ACCOUNTANCY

THEORY: 80 MARKS

PROJECT: 20 MARKS

	MARKS
PART A- FINANCIAL ACCOUNTING-I	
UNIT-1: THEORETICAL FRAMEWORK	12
UNIT-2 : ACCOUNTING PROCESS	44
PART B- FINANCIAL ACCOUNTING-II	
UNIT-3 : FINANCIAL STATEMENTS OF SOLE PROPRIETORSHIP	24
PART C- PROJECT WORK	20

Books for reference: (1) Accountancy NCERT Part I & II, (2) T S Grewal Part I &II

MONTH/ PERIODS	**UNIT**	**CONTENT**	**LEARNING OBJECTIVES**	**SUGGESTED ACTIVITIES/** COMPETENCIES
APRIL/20	1.INTRODUCTION TO ACCOUNTING **SDG 8: Decent Work and Economic Growth** 2. BASIC ACCOUNTING TERMS **SDG 16: Peace, Justice, and Strong Institutions**.	Meaning of accounting, advantages, disadvantages of accounting, bookkeeping, qualitative characteristics of accounting information, users of accounting information. Types of assets, liabilities, expenses, income and other accounting terms.	a) Learn basic accounting terms. b) Understand users of accounting information.	Quiz on accounting term **Conceptual Understanding, Application of accounting Principles & theoretical Foundations**
MAY/25	3. THEORY BASE OF ACCOUNTING:	Accounting principles, concepts, IFRS and Ind-AS		Mind mapping

	SDG 16: Peace, Justice, and Strong Institutions. 4. BASES OF ACCOUNTING: cash and accrual basis. **SDG 16: Peace, Justice, and Strong Institutions** 5. ACCOUNTING EQUATION: **SDG 9: Industry, Innovation, and Infrastructure**	Cash and accrual basis. Rules of accounting equations and effects of adjustment transactions on accounting equations.	a) Understand accounting principles, cash and accrual basis. b) Prepare an accounting equation with an adjustment transaction.	**conceptual understanding** & **Application of accounting basis.**
		SUMMER BREAK		
JULY/30	6. ACCOUNTING PROCEDURES **SDG 12 (Responsible Consumption and Production)** 7. SOURCES OF DOCUMENTS **SDG 16: Peace, Justice, and Strong Institutions** 8. JOURNALS **SDG 16: Peace, Justice, and Strong Institutions**.	rules of debit and credit (both modern and traditional method) Vouchers, cash memo, receipts, pay-in-slip, cheque, debit note, credit note, etc. Steps in journalizing, discount and rebate, trade discount and cash discount, opening entries.	a) Apply accounting rules of debit and credit while recording business transactions. b) Record journal entries of different business transactions.	Vocational skill development drafting documents **conceptual and application skills**
AUGUST/32	9.LEDGER **SDG 16: Peace, Justice, and Strong Institutions**. 10. SPECIAL PURPOSE BOOK-CASH BOOK AND PETTY CASH BOOK **SDG 16: Peace, Justice, and Strong Institutions**.	Format of ledger accounts, balancing of ledger accounts. Simple cash book and double column cash book, preparation of petty cash book.	a) ledger posting b) Prepare cash books and petty cash books.	Preparation of ledger **Conceptual, analytical & application skills**

SEPTEMBER /16	11.SPECIAL PURPOSE BOOK-OTHERS BOOKS **SDG 12 Responsible Consumption and Production**	Preparation of purchase book, purchase return book, sale book, sales return book and journal proper.	a) Prepare a purchase book, purchase return book, sales book, sales return book and journal proper. b) Prepare a subsidiary book with the column of IGST, SGST, CGST and freight expenses.	Preparation of special purpose book **conceptual and analytical skills**
		MID TERM EXAMINATION		
OCTOBER/32	12.GOODS AND SERVICES TAX **SDG 10: Reduced Inequalities** 13. TRIAL BALANCE **SDG 16: Peace, Justice, and Strong Institutions**. 14. PROVISIONS AND RESERVES **SDG 8: Decent Work and Economic Growth** 15. Bank reconciliation statement **SDG 16: Peace, Justice, and Strong Institutions**.	Inter-state, intra-state supply, accounting entries of GST, set off GST entries. Functions of trial balance, preparing trial balance. Importance of provisions, types of reserves, revenue and capital reserve, general and specific reserves. Reason of difference in cash book and bank statement, preparation of bank reconciliation statement.	a) Record entries of business transactions with GST. b) Record entries of set off GST. c) Prepare trial balance. d) understand Revenue, capital reserve, and specific reserve. e) Prepare a bank reconciliation statement.	Case study **conceptual and analytical skills**
NOVEMBER /25	16. Depreciation **SDG 12: Responsible Consumption and Production**	Meaning of depreciation, amortization, depletion, methods of recording depreciation, creating provision of depreciation and preparation of asset disposal account.	a) Record journal entries of depreciation, provision of depreciation. b) Prepare depreciation accounts, provision for depreciation accounts,	Poster making **conceptual & application skills**

	17. Rectification of errors **SDG 16: Peace, Justice, and Strong Institutions**	Types of errors: omission, commission, principles and compensating error, rectifying entries and preparation of suspense account.	and asset disposal accounts. c) Understand different types of errors and record rectify entries.	
DECEMBER/30	18. PREPARATION OF FINANCIAL STATEMENTS **SDG 8: Decent Work and Economic Growth** 19. PREPARATION OF FINANCIAL STATEMENTS WITH ADJUSTMENTS **SDG 16: Peace, Justice, and Strong Institutions**	Preparing trading, profit & loss account, balance sheet, difference between capital and revenue expenditure. Preparation of trading, profit & loss account and balance sheet with different adjustment entries.	a) Learn trading, P&L A/C, balance sheet. b) Prepare a financial statement with adjustments.	Comprehensive project work **Conceptual, application skills & critical analysis of concept.**
JANUARY/20	20. SINGLE ENTRY SYSTEM **SDG 8: Decent Work and Economic Growth**	Difference between single entry and double entry system, ascertainment of profits under single entry system by statement of affairs method.	a) Learn single entry and double entry systems. b) Calculate profit by statement of affairs method.	Case study **Conceptual, critical analysis & application skills**
FEB/12		PRACTICAL VIVA AND REVISION		

GENERAL COMPETENCIES:

1. **Conceptual & Theoretical Foundations**: - Apply Core Concepts Like the Business Entity**,** money measurement**,** going concern**,** accrual basis**,** GAAP and accounting standards and taxation awareness.
2. **The Accounting Process (Core Skills): -** transactional recording, ledger mastery, verification & control, error management.
3. **Reporting & Advanced Treatment: -** financial statement preparation and analytical thinking.

APPLIED MATHEMATICS

No.	Units	Marks
1.	Numbers, Quantification and Numerical Applications.	09
2.	Algebra	10
3.	Mathematical Reasoning	06
4.	Calculus	10
5.	Probability	10
6.	Descriptive Statistics	12
7.	Basics of Financial Mathematics	18
8.	Coordinate Geometry	05
	Total	80

SUGGESTED BOOK : M L AGGARWAL, R.D. SHARMA

MONTHS/ PERIODS	UNITS/CONTENTS	LEARNING OBJECTIVE	SUGGESTED ACTIVITIES
APRIL (20)	**II/Algebra:** Sets types of sets, Venn diagram, DE Morgan's law, problem solving, relation and types of relation	*To understand types of sets and their Venn diagram *To understand the importance in the foundation of relation and their types. **SDG3- Good health & Well-being** **SDG5-Gender Equality.**	*To represent set theoretic operations using Venn diagram. **Competency**: Pattern recognition.
	VI/Statistics : Measure of dispersion, Range mean deviation and standard deviation of ungrouped and grouped data .	***To learn range M.D. & S.D. of ungrouped and grouped data. **SDG3-** Good health & Well-being. **SDG4-**Quality Education.	*Collect the data on weather ,price, inflation, and pollution. Sketch different types of graphs. **Competencies:** Data collection and organization. Graphical representation.
MAY (27)	**I/Numbers, Quantification and Numerical Applications:** Prime numbers, Encryptions using prime numbers, Binary numbers, Indices.	* To learn different types of numbers and their conversion Binary to decimal and decimal to binary. *To learn Laws of indices & its applications **SDG8**-Sustainable Economic Growth & decent work **SDG4-**Quality education.	*Binary no. activity explaining digital banking system. **Competencies**: Logical reasoning, Digital and quantities literacy.

