stability.</p> <p><b>ASSESSMENT OF POLITICAL SUCCESSION</b></p>
		<p><b>CH-6 The Crisis of Democratic Order</b></p> <p>Topics to be focused:</p> <ul style="list-style-type: none"> <li>a) Background to Emergency.</li> <li>b) Declaration of Emergency</li> <li>c) Lessons of the Emergency.</li> <li>d) Politics after Emergency.</li> <li>e) Legacy</li> </ul>	<p>Understand the causes and consequences of Emergency</p> <p>Examine the lessons of Emergency</p> <p>Evaluate the rule of Janata Government</p>	<p>Look at archives of newspapers like <i>The Indian Express</i> or <i>The Statesman</i> from June 1975.</p> <p>Create a mock front page with "<b>Blank Spaces</b>" to represent articles removed by government censors.</p>
NOVEMBER/ 25		<p><b>CH-7 Regional Aspirations</b></p> <p>Topics to be focused:</p> <ul style="list-style-type: none"> <li>a) Region and the Nation</li> <li>b) Punjab</li> <li>c) The Northeast</li> </ul>	<p>Discuss the implications of regional demands.</p> <p>Analyze the importance of integrity in India.</p>	<p>Debate on:</p> <p>"Is regionalism a threat to national integration, or is it a sign of a healthy democracy?"</p> <p><b>Evaluative Skills:</b> <b>Conflict Resolution</b> <b>Conceptual Clarity:</b> <b>Unity in Diversity</b></p>

		CH-8 Recent Developments in Indian Politics Topics to be focused a) Context of 1990s b) Era of Coalition c) Political rise of the Backward Classes d) Communalism, Secularism and Democracy. e) Emergence of New Consensus f) Lok Sabha Elections 2004 g) Growing Consensus	Understand momentous changes taking place in the nation since 1989  Trace the rise and growth of BJP.	Research the 1990 decision by the V.P. Singh government to implement OBC Reservations and prepare a group presentation.  <b>CRITICALLY ASSESS THE SHIFT IN PARTY SYSTEMS</b>
DECEMBER/20		<b>REVISION PRE-BOARD EXAMINATION-I</b>		
JANUARY/10		<b>PRE-BOARD EXAMINATION - II</b>		
FEBRUARY/08		<b>PRACTICE PAPERS AND WORKSHEETS</b>	<b>BOARD EXAMINATION</b>	

**Prescribed Books:**

1. Contemporary World Politics, Class XII, Published by NCERT
2. Politics in India since Independence, Class XII, Published by NCERT
3. Added Reference Material available with the document in the Annexure

**COMPETENCIES**

- **Conceptual Mastery**
- **Practical & Interpretive Skills**
- **Critical Evaluation & Argumentation**
- **Global & National Citizenshi**

## **PSYCHOLOGY**

### **Prescribed Books:**

1. Psychology, Class XII, Published by NCERT

**Theory Paper :3 Hours**

**Marks: 70**

<b>Units</b>	<b>Topics</b>	<b>Marks</b>
I	Variations in Psychological Attributes	13
II	Self and Personality	13
III	Meeting Life Challenges	9
IV	Psychological Disorders	12
V	Therapeutic Approaches	9
VI	Attitude and Social Cognition	8
VII	Social Influence and Group Processes	6
	<b>Total</b>	<b>70</b>

### COURSE CONTENT

MONTH/ PERIODS	UNIT	TOPIC	LEARNING OBJECTIVES	SUGGESTED ACTIVITIES
APRIL (35)	1.  SDG 4  Quality educati on	Variations in Psychological Attributes <i>The topics in this unit are:</i> Introduction Individual Differences in Human Functioning Assessment of Psychological Attributes Intelligence 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	Students will be able to explain and evaluate the concept of individual difference and situationism, define intelligence and evaluate and differentiate theories of intelligence.  Students will also be able to find out the relationship between creativity and intelligence.	1.Mind map preparation

<p>MAY (32)</p>	<p>2.  SDG 3 Good health and well being</p>	<p>Self and Personality <i>The topics in this unit are:</i> 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</p> <p><b>PRACTICAL : TEST 1</b> Administration of RSPM</p>	<p>Students will be able to understand the concept of self and identity, explain major personality theories (type, trait, interactional), recognize factors influencing personality development.</p> <p>Students will be able to administer psychometric test successfully</p>	<p>1. Mind map preparation  2. Psychometric test administration</p>
<p><b>JUNE</b></p>		<p><b>SUMMER VACATION</b></p>		



<p>AUGUST (32)</p>	<p>4</p> <p>SDG 3 Good health and well being</p>	<p><b>Psychological Disorders</b> The topics in this unit are:</p> <p>Introduction</p> <p>Concepts of Abnormality and Psychological Disorders</p> <p>□ Historical Background</p> <p>Classification of Psychological Disorders</p> <p>Factors Underlying Abnormal Behaviour</p> <p>Major Psychological Disorders</p> <p>Anxiety Disorders</p> <p>Obsessive-Compulsive and Related Disorders</p> <p>Trauma-and Stressor-Related Disorders</p> <p>Somatic Symptom and Related Disorders</p> <p>Dissociative Disorders</p> <p>Depressive Disorder</p> <p>Bipolar and Related Disorders</p> <p>Schizophrenia Spectrum and Other Psychotic Disorders</p> <p>Neurodevelopmental Disorders</p> <p>Disruptive, Impulse-Control and Conduct Disorders</p> <p>Feeding and Eating Disorders</p> <p>Substance Related and Addictive Disorders</p> <p><b>PRACTICAL:TEST -3</b> Administration of SCAT</p>	<p>Students will be able to state the difference between normal and abnormal behaviour. They will also be able to mention all the categories of psychological disorder. Students will also be able to recall symptoms of disorders in accordance with DSM V and ICD 10.</p> <p>Students will be able to administer psychometric test successfully</p>	<p>1.Presentation of the categories of the disorders on a chart paper.</p> <p>2. Mind map preparation</p> <p>3. Test administration</p> <p>4. Field visit</p>
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SEPT (16)	5. SDG 3 Good health and well being	<b>Therapeutic Approaches</b> The topics in this unit are: 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	Students will be able to illustrate all the psychological therapies for the different disorders and will also be able to compare therapy methods.	1.Role play 2. Case study discussion 3. Mind map preparation
<b>MID TERM EXAMINATION</b>				
OCT (30)	6. SDG 10 Reduced inequalities	Attitude and Social Cognition <i>The topics in this unit are:</i> 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 Prejudices.	Students will be able to define attitude and discuss the A-B-C components of attitude. They will also be able to elaborate on the concept of prejudices and discrimination.	1.Case study discussion 2. Mind map preparation 3. Test administration

NOV (30)	7. SDG 16 Peace, Justice and strong institutions	Social Influence and Group Processes  <i>The topics in this unit are:</i> Introduction Nature and Formation of Groups Type of Groups Influence of Group on Individual Behaviour Social Loafing Group Polarisation RECAPITULATION OF UNIT 1,2&3	Students will be able to define group and differentiate between group and crowd. They will also be able to discuss the various elements of group.	1. Case study preparation 2. Mind map preparation
DEC (16)		<b>PROJECT: CASE PROFILE</b> <b>PRACTICAL:TEST -4</b> <b>PRACTICAL:TEST -5</b>	Students will be able to build case profile with all the requirements needed for that.  Students will be able to administer psychometric test successfully.	1. Development of case study 2. Psychometric test administration
<b>PRE BOARD EXAMINATION 1</b>				
JAN (8)		<b>RIVISION</b>	Students will be able to recapitulate the portions of syllabus	Worksheets, oral discussion
<b>PRE BOARD EXAMINATION 2</b>				
FEB (10)		<b>RIVISION</b>	Students will be able to recapitulate the portions of syllabus	Worksheets, oral discussion

**COMPETENCIES TO DEVELOP**

Conceptual Clarity, Analytical Skills, Critical Thinking, Research Skills, Data Interpretation, Ethical Competence, Communication Skills, Social Sensitivity, Professional Attitude, Critical thinking, Theoretical Understanding, Application Skills, Emotional Competence, Problem Solving skills, Diagnostic Reasoning (basic level), Evaluation Skills, Application Competence, Conflict Resolution Skills

**PRACTICAL – 3 HOURS****30 MARKS****A. Development of case profile:**

Using appropriate methods like interview, observation & psychological tests.

**B. Test administration:**

Students are required to administer and interpret five psychological tests related to various psychological attributes like intelligence, aptitude, attitude, personality, etc.