JUNE	**SUMMER VACATION**		
JULY (30)	**UNIT – I CONTINUED**: Logarithm and antilogarithm and laws, simple applications, numerical problems on averages, calendar, clock, time, work and distance, mensuration, seating arrangement.	*To study about logarithmic and antilogarithmic functions and how they can be used. **SDG8-**Sustainable Economic Growth & decent work **SDG4**-Quality education.	**Competencies:** Computational Accuracy, Logical reasoning
	III/Mathematical and Logical Reasoning: Mathematically acceptable statements. Problems based on logical reasoning (coding-decoding, odd man out, blood relation, syllogism etc.)	* To learn about statements. algebra of statement Use of Venn diagram in logic. Simple applications of logical statements **SDG4**-Quality education	*To prepare a family tree which include parental (Father side) Maternal (Mother side) **Competency:** Logical reasoning, Decision-making skills Analytical &critical thinking.
	II/ALGEBRA: Introduction of sequence, series, geometric progression, Relationship between AM and GM, Basic concepts of permutations and combinations, circular permutations, permutations with restrictions, combination with standard result.	*To study some basic counting techniques which will be useful in determining the number of different ways of arranging or selecting the objects **SDG8-**Economic Growth & Descent work **SDG9-**Industry, innovation &infrastructures. .	* To find the number of ways in which three cards can be selected from given five cards. **Compentency**:Frequently Practice word problem involving seating,digit and card selections to improve speed & accuracy.
AUGUST (30)	**IV/CALCULUS :** Introducing functions, domain, Rangel and types of function, graphical representation of functions. Concepts of limits and continuity of a function. Instantaneous rates of change, differentiation as a process of finding derivative, derivative of	*To define functions & limit of a function & continuity *To explain how to find derivative by using formula, first principle. *To study application of derivative. **SDG8**-To calculate Growth rate and	*To find analytically the limit of a function and also check its continuity at the same point. *Model population growth trends using derivatives.

	algebraic functions using chain rule.	Economic productivity. **SDG3**Good health & Well-being	**Compentencies:**Mathematical modelling, real world application skills.
SEPTEMBER (16)	**REVESION FOR HALF YEARLY EXAM**		
OCTOBER (30)	**VII/Basics of Financial Mathematics:** Interest and interest rate, accumulation with simple and compound interest, effective rate if interest, present value, net present value and future value, annuities, calculating value of regular annuity and their simple applications, Tax, calculation of tax and simple applications of tax calculation in goods and service tax, income tax etc. Bills, tariff rates, fixed charges, surcharge, service charge, calculation and interpretation of electricity bill, water supply bill .	*To study about calculation of interest, tax, annuities, bills, surcharge and service charge. To recognize the conic as a locus of a point satisfying certain geometric conditions. **SDG8-**Economic Growth & Decent work **SDG9-** Industry,Innovation& Infrastructures SDG1-No poverty	*Create budget of income and spending. **Competencies**: Budget planning Understanding interest and taxation. Economic awareness.
NOVEMBER (26)	**V/Probability:** Random experiment, sample space, Events, mutually exclusive events, Independent and dependent events, laws of total probability, Bayes theorem.	*To learn about finding probability under different situation *To study different types of probabilities and its application in actuarial science and other fields. **SDG3-**Good Health **SDG11-** Sustainable Cities and Communities	*To write the sample space ,when a coin is tossed once,2times,3times and 4 times **Competencies :** Rainfall probability study for agricultural planing
DECEMBER (28)	VIII/ **Coordinate Geometry:** Straight line, circles parabola (only standard forms and graphical representation on two dimensional plane)	*To study different types of straight lines. * To study general equation of circle and parabola. **SDG9-** Industry,Innovation& Infrastructures	**Competencies** : Statistical reasoning. Predictive thinking. Interpretation of uncertainty.

JANURARY (16) **FEBRUARY (12)**	**REVESION AND ANNUAL EXAM** **PRACTICAL EXAM**		

Competencies Developed : The chapters aim to develop conceptual understanding, mathematical reasoning, procedural fluency, visualization skills and application of mathematical concepts.

EXAMINATION SYLLABUS :

S.NO	EXAMINATION	SYLLABUS
1.	UT 1	CH-1- Numbers CH-2 – Indices & logarithms CH 3 - Quantitative Aptitude CH 5 – Sets and Relation
2.	MID - TERM	CH – 1,2,3 & 5 CH – 6 Sequence & Series CH – 7 Permutations and Combinations Ch 8 Mathematical Reasoning
3.	UT 2	Ch 10 – Limits and Continuity Ch 11 – Differentiation CH 13- Descriptive Statistics Ch 14 Compound Interest and Annuity
4.	Annual Examination	All chapters(CH 1 to CH 17)

ARTIFICAL INTELLIGANCE

MONTH (NO. OF PERIODS)	UNIT	CONTENT (CBSE HANDBOOK for AI)	LEARNING OBJECTIVES	ACTIVITY
APRIL (24)	**SUBJECT SPECIFIC SKILLS** **UNIT-1**			
	Unit-01 ARTIFICIAL INTELLIGENCE FOR EVERYONE SDG 9 – Industry, Innovation and Infrastructure	• WHAT IS AI? • HISTORY OF AI • WHAT IS MACHINE LEARNING? • DIFFERENCE BETWEEN CONVENTIONAL PROGRAMMING & ML • ML & AI • DATA & IT's TYPES • TERMINOLOGIES & CONCEPTS RELATED TO AI • JOBS IN AI	• TO UNDERSTAND WHAT IS ARTIFICIAL INTELLIGENCE & APPRECIATE AI. • TO UNDERSTAND WHAT IS MACHINE LEAERNING AND HOW IS IT RELATED TO AI. • TO BECOME FAMILIAR WITH AI RELATED TERMS.	• **TEACHABLE MACHINE**- TRAIN A MACHINE TO RECOGONISE YOUR OWN IMAGES, SOUNDS & POSES (CREATE A MACHINE LEARNING MODEL) • GROUP DISCUSSION ON SKILL SET REQUIRED FOR AI JOBS / DEBATE ON **"WILL AI TAKE AWAY JOBS?"** **Competencies:** • **Basic understanding of AI concepts** • **Awareness of AI applications in daily life**
	EMPLOYABILITY SKILLS **UNIT -1**			
	CH-01	• METHODS OF COMMUNICATION • MEANING,IMPORTANCE & ELEMENTS OF COMMUNICATION	• TO LEARN ABOUT DIFFERENT METHODS & TYPES OF COMMUNICAT -ION & IT's IMPORTANCE	• WRITING PROs & CONs OF WRITTEN, VERBAL AND NON-VERBAL COMMUNICATION LISTING Dos & DONTs

	COMMUNICATION SKILLS – III **SDG 4 – Quality Education**	• PERSPECTIVE IN COMMUNICATION • FACTORS AFFECTING PERSPECTIVE	• TO LEARN ABOUT PERSPECTIVE IN COMMUNICATION & FACTORS	• LISITNG Dos & DONTs FOR AVOIDING COMON BODY LANGUAGE MISTAKES Competencies: • Communication skills • Data Literacy
MAY(28)	**SUBJECT SPECIFIC SKILLS** **UNIT-2**			
	Unit-2 Unlocking your future in AI **SDG 9 – Industry, Innovation and Infrastructure**	• The global demand for Artificial Intelligence (AI) professionals, • Diverse career opportunities available across various industries. • Common job roles in AI, essential skills and tools for prospective AI careers • Opportunities for AI professionals in different sectors.	• To Understand the increasing demand for AI professionals in today's global market. • To Identify common job roles in the field of AI and their respective responsibilities. • To Recognize the essential skills and tools required for a successful career in AI. • Explore the diverse opportunities for AI professionals across various industries.	• Divide the class into small groups and distribute the list of AI job roles to each group. Using the roles written in the chit, the teams will identify ten companies currently hiring. Competencies: • Critical thinking • Analytical reasoning
	EMPLOYABILITY SKILLS **UNIT -1**			

	CH-01 COMMUNICATION SKILLS – III **SDG 4 – Quality Education**	• Visual, language & past experiences • Prejudices, feelings, environment • Writing skills – phrases, kinds of sentences, parts of sentences, parts of speech, construction of paragraphs	• To learn about perspective & factors affecting perspective • To learn about the writing skills	• Group discussion on factors affecting perspective • Demonstration & practice of writing sentences & paragraphs on topics related to the subject Competencies: • Effective verbal & Written communication • Active listening

	SUBJECT SPECIFIC SKILLS **UNIT-3**			
JULY (24)	**UNIT-03** Python Programming SDG 9 – Industry, Innovation and Infrastructure	• Fundamentals/ basics of Python programming language. • Operators, variables, constants, lists, strings, iterative and select statements. • Essential Python libraries: NumPy, Pandas, and Scikit-learn. • How to use NumPy for numerical computing. • Pandas for data manipulation and analysis, and Scikit-learn for implementing machine learning algorithms.	• To understand the basics of python programming language-tokens, datatypes, lists, string manipulation, iterative and decision statements. • To use NumPy for mathematical operations and numerical computing. • To explore Pandas for data manipulation, analysis, and exploration of structured data. • To gain proficiency in using Scikit learn for implementing machine learning algorithms, including classification.	• Practical Work Competencies: • Understanding automation • Innovation skills • Technical awareness • Computational thinking

	EMPLOYABILITY SKILLS **UNIT -2**			
	CH-02 SELF MANAGEMENT SKILLS – III SDG 3 – Good Health and Well-being	• Importance of dressing appropriately, looking decent & positive body language • Describe the term grooming	• To learn about importance of grooming & dressing appropriately • To learn about balancing work & leisure	❖ Group debate on the topics: ➢ Hard work vs smart work ➢ Failures- stepping stones or stumbling blocks Competencies: • Stress management • Goal setting • Time management • Self-motivation

	SUBJECT SPECIFIC SKILLS **UNIT-4**			
AUGUST (24)	**UNIT-04** Introduction to Capstone Project	• Concept of Capstone project • Design Thinking Framework	• Understand the meaning of the Capstone Project and its goals. • Understand how problems can be identified, decomposed and solved using Design Thinking Methodology. • Learn the steps of Design Thinking and apply for solving simple issues. • Learn to create Empathy maps.	• Ashmitha daily drives to her office and back. The office is hardly 30 minutes' drive from her home. However, due to traffic jams it takes more than 1 hour. Ashmitha is