**C.** In the Practical examination, the student will be required to administer and interpret two psychological tests.

**Distribution of Marks:**

<input type="checkbox"/> Practical File and Case Profile	10 Marks
<input type="checkbox"/> Viva Voce (Case Profile & Two Practicals)	05 Marks
<input type="checkbox"/> Two Practicals (5 marks for conduct of practicals and 10 marks for reporting)	15 Marks
<b>Total</b>	<b>30 Marks</b>

**QUESTION PAPER DESIGN**  
**CLASS – XII (2026-27)**

**Board Examination: Theory**

<b>Time: 3 Hours</b>		<b>Maximum Marks: 70</b>	
<b>S. No.</b>	<b>Competencies</b>	<b>Total Marks</b>	<b>% Weightage</b>
1	<b>Remembering and Understanding:</b> Exhibiting memory of previously learned material by recalling facts, terms, basic concepts, and answers; Demonstrating understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions and stating main ideas	25	35%
2	<b>Applying:</b> Solving problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way	31	45%
3	<b>Formulating, Analysing, Evaluating and Creating:</b> Examining and breaking information into parts by identifying motives or causes; Making inferences and finding evidence to support generalizations; Presenting and defending opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria; Compiling information together in a different way by combining elements in a new pattern or proposing alternative solutions	14	20%
	<b>Total</b>	<b>70</b>	<b>100%</b>

**II. Practical: 30 Marks**

## HINDI

NAME OF BOOKS.....1.अंतरा-II 2.अंतराल-II

माह	इकाई	विषयवस्तु	कला समेकित गतिविधियाँ
		1 पाठ्यपुस्तक 2.गद्य 3. पद्य 4 व्याकरण 5 लेखन 6. अंतराल	
मार्च & अप्रैल / 38		गद्य-प्रेमधन की छाया स्मृति(SDG-4,16), सुमिरिनी के मनके(SDG-10,16,4) पद्य- देवसेना का गीत(SDG-16,5), कार्नेलिया का गीत(SDG-10) व्याकरण-जनसंचार के माध्यम- प्रिंट माध्यम(SDG-4) अंतराल- सूरदास की झोपड़ी(SDG-4,10)	भारत की विशेषताओं पर एक रचनात्मक लेख लिखिए
मई/ 35		गद्य- सुमिरिनी के मनके(SDG-10,16,4), संवदिया(SDG-16,10,4) पद्य- सरोज स्मृति( निराला (SDG-4,3), यह दीप अकेला (SDG-3,4,17) व्याकरण-जनसंचार के माध्यम- रेडियो,समाचार लेखन(SDG-4)	हिंदी परियोजना कार्य के विषयों का चुनाव किया जाएगा
जुलाई /35		गद्य – गांधी ,नेहरू और यास्सेर अराफात (SDG-16-17), कुटज (SDG-3,4,16) पद्य— बारहमासा (SDG-2,6,13), एक बूंद(SDG-6,13,15) व्याकरण— इंटरनेट(SDG-4) , कहानी की रूपरेखा(SDG-4),फीचर लेखन (SDG-4)	परियोजना कार्य से संबंधित विषय के बारे में छात्रों को जानकारी देकर कार्य करवाया जाएगा
अगस्त/32		गद्य– शेर, पहचान ,चार हाथ , साझा(SDG-15,12,16,16) पद्य— भरत राम का प्रेम (SDG-16,4,5) बनारस ( केदारनाथ अग्रवाल )(SDG-11,04 अंतराल- बिस्कोहर की माटी (SDG-10,4) व्याकरण—नाटक की रूपरेखा(SDG-4)	भरत के त्याग और समर्पण की किसी एक घटना का सचित्र वर्णन कीजिए बनारस शहर की विशेषताओं का सचित्र वर्णन कीजिए