	SDG 9 – Industry, Innovation and Infrastructure	• Sustainable Development Goals.	• Understand the importance of 5W1H in Design Thinking and Capstone Project development. • Relate the importance of Sustainable Development Goals and how these issues can be aligned with Capstone Project.	hoping for a solution to this traffic issue. **Prepare an Empathy map related to Ashmitha.** Competencies: • Problem solving • Goal setting • Critical thinking
	EMPLOYABILITY SKILLS **UNIT -2**			
	CH-02 SELF MANAGEMENT SKILLS – III SDG 3 – Good Health and Well-being	• Prepare a personal grooming checklist • Describe the techniques of self-exploration	• To learn about importance of grooming & dressing appropriately • To learn about balancing work & leisure	❖ Group debate on the topics: ➢ Work-life balance a myth Competencies: • Stress management • Goal setting • Time management • Self-motivation

SEPTEMBER (12)	**SUBJECT SPECIFIC SKILLS** **UNIT-5**			
	UNIT-05 Data Literacy – Data Collection to Data Analysis SDG 4 – Quality Education	• Basics of data literacy, data collection and its sources. • Level of Measurements, Statistical analysis of data, Matrices and Data preprocessing. • Different types of data, how to store data effectively and visualise it.	• To understand the importance of data literacy in AI. • To explore various data collection methods and their applications. • To analyse data using basic Statistic analysis techniques . • To identify matrices and their role in representing data like images. • To understand the preparation of data to suit the models.	• Python Programs – 1 to 5 Pg No.97 (Hand Book) Competencies: • Data Literacy • Information Literacy
	EMPLOYABILITY SKILLS **UNIT -3**			
	CH-03 ICT SKILLS – III SDG 9 – Industry, Innovation and Infrastructure	• Create a document on word processor • Edit, save & print a document in word processor	• To get familiar with word processor & learn about creating a document in the same • To learn about editing(wrapping, aligning, font, numbering, bulleting etc.)	• Create a new document in writer & create your time table in it. • Create a new document in writer & type a bulleted list of word processors. Competencies: • Technology Literacy • Computational skills

OCTOBER (24)	**SUBJECT SPECIFIC SKILLS** **UNIT-6**			
	UNIT-06 Machine Learning Algorithms SDG 9 – Industry, Innovation and Infrastructure	• Machine Learning and its connection with AI. • Different ML Methodologies.	• To Understand Machine Learning and the various machine learning algorithms • To Understand regression as a type of supervised learning. Understand classification as a type of supervised learning. • Understand clustering as a type of unsupervised learning. • List of algorithms for regression, classification and clustering • Differentiate between regression, classification and clustering problem.	• Python Implementation for KNN Model • Python Implementation for K-Means Clustering Model Competencies: • Technology Literacy • Information Literacy • Critical thinking
	EMPLOYABILITY SKILLS **UNIT -4**			
	CH-04 ENTREPRENEURIAL SKILLS-III SDG 9 – Industry, Innovation and Infrastructure	• Entrepreneurship-values & attributes • Entrepreneurial attitudes • Tendency to take moderate risk • Looking for economic opportunities • Analysing situation & planning action	• To understand what entrepreneurship means in it's true sense • To learn how an entrepreneur looks for an economic opportunity & converts it into a problem-solving venture	• Presentation on a business idea- that includes the identification of the market gap, Competencies: • Innovation mindset • Initiative • Business Skills

NOVEMBER (24)	**SUBJECT SPECIFIC SKILLS** **UNIT – 7**			
	UNIT-07 Leveraging Linguistics & Computer Science SDG 4 – Quality Education	• Natural Language processing, • Natural Language Understanding & Natural Language Generation.	• To Understand the challenges of natural language processing (NLP) and its importance in modern technology. • To Explore the components and processes involved in NLP, including lexical analysis, syntactical analysis, semantic analysis, discourse integration, and pragmatic analysis. • To Learn about the applications of NLP in various fields such as sentiment analysis, smart assistants, email filtering etc.	Activity: Creating a Chatbot Create a chatbot on ordering ice-creams using any of the following platforms: ● Google Dialogflow ● Botsify.com ●Botpress.com Video session (for Google Dialogflow) : https://www.youtube.com/watch?v=bIXkqDZMgaI Competencies: • Information literacy • Computational Skills
	EMPLOYABILITY SKILLS **UNIT -5**			
	CH-05 GREEN SKILLS-III SDG 4 – Quality Education	• What is green economy? • Main sectors of green economy • E-waste management, green transportation, renewal energy,	• To get familiar with the idea of green economy • To know what are the main sectors of green economy	• Preparing posters on green sectors/areas : cities, buildings, tourism, industry, transport, renewable energy, waste management,

		green construction, water management.		agriculture, water, forest & fisheries Competencies: • Environmental awareness • Sustainability thinking

DECEMBER (24)	**<u>SUBJECT SPECIFIC SKILLS</u> <u>UNIT – 8</u>**			
	<u>Unit-09</u> AI Ethics & Values SDG 4 – Quality Education	• Development and usage of AI. • The ethical implications of different AI tools	• Understand the fundamental concepts of ethics and its relevance in the context of AI. • Identify bias arising from various sources present in AI systems and understand their societal implications.	Activity : Organize students into groups and ask them to find answers for the questions given below after going through the link Amazon Recruitment Tool : https://www.livemint.com/Companies/Bo8aPRQMGKU8uTcEyVuFgO/Amazon-scraps-secret-AI-recruiting-tool.html Competencies: • Awareness of ethics • Sustainability thinking • Media Literacy
	<u>SUBJECT SPECIFIC SKILLS</u> <u>UNIT – 8</u>			

JANUARY (20)	**<u>UNIT-08</u>** **AI Ethics and Values** SDG 4 – Quality Education	• Different types of bias. • Present-day challenges related to AI ethics	• Understand the importance of mitigating bias in AI systems and be able to identify strategies for reducing bias in AI technologies. • Understand the importance of developing AI policies.	Activity: Role Play- Share the following examples of biased AI systems and their potential consequences and do a role play to present each scenario: 1. Facial Recognition Technology 2. Predictive Policing 3. Algorithmic Hiring Systems 4. Healthcare Algorithms 5. Credit Scoring Systems Competencies: • Awareness of ethics • Sustainability thinking • Media Literacy
FEBRUARY (16)	**REVISION**			

BIOLOGY

Month	No. of Periods	Unit	Content	Learning Objectives	Suggested Activities
April	15	Unit-I Diversity of Living Organisms	Chapter 1: The Living World	Students will learn about: • What is living? • Biodiversity • Need for classification • Three domains of life • Concept of species and taxonomical hierarchy • Binomial nomenclature • **SDG-15 Life on land**	• To study parts of a Compound Microscope**.(autonomous learning skills)**
			Chapter 2: Biological Classification	Students will learn about: • Five kingdom classification • Salient features and classification of Monera, Protista and Fungi into major groups • Lichens, Viruses and Viroids • **SDG-14 Sustainable development** • **SDG-15 Life on land.**	-
May	15	Unit-I Diversity of Living Organisms	Chapter 3: Plant Kingdom	Students will learn about: • Salient features and classification of plants into major groups - Algae, Bryophyta, Pteridophyta and Gymnospermae. (salient and distinguishing features and a few examples of each category). • **SDG-13 Climate action** • **SDG-15 Life on land**	• To study specimens/slides/models and identification with reasons - Bacteria, Oscillatoria, Spirogyra, Rhizopus, mushroom, yeast, liverwort, moss, fern, pine, one monocotyledonous plant, one dicotyledonous plant and one lichen**.(learning ,critical-thinking)**

			Chapter 4: Animal Kingdom	Students will learn about: • Salient features and classification of animals, non-chordates up to phyla level and chordates up to class level (salient features and distinguishing features of a few examples of each category). • **SDG-15 Life on land**	• To study virtual specimens/slides/models and identifying features of - Amoeba, Hydra, liver fluke, Ascaris, leech, earthworm, prawn, silkworm, honeybee, snail, starfish, shark, rohu, frog, lizard, pigeon and rabbit. **(learning, critical-thinking)** • Prepare an interactive book containing information about any one phylum, draw colourful pictures of organisms belonging to the group, characteristics, etc.(**critical and creative-thinking, Digital and technological)**
July	24	Unit – II Structural Organisation in Plants and Animals	Chapter-5: Morphology of Flowering Plants	Students will learn about: • Morphology of inflorescence and flower • Description of family Solanaceae • **SDG-2 Zero Hunger**	• Study and describe a locally available common flowering plant ,from family Solanaceae **(critical thinking, social responsibility)**
			Chapter-6: Anatomy of Flowering Plants	Students will learn about: • Meristmatic Tissues • Permanent Tissues • The Tissue System • Anatomy of dicotyledonous and monocotyledonous root and stem. • Anatomy of dicotyledonous and monocotyledonous leaf. • **SDG-12 Responsible consumption & production.**	• Comparative study of rates of transpiration in upper and lower surface of leaves. (**critical thinking, social responsibility)** • Preparation and study of dicot and monocot stem and root. **(Knowledge, critical- thinking)** • Study of osmosis by potato osmometer.(**critical thinking)** • Study and identification of different types of inflorescences. (**Knowledge, critical- thinking)**

			Chapter-7: Structural Organisation in Plants and Animals	Students will learn about: • Animal Tissue • Types of animal tissue • Frog • **SDG-15 life on land**	• Study of distribution of stomata on lower and upper surface of leaves**.(Knowledge, critical-thinking)** • Study of Plasmolysis in Epidermal leaf peel.(**Knowledge, critical –thinking)**
August	23	Unit-III Cell: Structure and Function	Chapter-8: Cell: The Unit of Life	Students will learn about: • Cell Theory • Structural Outline of a Cell • Prokaryotic Cell • Eukaryotic cell • Components of Eukaryotic cell • Cell membrane • Endomembrane System • Mitochondria • Nucleus • Chromosomes • **SDG-3 Good Health and Well-being**.	• Study of mitosis in onion root tip cells from permanent slides**.(Knowledge, critical-thinking)**
			Chapter-9: Biomolecules	Students will learn about: • Chemical analysis of Organic compounds • Primary and Secondary metabolites • Lipids • Proteins • Polysaccharides • Classification and Nomenclature of Enzymes • **SDG-3 Good Health and Well -Being**	• Test for presence of sugar, starch, proteins and fats in suitable plant and animal material **.(Knowledge, critical-thinking)**
September	10	Unit-III Cell: Structure	Chapter -10: Cell Cycle and Cell Division	Students will learn about: • Phases of Cell Cycle • Interphase • Mitosis	

		and Function		• Meiosis -I and II • **SDG-3 Good Health and Well-Being**	
	Revision and Mid-term examination.				
October	18	Unit -IV: Plant Physiology	Chapter-11: Photosynthesis in higher plants	Students will learn about: • Photosynthesis as a means of autotrophic nutrition. • Site of Photosynthesis, pigments involved in Photosynthesis (elementary idea) • Photochemical and biosynthetic phases of Photosynthesis • Chemiosmotic hypothesis • Photorespiration; C3 and C4 pathways; factors affecting photosynthesis. • **SDG-6 Clean water and sanitation.** • **SDG-13 Climate action**	• Separation of plant pigments by paper Chromatography.(**critical-thinking.)**
		Unit IV: Plant Physiology	Chapter-12: Respiration in Plants	Students will learn about: • Exchange of gases • Cellular respiration- Glycolysis, Fermentation(anaerobic),TCA cycle and ETS (aerobic) • Energy relations- number of ATP molecules generated, amphibolic pathways, respiratory quotient • **SDG-6 clean water and sanitation** • **SDG-13 climate action.**	
November	23		Chapter-13: Plant -Growth and Development	Students will learn about: • Seed germination, phases of plant growth and plant growth rate • Conditions of growth, differentiation, de-differentiation, re-differentiation	• Study of the rate of respiration in flower buds/leaf tissues and germinating seeds**.(Knowledge, critical-thinking)**

				• Sequence of developmental processes in a plant cell • Growth regulators- auxins, gibberellin, cytokinin, ethylene, ABA • **SDG-6 clean water and sanitation** • **SDG-13 climate action**	
		Unit-V: Human Physiology	Chapter-14: Breathing and Exchange of gases	Students will learn about: • Respiratory organs in animals (recall only) • Respiratory system in humans • Mechanism of breathing and its regulation in humans -exchange of gases, transport of gases, and regulation of respiration, respiratory volume • Disorders related to respiration- asthma, emphysema, ORD • **SDG-3 Good Health and Well-Being**	
			Chapter-15: Body Fluids and Circulation	Students will learn about: • Composition of blood, blood groups, coagulation of blood • Composition of Lymph, and its function, human circulatory system- • Structure of human Heart and blood vessels • Cardiac Cycle, Cardiac output, ECG, • Double Circulation • Regulation of Cardiac activity • Disorders of circulatory system • **SDG-3 Good Health and Well-Being**	
December	23	Unit-5: Human Physiology	Chapter-16: Excretory Products and Their Elimination	Students will learn about: • Modes of Excretion- ammonotelism, ureotelism, uricotelism	• Test for presence of sugar in urine. **(Knowledge, critical-thinking)**

				• Human excretory system - structure and function • Urine Formation, osmoregulation • Regulation of kidney function -RAS mechanism, ANF, ADH and diabetes insipidus, role of other organs in excretion • Disorders- Uremia, Renal failure, renal calculi, nephritis, dialysis and artificial kidney, kidney transplant • **SDG-3 Good Health and Well-Being**	• Test for presence of albumin in urine. **(Knowledge, critical-thinking)**
			Chapter-17: Locomotion and Movement	Students will learn about: • Skeletal muscles, Contractile Proteins and muscle contraction • **SDG3-Good Health and Well-Being**	• Test for presence of bile salts in urine. (**Knowledge, critical-thinking)** • Test for presence of urea in urine. (**Knowledge, critical-thinking)**
			Chapter-18: Neural Control and Coordination	Students will learn about: • Neurons and nerves, Nervous system in humans- Central nervous system, peripheral nervous system and visceral nervous system, generation and conduction of nerve impulse • **SDG-3 Good Health and Well-Being**	• To study Human Skeleton and joints with the help of virtual images and models. **(Knowledge, critical-thinking)**
			Chapter-19: Chemical Coordination and Integration	Students will learn about: • Endocrine glands and hormones, • Human endocrine system- hypothalamus, pituitary, pineal, thyroid, parathyroid, adrenal, pancreas, gonads • Mechanism of hormone action (elementary idea)	

				• Roles of hormones as messengers and regulators, hypo- and hyperactivity and related disorders- dwarfism, acromegaly, cretinism, goitre, exophthalmic goitre, diabetes, Addison's disease. • **Good Health and Well-Being**	
January	Revision				
February	Annual examination (Full Syllabus)				

BUSINESS STUDIES

Units		Marks
Part A	**Foundations of Business**	
1	Nature and Purpose of Business	16
2	Forms of Business Organizations	
3	Public, Private and Global Enterprises	14
4	Business Services	
5	Emerging Modes of Business	10
6	Social Responsibility of Business and Business Ethics	
	Total	**40**
Part B	**Finance and Trade**	
7	Sources of Business Finance	20
8	Small Business	
9	Internal Trade	20
10	International Business	
	Total	**40**
	Project Work & VIVA	**20**
		100

BOOKS FOR REFERENCE: - BUSINESS STUDIES NCERT, BUSINESS STUDIES BY SUBHASH DEY, ALKA DHAWAN AND POONAM GANDHI

MONTH/ PERIOD	CONTENT/UNIT	LEARNING OBJECTIVES	SUGGESTED ACTIVITY/ COMPETENCIES
APRIL/20	**<u>FOUNDATION OF BUSINESS</u>** **1. NATURE AND PURPOSE OF BUSINESS** **SDG 8 – Decent Work and Economic Growth** ***History of trade and commerce *Business-meaning and features *Profession and employment *Industry-types *Business Risk-causes and nature. *Commerce-trade	To understand the nature, purpose, types, and risks of business, along with the concepts of industry, trade, and commerce.	Mind map, Map work, Debate **Analyzing Business Objectives**
MAY/25	**<u>CHAPTER 6</u>** **Concept of social responsibility** **SDG 12-Responsible Consumption and Production** Case for social responsibility Responsibility towards owners, investors, consumer, employees, Government and community. **<u>CHAPTER 2</u>** **Form of Business organization** **SDG 9 – Industry, Innovation and Infrastructure** ***Sole proprietorship- concept features, merits and demerits *Partnership and partners-types, merits and demerits Registration of a partnership firm, partnership deed. *Cooperative society- merits& demerits *Hindu Undivided family- concept.	● State the concept of social responsibility. ● Examine the case for social responsibility. ● Identify social responsibilities towards different interest groups. To know about different form of organization. Understand the important documents used in the various stages of company's formation.	Responsibility Chart Making **Arguments "For" Social Responsibility** Comparative Chart Activity **Analytical Decision-Making** **Legal and Regulatory Literacy** PPT

JULY/ 30	Company – Concept, merits and limitations; Types: Private, Public and One Person Company- concept *Formation of a company- Stages *Choice of form of organisation **<u>CHAPTER 3</u>** **PUBLIC, PRIVATE AND GLOBAL ENTERPRISES** **SDG 17 – Partnerships for the Goals** *Public sector and private sector enterprises-concept *Forms of public sector enterprises: Departmental Undertaking, Statutory Corporation and Government company. *Global Enterprises- features, PPP-Concept	To make students understand about different documents Develop an understanding of public sector and private sector enterprises Develop an understanding of global enterprises	FLASH CARD Classification Activity (Public vs Private Sector) **Comparative Evaluation**
AUG/32	**<u>CHAPTER 4</u>** **<u>BUSINESS SERVICES</u>** **SDG 8-Decent Work and Economic Growth** *Meaning and types of Bank Accounts(saving, current, recurring, fixed deposit and multiple option deposit account) *Banking Services-Bank overdraft, Cash credit-Banking. * Insurance-principles and its types(Life, Fire and Marine) Banking services	Student will understand the type of bank account and services.	Visit to a Bank and survey **Financial Literacy & Digital Mastery**

SEP/16	Banking services Insurance – Principles. Types – life, health, fire and marine insurance – **MID-TERM EXAMINATION**	To Understand concept of Insurance and its application **Revision**	Assignments and PPT **Risk Mitigation & Ethical Faith**
OCT/32	**CHAPTER 5** **Emerging Modes of Business** **SDG 9-Industry, Innovation, and Infrastructure** E - business: concept, scope and benefits **CHAPTER 7** **Sources of Business Finance** **SDG 17-Partnerships for the Goals** Business finance: Concept and Importance-Owners' funds- equity shares, preferences share and Retained earnings Borrowed funds: debentures and bonds, loan from financial institution and commercial banks, public deposits, trade Credit and ICD	• Give the meaning of e- business. • Discuss the scope of e-business and benefits of e-business Concept meaning and difference, Classify the various sources of funds into owners' funds.	Virtual shopping **Digital Business Agility** Finance Sources Simulation Activity **Evaluate Financial Instruments** **Classify Sources of funds**