सितंबर /16	अर्धवार्षिक परीक्षा	व्याकरण—रचनात्मक लेखन(SDG-4) अपठित गद्यांश(SDG-4) अपठित काव्यांश(SDG-4) ( करवाए गए कार्य की पुनरावृत्ति)	श्रवण वाचन कौशल करवाया जाएगा
अक्टूबर /35		गद्य— जहां कोई वापसी नहीं(SDG-11,13,15) पद्य— विद्यापति की पदावली(SDG-4,10,16) ,दिशा ( केदार नाथ सिंह)(SDG4,11), तोड़ो(SDG-15,4) अंतराल— अपना मालवा खाऊ उजाड़ु सभ्यता(SDG-11)	विस्थापन की समस्या पर लेख लिखिए
नवंबर /28		गद्य—दूसरा देवदास (SDG-16,3,4) पद्य— कवित ( घनानंद )(SDG-4), वसंत आया( रघुवीर सहाय )(SDG-13,15,3) व्याकरण- कविता की रूपरेखा(SDG-4) सभी पाठों के बहुविकल्पीय प्रश्न उत्तर	पाठों के कार्य प्रपत्र करवाए जाएंगे।
दिसंबर /16	प्री बोर्ड परीक्षा	सभी कविताओं की सप्रसंग व्याख्या ( पुनरावृत्ति )	
जनवरी /8 फरवरी /10	प्री बोर्ड परीक्षा	यू लाइक सैंपल पेपर यू लाइक सैंपल पेपर	

### शैक्षणिक उद्देश्य -

**गद्य**--गद्य विधा के माध्यम से जीवन के परिवेश, समकालीन यथार्थ वह चुनौतियों के प्रति सजग रहना। भाषा साहित्य को मजबूत करना। सृजनात्मक साहित्य की सराहना, उस का आनंद उठाना और उसके प्रति सृजनात्मक और आलोचनात्मक दृष्टि का विकास करना।

**पद्य**--विद्यार्थियों में साहित्य ज्ञान, रस, अलंकार भाषा व भाव विकसित करके उसकी महत्व उपयोगिता को समझना। विविध कवियों की रचनाओं को पढ़ना वह साहित्य के प्रति अनुराग उत्पन्न करना।

**व्याकरण-** 1.संचार माध्यमों में प्रयुक्त हिंदी भाषा की प्रकृति से अवगत कराना और नवीन विधियों के प्रयोग की क्षमता को बढ़ाना।  
2. अमूर्त विषयों पर प्रयुक्त भाषा का विकास और कल्पनाशीलता और मौलिक चिंतन के लिए प्रयोग करना।  
3. कविता व कहानी के प्रति छात्रों के मन में अनुराग लिखने के लिए प्रेरित करना।

## **COMPETENCIES.....योग्यता क्षमता दक्षता**

### **Literature (साहित्य) में Competencies...**

पद्य--साहित्य के अध्ययन से पठन-बोध क्षमता, आलोचनात्मक सोच, व्याख्या कौशल, रचनात्मकता, नैतिक मूल्य तथा संप्रेषण क्षमता का विकास होता है। विद्यार्थी पाठ के भाव, संदेश और सामाजिक संदर्भ को समझना सीखता है। इससे उसकी सोच व्यापक होती है और व्यक्तित्व का सर्वांगीण विकास होता है। गद्य--वे गद्य पाठ को पढ़कर अर्थ, भाव और संदेश को समझने की क्षमता विकसित करते हैं। पाठों का विश्लेषण करके उनमें आलोचनात्मक चिंतन और तर्कपूर्ण विचार प्रस्तुत करने की योग्यता आती है। साहित्य के माध्यम से उनमें सांस्कृतिक बोध, सामाजिक संवेदनशीलता और मानवीय मूल्य जैसे करुणा, सहिष्णुता और समानता विकसित होती है।

यह पाठ्यक्रम विद्यार्थियों को समकालीन सामाजिक मुद्दों से जोड़ता है तथा उन्हें जिम्मेदार और जागरूक नागरिक बनने में सहायता करता है। छात्र स्वाध्याय, आत्ममूल्यांकन और आजीवन सीखने की भावना का सर्वांगीण विकास होता है।

**व्याकरण**--व्याकरण के अध्यापन से भाषा की शुद्धता, सही वाक्य रचना, शब्द ज्ञान, वाक्य शुद्धि और प्रभावी संप्रेषण जैसी विकसित होती है, जो भाषा प्रयोग को सटीक और स्पष्ट बनाती है।

**रचनात्मक लेखन**--जिससे उनकी कल्पनाशीलता और मौलिकता बढ़ती है। साथ ही, निबंध, पत्र, लेख आदि के माध्यम से लेखन कौशल वृद्धि होती है।