NOV/25	**<u>CHAPTER 8</u>** **Small Business and Entrepreneurship Development** **SDG 8-Decent Work and Economic Growth** Entrepreneurship Development (ED): Concept and Need. Process of Entrepreneurship Development: Start-up India Scheme, ways to fund startup. Intellectual Property Rights and Entrepreneurship Role of small business in India with special reference to rural areas. Government schemes and agencies for small scale	Understand the process of Entrepreneurship Development *Discuss the role of small-scale business in India with special reference to rural areas and various schemes of NSIC and DIC	Case Study – Start-up India Scheme and Intellectual Property Rights (IPR) Activity **Identify Entrepreneurial Traits** **Protect Innovation**
DEC/30	**<u>UNIT 9: INTERNAL TRADE</u>** **<u>Meaning and types</u>** **SDG 12-Responsible Consumption and Production** Services rendered by wholesalers and Retailers Types of retail trade-itinerant and small-scale fixed shops Large scale retailers-Departmental stores, chain stores-concept	To appreciate the services of wholesaler and retailers. Students will be able to learn about different types of stores	Worksheets and Students will do survey from local market and will draw and write about it. **Classify Retailers** **Appreciate Intermediaries**

JAN/20	**UNIT 10: INTERNATIONAL TRADE** **SDG 8-Decent Work and Economic Growth** Concept and benefits Export and Import-meaning and procedure Document involved in international trade WTO International Trade (WTO and Documents) Final project preparation Revision for Final examination	Learner will understand the scope of international trade How trading is being done internationally identify the specimen of documents used in business. Students would be able to prepare themselves for final practical exam and doubt will be cleared Doubt clearing session	Dummy Document **Contrast Trade Environments** Worksheets/ Assignment
FEB/12	REVISION FOR ANNUAL EXAMINATION/ **PRACTICAL AND VIVA**	**ANNUAL EXAM**	Assignments and worksheets

Competencies:

- **Fundamental Business Literacy**
- **Operational & Strategic Management**
- **Ethical & Social Stewardship**
- **Entrepreneurial & Global Perspective**

CHEMISTRY

Month	Periods	Units	Content	Learning Objectives
APRIL	12	Some Basic Concepts of Chemistry	General Introduction: Importance and scope of Chemistry. Nature of matter, laws of chemical combination, Dalton's atomic theory. Atomic and molecular masses, mole concept and molar mass, percentage composition, empirical and molecular formula, chemical reactions, stoichiometry and calculations based on Stoichiometry. SDG 9 – Industry, Innovation and Infrastructure	Students will be able to- • Use scientific notation. (problem based, Logical reasoning) • Differentiate solid, liquid gas on the basis of properties. (Comparative analysis) • Define different laws of chemical combination. (conceptual understanding) • Solve numerical based on the mole concept, stoichiometry, limiting reagent, and percentage composition. (problem solving) • Write the empirical formula and molecular formula. (conceptual understanding, quantitative aptitude)
MAY	22	Structure of atom	Discovery of Electron, Proton and Neutron, atomic number, isotopes and isobars. Thomson's model and its limitations. Rutherford's model and its limitations, Bohr's model and its limitations, Dual nature of matter and light, de Broglie's relationship, Heisenberg uncertainty principle.	Students will be able to- • Understand the discovery of electrons, protons and neutrons. (Conceptual understanding, scientific reasoning) • Analyze the merits and demerits of atomic models. (Analytical reasoning, comparative analysis) • Solve numerical on the basis of formulas used in the Bohr model. (problem solving) • Understand the de-broglie wave equation and

			SDG 9 – Industry, Innovation and Infrastructure	Heisenberg uncertainty principle of various elements. (conceptual understanding)

JULY	15	Structure of atom	Concept of orbitals, quantum numbers, shapes of s, p and d orbitals, rules for filling electrons in orbitals - Aufbau principle, Pauli's exclusion principle and Hund's rule, electronic configuration of atoms, stability of half-filled and completely filled orbitals. SDG 9 – Industry, Innovation and Infrastructure	Students will be able to- • Gain knowledge of quantum numbers. (conceptual understanding) • Draw the shapes of atomic orbitals. (conceptual understanding) • Define Aufbau's principle, Hund's rule of maximum multiplicity, Pauli's exclusion principle (conceptual understanding) • Write down the electronic configuration. (application based, logical reasoning)

	14	Classification of elements and periodicity in properties	Significance of classification, brief history of the development of periodic table, modern periodic law and the present form of periodic table, periodic trends in properties of elements -atomic radii, ionic radii, inert gas radii, Ionization enthalpy, electron gain enthalpy, electronegativity, valency. Nomenclature of elements with atomic number greater than 100. SDG 9 – Industry, Innovation and Infrastructure	Students will be able to – • Know about the limitations of Mendeleev's periodic table. (conceptual understanding) • Classify the elements into different blocks viz. s,p,d,f and get a detailed idea of their general characteristics. (comparative analysis) • Know about the periodic properties viz. Ionisation enthalpy, electron gain enthalpy, electronegativity, ionic and atomic radii and their variations in the periodic table. (Conceptual understanding, logical reasoning) • Correlate various elements and their physical properties in the periodic table. (Comparative analysis)

AUGUST	28	Chemical bonding and molecular structure	Valence electrons, ionic bond, covalent bond, bond parameters, Lewis's structure, polar character of covalent bond, covalent character of ionic bond, valence bond theory, resonance, geometry of covalent molecules, VSEPR theory, concept of hybridization, involving s, p and d orbitals and shapes of some simple molecules, molecular orbital theory of homonuclear diatomic molecules, Hydrogen bond. SDG 9 – Industry, Innovation and Infrastructure	Students will be able to – • Understand the different approaches to types of chemical bonding. (Conceptual understanding) • Explain the rules to write the Lewis structures of simple molecules and the limitations involved. (conceptual understanding) • Calculate the formal charge of atoms present in the Lewis structures. (problem solving) • Explain the Bond parameters viz., Bond angle, Bond length, Bond enthalpy and Bond order. (conceptual understanding) • Describe the VSEPR theory and its significance in predicting the anomalous change in geometry of molecules. (logical reasoning, conceptual understanding) • Give an account of VB theory that predicts the geometry of molecules in terms of the concept of hybridization (conceptual understanding) • Explain the concept of resonance. (conceptual understanding) • Describe the concept of hydrogen bonding (conceptual understanding)

SEPTEMBER	8	Redox reactions	Concept of oxidation and reduction, redox reactions, oxidation number, balancing redox reactions, in terms of loss and gain of electrons and change in oxidation number, applications of redox reactions. SDG 7 – Affordable and Clean Energy	Students will be able to • Understand the Electronic concept of oxidation and reduction. (conceptual understanding) • Explain the basic principles involved in redox reactions (conceptual understanding) • Understand the mechanism of electron transfer involved in redox reactions (logical reasoning, conceptual understanding) • Calculate oxidation numbers in terms of electron transfer. (problem solving) • Balance redox reactions using i) oxidation number method ii) half reaction method. (application based, problem solving)
	6	Revision	Revision for Mid-term examinations	

OCTOBER	20	Organic chemistry – some basic principles and techniques	General introduction, methods of purification, qualitative and quantitative analysis, classification and IUPAC nomenclature of organic compounds. Electronic displacements in a covalent bond: inductive effect, electromeric effect, resonance and hyper conjugation. Homolytic and heterolytic fission of a covalent bond: free radicals, carbocations, carbanions, electrophiles and nucleophiles, types of organic reactions. SDG 12 – Responsible Consumption and Production	Students will be able to: • Interpret the structure of molecules in different ways Classify and give the nomenclature of organic compounds in trivial and IUPAC system. (conceptual understanding, comparative analysis) • Explain about different types of isomerism exhibited by organic compounds. (conceptual understanding) • Bring out the effect of electronic displacements on structure and reactivity of organic compounds. Understand the methods of purification of organic compounds. (analytical reasoning, application based) • Explain in detail the qualitative and quantitative aspects of organic compounds (analytical reasoning, Problem solving ability)
	6	Hydrocarbons	Aliphatic Hydrocarbons: Alkanes	Students will be able to • Name the different kinds of alkanes according to common and IUPAC nomenclature. (Knowledge based) • Explain the physical properties of alkanes.(conceptual understanding) • Discuss the different methods to prepare alkanes. (conceptual understanding, comparative analysis) • Write the chemical reactions of alkanes. (Conceptual understanding)

NOVEMBER	27	Hydrocarbons	Aliphatic Hydrocarbons: Alkenes, Alkynes Aromatic Hydrocarbons: Introduction, IUPAC nomenclature, benzene: resonance, aromaticity, chemical properties: mechanism of electrophilic substitution. Nitration, sulphonation, halogenation, Friedel Craft's alkylation and acylation, directive influence of functional group in monosubstituted benzene. Carcinogenicity and toxicity. SDG 13 – Climate Action	Students will be able to • Name the different kinds of hydrocarbons according to common and IUPAC nomenclature. (knowledge based, conceptual understanding) • Identify and write the structures of isomers of aliphatic and aromatic hydrocarbons. (conceptual understanding, Logical reasoning) • Know different forms arise due to free rotation of C-C bond in alkanes(conformers). (Spatial visualization skill, conceptual understanding, comparative analysis) • Discuss on Preparations and Properties of alkenes, alkynes and arenes. (conceptual understanding) • Define Geometrical isomers(cis-trans) arising due to the restricted rotation about C=C. (conceptual understanding) • Explain resonance and extra stability of benzene (conceptual understanding, logical reasoning) • Directive influence of functional groups on the aromatic ring system. (conceptual understanding) • Explain Carcinogenicity and Toxicity in aromatic compounds (application based)

DECEMBER	30	Thermodynamics	Concepts of System and types of systems, surroundings, work, heat, energy, extensive and intensive properties, state functions. First law of thermodynamics internal energy and enthalpy, heat capacity and specific heat, measurement of U and H, Hess's law of constant heat summation, enthalpy of bond dissociation, combustion, formation, atomization, sublimation, phase transition, ionization, solution and dilution. Second law of Thermodynamics. Introduction of entropy as a state function, Gibb's energy change for spontaneous and non-spontaneous processes, criteria for equilibrium. Third law of thermodynamics. SDG 7 – Affordable and Clean Energy SDG 9 – Industry, Innovation and Infrastructure	Students will be able to – • Understand the concept of System and surroundings in thermodynamics and their types. (conceptual understanding) • Know the first law of thermodynamics in terms of internal energy, work and heat. (conceptual understanding) • Understand the relationship between internal energy and enthalpy changes and the formulation of Hess's law. Differentiate between Intensive and Extensive properties of a system (comparative analysis) • Explain Different types of enthalpy changes involved in terms of Hess's law. (conceptual understanding) • Explain the concept of Gibbs free energy, entropy and spontaneity. (conceptual understanding) • Solve different types of numerical. (problem based)

January	27	Equilibrium	Equilibrium in physical and chemical processes, dynamic nature of equilibrium, law of mass action, equilibrium constant, factors affecting equilibrium - Le Chatelier's principle, ionic equilibrium- ionization of acids and bases, strong and weak electrolytes, degree of ionization, ionization of poly basic acids, acid strength, concept of pH, hydrolysis of salts (elementary idea), buffer solution, Henderson Equation, solubility product, common ion effect. SDG 12 – Responsible Consumption and Production	Students will be able to – • Understand the equilibria existing between different states of matter. (conceptual understanding) • Explain the characteristics of chemical equilibrium and equilibrium constant. (Conceptual understanding) • Bring out the relationship between equilibrium constants at different conditions. (comparative analysis) • Classify substances as acids and bases on the basis of different theories. (Analytical reasoning, conceptual understanding) • Explain different important concepts of equilibrium viz., pH scale, ionic product of water, common ion effect, buffer solution. (conceptual understanding) • Understand and calculate solubility product. (problem based) • Solve problems pertaining to this chapter. (problem based)
February	8	Revision	Revision for Annual Examination	

PRACTICALS:

<u>April</u>

Basic laboratory techniques

i. Cutting of glass tube
ii. Bending of glass rod
iii. Drawing out a glass jet

May

Characterization and purification of chemical substances

i. Determination of the melting point of an organic compound.
ii. Determination of the boiling point of an organic compound.

July

i. Crystallization of impure sample of any one of the following: Alum, Copper sulphate, Benzoic Acid.
ii. Preparation of standard solution of oxalic acid
iii. Determination of strength of a given solution of Sodium hydroxide by titrating it against standard solution of Oxalic acid.

August

i. Preparation of standard solution of Sodium carbonate.
ii. Determination of strength of a given solution of hydrochloric acid by titrating it against standard Sodium Carbonate solution.

September - January

Determination of one anion and one cation in a given salt:

i. Cations- Pb^{2+}, Cu^{2+}, As^{3+}, $Al^{3+,}$ $Fe^{3+,}$ Mn^{2+}, Ni^{2+}, $Zn^{2+,}$ Co^{2+}, Ca^{2+}, Sr^{2+}, Ba^{2+}, Mg^{2+}, NH_4^+
ii. Anions – CO_3^{2-} , S^{2-}, NO_2^-, SO_3^{2-}, SO_4^{2-}, NO_3^- , Cl^-, Br^-, I^-, PO_4^{3-}, CH_3COO^- (Note: Insoluble salts excluded)

COMPUTER SCIENCE

MONTH	PERIODS	CONTENT	LEARNING OBJECTIVES	SUGGESTED ACTIVITY
April	30	Computer Systems and Organisation 1) Basic Computer Organisation: Introduction to computer system, hardware, software, input device, output device, CPU, memory (primary, cache and secondary), units of memory (Bit, Byte, KB, MB, GB, TB, PB). 2)Types of software: system software (operating systems, system utilities, device drivers), programming tools and language translators (assembler, compiler & interpreter), application software. 3)Boolean logic: NOT, AND, OR, NAND, NOR, XOR, truth table, De Morgan's laws and logic circuits. SDG 4 – Quality Education SDG 9 – Industry, Innovation & Infrastructure.	To understand the fundamental functioning of a computer system. S/W classification and usage.	To create a digital presentation on classification of software as a digital portfolio activity. Truth Tables and logic gates. Competencies. 1) Digital literacy 2)Conceptual understanding 3)Technical awareness. 4)System architecture basics
May	27	Computational Thinking and Programming – 1 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. SDG 4 – Quality Education SDG 9 – Innovation	To understand the concept of problem solving and logic building.	Applications based on case study to form flowcharts ,algorithms and pseudocodes as portfolio activity. Competencies 1) Problem-solving skills 2)Algorithmic thinking 3)Logical reasoning 4)Mathematical thinking 5)Analytical skills
SUMMER BREAK				

July	30	Getting started with Python Familiarization with the basics of Python programming: Introduction to Python, features of Python, executing a simple "hello world" program, execution modes: interactive mode and script mode, Python character set, Python tokens (keyword, identifier, literal, operator, punctuator), variables, concept of l-value and r-value, use of comments SDG 4 – Quality Education SDG 8 – Decent Work & Economic Growth .	Understand Python IDLE. Fundamentals to learn Python.	To install Python IDLE To start coding small programs with python. Competencies 1)Computational thinking 2)Programming logic 3)Problem-solving

August	32	Python Programming Fundamentals Knowledge of data types: number (integer, floating point, complex), boolean, sequence (string, list, tuple), none, mapping (dictionary), mutable and immutable data type. Structure of a python program. Using def to make a user defined function. Operators: arithmetic operators, relational operators, logical operators, assignment operator, augmented assignment operators, identity operators (is, is not), membership operators (in, not in). Flow of Control Flow of control: introduction, use of indentation, sequential flow, conditional and iterative flow control. Conditional statements: if, if-else, if-elif-else. Looping statements: for loop, range function, while loop, flowcharts, break and continue statements, nested loops. SDG 4 – Quality Education SDG 8 – Economic Growth SDG 9 – Innovation & Infrastructure SDG 12 – Responsible	To learn fundamental concepts of the python programming language. To understand and implement operators to form statements and expressions. Generang pattern, summation of series, finding the factorial of a positive number etc.	1) Input a welcome message and display it. 2) Input two numbers and display the larger / smaller number. 3) Input three numbers and display the largest / smallest number. 4)Input a list of numbers and swap elements at the even location with the elements at the odd location. 5) Determine whether a number is a perfect number, an armstrong number or a palindrome. 6) Write a program to input the value of x and n and print the sum of the following series: 1+x+x2+x3+x4+.... .....xn Competencies 1)Algorithmic thinking

		Consumption		**2)Logical structuring** **3)Decision-making**
September	**16**	**Strings in Python** **Strings: introduction, indexing, string operations (concatenation, re-open, membership & slicing), traversing a string using loops, built-in funcons: len(), capitalize(), tle(), lower(), upper(), count(), find(), index(), endswith(), startswith(), isalnum(), isalpha(), isdigit(), islower(), isupper(), isspace(), lstrip(), rstrip(), strip(), replace(), join(), paron(), split()** **SDG 4 – Quality Education** **SDG 10 – Reduced Inequalities** **MID TERM EXAMINATION**	**To implement string methods and operations.**	**Count and display the number of vowels, consonants, uppercase, lowercase characters in String.** **Competencies** **1)Data handling** **2)Logical reasoning** **3)Logical structuring** **4)Decision-making**
October	**28**	**List in Python**		

		Lists: introduction, indexing, list operations (concatenation, Replication , membership & slicing), traversing a list using loops, built-in functions: len(), list(), append(), extend(), insert(), count(), index(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum(); nested lists, suggested programs: finding the maximum, minimum, mean of numeric values stored in a list. **SDG 4 – Quality Education** **SDG 9 – Innovation**	**To implement List methods and operations.**	**Input a list of numbers and swap elements at the even location with the elements at the odd location. • Input a list of elements, sort in ascending/descending order using Bubble/Insertion sort.** **Competencies** **1)Data organization** **2)Analytical thinking**

November	32	Tuples and Diconary Tuples: introduction, indexing, tuple operations (concatenation, membership & slicing), built-in functions: len(), tuple(), count(), index(), sorted(), min(), max(), sum(); tuple assignment, nested tuple. Dictionary: introduction, accessing items in a dictionary using keys, mutability of dictionary (adding a new item, modifying an existing item), traversing a dictionary, built-in funcons: len(), dict(), keys(), values(), items(), get(), update(), del(), clear(), fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), count(), sorted(), copy() SDG 9 – Innovation SDG 16 – Strong Institutions	To implement Tuple methods and operations. To understand the dictionary concept as a unique collection of python and its advanced programmac funcons	Finding the minimum, maximum, mean of values stored in a tuple; linear search on a tuple of numbers, counting the frequency of elements in a Tuple. Competencies 1)Data structuring 2)Logical thinking 3)Data mapping 4)Critical Thinking 5) Creativity
December	30	Module in python Importing Methods ,aliasing Locating Modules ,Built-in Modules. SDG 9 – Innovation & Infrastructure SDG 12 – Responsible Consumption	To understand the concept of python modules , Libs and Package	To Create Modules to import and using different ways of importing Competencies 1)Modular thinking 2)Code optimization 3)Abstraction
January	23	CYBER SAFETY Cyber Crime , Cyber Forensics Identity The , IT ACT 2000 Network Security Threats SDG 16 – Peace, Justice & Strong Institutions SDG 4 – Quality Education Unit 1 - Revision SOP'S Unit 2 - Revision SOP'S	To study and research about various cyber crimes network threat issues like malwares bots etc.	To collect as evidence screenshots of spam mails. Project / Practical File Competencies 1)Ethical awareness. 2)Digital responsibility 3)Cyber security understanding. 4)Digital Literacy. 5) Ethical & Responsible Use of Technology.
February	12	Revision		

BOOK NAME: A TEXT BOOK OF COMPUTER SCIENCE WITH PYTHON .
AUTHOR NAME: MS PREETI ARORA
PUBLISHER NAME: DHANPAT RAI PUBLICATIONS

ECONOMICS

Part A	Statistics for Economics	Marks (40)
Unit 1	Introduction	4
Unit 2	Collection, Organisation and Presentation of Data	12
Unit 3	Statistical tools and Interpretation	24
Part B	Introductory Micro Economics	(40)
Unit 4	Introduction	4
Unit 5	Consumers Behavior and Demand	13
Unit 6	Producers Behavior and Supply	13
Unit 7	Forms of market and Determination of equilibrium price	6
Part C	Annual Project	(20)

Suggested Readings: Statistics for Economics and Introductory Micro Economics by NCERT, TR Jain, JP Goel, IC Dhingra, ID Mangla, Sandeep Garg and Dr. Deepashree

Month/ Periods	Unit	Content	Learning Objective	Suggested Activity/ Learning Outcome
April / 20	**PART A: Statistics for Economics** **Unit 1** Introduction **Unit 2**: Collection, Organisation and Presentation of Data (continued.) **SDG 4 : Quality Education** **SDG 3 : Good Health**	**Unit 1 Introduction**: What is Economics? Meaning, scope, functions and importance of Statistics in Economics. **Collection of Data**: Sources of data- Primary and Secondary; how basic data is collected? Concept of sampling: methods of collecting data: some important sources of secondary data: Census of India and NSSO.	To understand the role of Statistics in understanding complex economic issues. To study the process of data collection, organising it and presenting the data to simplify economic activities.	To compare and construct different forms of tables and diagrams based on data collection. **Learning Outcome: Students interpret socio economic data meaningfully. Students develop survey and analytical skills.**
May / 25	**Unit 2**: Collection, Organisation and Presentation of Data **SDG 10 : Reduced Inequalities**	**Organisation of Data**: Meaning and types of variables: Frequency Distribution. **Presentation of Data:** Tabular and Diagrammatic Presentation of data:(i) Geometric forms (bar diagrams and pie diagrams)	To study the process of data collection, organizing it and presenting the data to simplify economic activities	Construct different forms of tables and diagrams based on data collection. **Learning Outcome: Analyze different methods of judging the rate of inflation etc. in the country**.
SUMMER VACATION				
July / 30	**Unit 2:** Continued **Unit 3:** Statistical Tools and Interpretation **SDG 4 : Quality Education** **SDG 8:**	**Presentation of data**: (ii) Frequency diagrams (Histograph, frequency polygon, Ogive) and (iii) Arithmetic Line Graph.(time series graph). **Unit 3: Statistical tools and Interpretation:** Measures of Central	To understand the use of statistical tools in measuring and analysing economic activities and issues.	Construct different forms of tables and diagrams based on data collection. **Learning Outcome: Analyse different methods of**

	Decent work and Economic Growth	tendency- Mean, Median, Mode**.**		**judging the real life scenario like production, inflation etc. in the country.**
August / 32	**Unit -3 :** Statistical Tools and Interpretation	**Correlation** - Meaning, scatter diagram; measures of correlation - Karl Pearson's co-efficient of correlation, Spearman's Rank Correlation.	To study the importance of various statistical tools and procedures in Economic interpretation.	Analyse different methods of judging the economic variables in the country.
September/16	**Unit -3 :** Statistical Tools and Interpretation	**Index Number** - Meaning, Types: Wholesale Price Index, Consumer Price Index. Index Number - Uses of Index Number, Inflation and Rate of Inflation	To study the importance of various statistical tools and procedures in Economic interpretation	Analyse different methods of judging the economic variables in the country.
MID TERM EXAMINATION				
October / 32	**PART B Introductory Micro Economics Unit 4:** Introduction. **Unit 5** :Consumer Behavior and Demand **SDG 4 : Quality Education SDG 8: Decent work and Economic Growth SDG 12 : Responsible consumption.**	**Unit 4: Introduction:** Meaning of Micro Economics and Macro Economics, positive and normative economics. What is an Economy? Central Problems of an economy. Opportunity Cost. **Unit 5: Consumers Behavior and Demand-** Meaning of utility, Marginal utility, Law of diminishing Marginal utility. Indifference Curve analysis of consumer's equilibrium-the consumer's budget, preferences of the consumer (indifference	To analyse the role of consumer and his behavior in the market. To understand the behavior pattern of the consumer in different situations.	Compare different types of goods and the choices of consumers opting for it under different conditions. **Learning Outcome: Students critically assess and analyse consumer's actions in the market**.

		curve, indifference map) and conditions of consumer's equilibrium.		
November /25	**Unit 5** :Consumer Behavior and Demand **Unit -6 :** Producers Behavior and Supply **SDG 8: Decent work and Economic Growth** **SDG 9 : Industry Innovation and infrastructure.** **SDG 11 : Sustainable Communities.** **SDG 12 : Responsible consumption/ Production**	Demand, market demand, determinants of demand, demand schedule, demand curve and its slope, movement along and shifts in the demand curve**.** **Price elasticity of demand**-factors affecting price elasticity of demand; measurement of price elasticity of demand-percentage-change method and Total expenditure method. **Unit 6: Producers Behavior and Supply:** Meaning of Production Function-Short Run and Long Run. Total Product, Average Product and Marginal Product. Returns to a Factor. **Concept of Cost**: Short run costs-total cost, total fixed cost, total variable cost; Average cost; Average fixed cost, average variable cost and marginal cost-meaning and their relationships.	To analyse the role of consumer and his behavior in the market. Also the behavior pattern of the consumer.	Compare different types of goods and the choices of producers opting to produce it under different situations. **Learning Outcome: Students critically assess and analyse producer's actions in the market**. **Students connect cost decisions to pricing and production strategies**
December / 30	**Unit -6** : Producers Behavior and Supply **Unit 7**: Forms of Market and Price Determination	**Revenue**-total, average and marginal revenue-meaning and their relationship. **Producer's equilibrium**-meaning and its conditions in terms of marginal revenue-marginal cost. **Supply**, market supply,	To study the various concepts related to a Producer and the changes in his of behavior according to different	Comparison of how are markets different from each other on various parameters.

	SDG 8: Decent work and Economic Growth SDG 10 : Reduced Inequalities	determinants of supply, supply schedule, supply curve and its slope, movements along and shifts in supply curve, price elasticity of supply; measurement of price elasticity of supply-percentage-change method. **Unit 7: Perfect competition-** Features; Determination of market equilibrium and effects of shift in Demand and Supply. Simple application of Demand and Supply Price ceiling and Price floor.	situations. To study different forms of Market and the behavior of Consumer and Producer in it.	**Learning Outcome: Ability to analyse and critically assess competition in the market and its effect on consumers and producers.**
January /20	**Part C :** Developing Projects in Economics **SDG 4 : Quality Education SDG 8: Decent work and Economic Growth**	**Annual Project** - Prepare an annual project report on the case study from the following topics suggested. 1. Consumer awareness amongst Households. 2. A report on Demographic Structure of your neighborhood. 3. Milk Co-operatives. 4. Global Warming. 5. Changing prices of vegetables in your market. Note: The project must include all the steps of a statistical investigation.	To equip the students in preparing the projects by using statistical tools.	Preparation of Project File in relevance to the steps of statistical tools studied in the textbook. **Learning Outcome: Practical application of concepts learned real life examples.**
February / 12	Revision	ANNUAL EXAMINATION 2026-2027	Clarification of doubts	**Long term learning**

Competencies:

- **The students develop Understanding, Ability of creating, Analyzing and Interpreting the Data.**
- **The students critically assess the behavior of the consumer and producer in the market and their role in price determination.**

- **Basic and fundamental skills of consumer and producer are developed.**
- **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.**

Name of Examination	Syllabus
Unit Test 1	Statistics for Economics: 1. Introduction, 2. Collection of Data, 3. Organisation of Data, 4. Presentation of Data
Mid Term Exam	Statistics for Economics (full syllabus); Introductory Micro Economics: 1. Introduction, 2.Consumers Equilibrium, 3. Law of Demand.
Unit Test 2	Introductory Micro Economics: 4. Elasticity of Demand, 5. Concept of Product, 6. Concept of Cost, 7. Concept of Revenue.
Annual Exam	Statistics for Economics (full syllabus); Introductory Micro Economics (Full syllabus)

ENGLISH CORE

MONTH	NO. OF PERIODS	TEXT BOOK	CHAPTERS	GRAMMAR	WRITING/READING	SUGGESTED ACTIVITIES
APRIL	**20**	**HORNBILL**	**Ch 1-: The Portrait of a Lady.** (SDG 3, 4) **P-1: A Photograph** (SDG 3, 4)	Recapitulation of Tenses (SDG 4) RE-ordering of Sentences (SDG 4)	1.Recapitulation of Letter to Editor (SDG 4) 2. Comprehension	Activity: Role play on 'Generational dialogue' between grandson and grandmother on emotional wellbeing of the elderly in modern society. **(SDG- 10)** Create a memory wall. **(SDG-3)**
MAY	**25**	**HORNBILL** **SNAPSHOT**	**P-2: The Laburnum Top** (SDG-13, 15) **Ch-1: The Summer of The Beautiful White Horse** (SDG 3,16) **Ch-2: The Address** (SDG 10,16)	Conversational skills– [Grammar Practice worksheet]	1**. Poster Drafting** (SDG 4,12) 2**. Speech Writing** (SDG 4,16)	Poster on Women Empowerment **(SDG-4)** Activity: Debate on 'Honesty vs Survival', values of Garoghlanian tribe in modern societies. **(SDG-16)** Make a poster on war and peace/ Write a speech on war and its solution (**SDG- 16)**
JULY	**30**	**HORNBILL**	**Ch-2: We're Not Afraid to Die… if we can be together** (SDG 3,17) **Ch-3 Discovering Tut…The Saga Continues** (**SDG** 11)	Determiners Gap filling Editing tasks	**Notice Writing** (SDG 4,16) **Advertisements** (For Sale/Purchase, Situation Vacant/Wanted, To-Let, Accommodation Wanted, Lost & Found, Missing) SDG 3,5, 12)	Create a 'Courage Story board', highlighting team spirit and resilience **(SDG- 17)**. Draw a flowchart of King Tut's Family line and give their description. **(SDG 16)** Real examples from Newspaper Advertisement as per syllabus and a report on it. **(SDG-5,12)**
			UNIT TEST 1			
AUGUST	**32**	**HORNBILL**	**P-3: Voice of the Rain** (SDG 6,13)	Re-arranging jumbled up words and phrases	1**.(a)Note making (b)summarizing** (SDG 4)	Develop a 'Poetic Report on Water cycle' **(SDG-6 & 13)**

SEPTEMBER	**16**	**HORNBILL**	**Ch-4: Landscape of the soul** **(**SDG 4) **Revision of the Mid-Term syllabus**	Conversational skills [Practice worksheet]		Slogan writing/poster drafting on Go Green **(SDG-4)** Drawing the signs of YIN and YANG with explanation **(SDG-4)** ASL **(SDG- 4)**
			MID-TERM EXAMINATION			
OCTOBER	**32**	**SNAPSHOT HORNBILL**	**Ch- 4**: **Mother's Day** **(**SDG 5) **P-4: Childhood** (SDG 4,16)	Transformation of sentences (Narration)		Project File **SDG-4)** Create a 'Household work sharing chart '.**(SDG-5)** Make an appreciation card**(4&16)**
NOVEMBER	**25**	**HORNBILL**	**Ch-6: The Adventure** **(**SDG 16) **P-5: Father to Son** **(**SDG 10, 16,3))		**Debate writing** (SDG 4)	Debate on Generational and communication gap. **(SDG-10 &3)** Write alternative history paragraph **(SDG-16)**
DECEMBER	**30**	**SNAPSHOT HORNBILL**	**Ch- 7: Silk Road** **(SDG 3,11)** **Ch- 5: Birth** (SDG 03)			Draw/paste Silk Road trade map **(SDG-11)** Create an Infographic on the importance of Medical Ethics.**(SDG-3)**
			UNIT TEST 2			
JANUARY	**20**	**SNAPSHOT**	**Ch.7: The Tale of Melon City** **(**SDG 16)		**Unseen Passage**	Project file submission & Viva **SDG-4)** Listening Activity **(SDG-4)** Speech on 'Impact of poor governance and justice system'**(SDG-16)**
FEBRUARY	**12**	**Revision of the whole syllabus for Annual Examination**				

LEARNING OBJECTIVES

S.No.	Section	Learning Objective	Activity as per SDG	Competency
1	**READING**	To develop comprehension strategies and skills that facilitate their understanding and analyzing of written texts effectively and easily.	**SDG 4 :** Quality Education **SDG 3 :** Good health and well-being **SDG 16:** Peace, justice and strong institutions	Critical thinking, analytical skills, and expanded vocabulary, Conceptual understanding, decoding, analysing, inferring, interpreting

2	**WRITING**	The students will be able to write formal short compositions effectively. To bring awareness of the form, content and process of writing. To be able to retain a data and information.	**SDG 5:** Gender equality **SDG 11:** Sustainable cities and communities **SDG 7:** Affordable and clean energy	Reasoning, Critical thinking, application, analytical skills, creative skills, evaluation, Conceptual Understanding
3	**GRAMMAR**	Students will demonstrate an understanding of more complex grammatical structures in conversations and discussions. In addition, students will begin to initiate and sustain conversations and discussions.	**SDG 15:** Life on land **SDG 13**: Climate action **SDG 6:** Clean water and sanitation	Problem solving, application, critical thinking, knowledge and memory
4	**LITERATURE**	to admire and appreciate the autobiographical piece. to enable the students to read with proper voice intonation and pauses. To enable the students to read and understand in between the lines.	**SDG 17:** Partnerships **SDG 10:** Reduced inequalities **SDG 12:** Responsible consumption and production	Communication, creativity and imagination, understanding, knowledge, application, analysis, Recalling, reasoning, and Critical Thinking

EXAMS	**SYLLABUS**
UT-1	• **The Portrait of a Lady** • **A Photograph** • **The Laburnum Top** • **The Summer of the Beautiful White Horse** • **Poster Drafting** • **Notice Writing** • **Re-arranging jumbled up words and phrases** • **Fill in the blanks with correct form of verb**
Mid-Term	**Syllabus completed till September**
UT-2	• **Mother's Day** • **Childhood** • **Father to Son** • **Birth** • **Notice Writing** • **Advertisement** • **Debate** • **Speech Writing**
Annual	**Full Syllabus**

GEOGRAPHY

Book- FUNDAMENTALS OF PHYSICAL GEOGRAPHY
BY : Dr. D.R. KHULLAR

Part -1

UNIT	NAME	WEIGHTAGE
1	GEOGRAPHY AS A DISCIPLINE	3
2	THE EARTH	9
3	LANDFORMS	6
4	CLIMATE	8
5	OCEANS	4
6	LIFE ON THE EARTH MAP WORK	- 5

Part - 2

UNIT	NAME	WEIGHTAGE
1	INDIA : SIZE & LOCATION	5
2	PHYSIOGRAPHY & DRAINAGE	13
3	CLIMATE	5
4	SOIL, VEGETATION	7
	MAP WORK	5

MONTH	UNIT & SDG	CONTENT	LEARNING OBJECTIVES	SUGGESTED ACTIVITY + LEARNING OUTCOMES
April 20	GEOGRAPHY AS A DISCIPLINE **SDG- 4** [provide inclusive quality education & life lonf learning]	GEOGRAPHY AS A DISCIPLINE : Definition , meaning & scope of the subject , Geography as an integrated science, Branches of Geography , methodologies & approaches to study the subject	To understand the nature of subject & its relationship with other subjects of natural & social sciences.	Presentation on different branches of Geography **L. OUTCOMES** – Understand geography as an integrated subject.
May 25	ORIGIN & EVOLUTION OF THE EARTH **SDG – 15** [protect & restore terrestrial ecosystem]	ORIGIN & EVOLUTION OF THE EARTH: Nebular Hypothesis , Planesimal Hypothesis , Big Bang Theory, Big splat Theory, Solar System , Evolution of Lithosphere , Hydrosphere , Atmosphere & Biosphere. SUMMER VACATION	To know about the development of Earth & other planets & the existence of different spheres that supports life on the Earth.	Model on Solar System **L. OUTCOMES** - comprehend the cosmic origins & the unique conditions that support life.
July 30	INTERIOR OF THE EARTH **SDG – 9** [promote sustainable use of resources to protect nature]	Geography as a discipline :nature and scope The Earth: Origin & Evolution [Nebular & Planesimal Hypothesis, Big Bang] Introduction to maps Landforms : Interior of the Earth: direct & indirect evidences.	To understand the spatial attributes & importance of the subject.	Jig saw puzzle on plate tectonics **L. OUTCOMES** – learn about seismic activity & physical composition of our planet.

August 32	DISTRIBUTION OF CONTINENTS AND OCEAN **SDG- 14** [conservation & sustainable use of oceans] GEOMORPHIC PROCESSES **SDG – 15** [protect terrestrial ecosystem & halt all bio diversity loss]	Earthquakes & Volcanoes: types & distribution Distribution of continents & oceans: continental drift theory, plate tectonics Geomorphic Processes: weathering & mass wasting Map Scale Landforms & their evolution:role of river,wind,glaciers &underground water.	To know about the different exogenic & endogenic movements takes place on the earth.	Discussion on role of human beings in degradation & formation of landforms. **L. OUTCOMES** – Analyse how landforms are built & eroded over time.
September 16	CLIMATE **SDG – 13** [promote actions at all levels to address climate change]	Climate : Structure & Composition of Atmosphere Solar radiation, heat & temperature Map Projection Pressure & Winds. MID TERM EXAMINATION	To understand the role of different climatic elements & their importance in environment To know the role & importance of water in different atmospheric aspects.	Map Projections **L.OUTCOMES-** Analyse how Earth manages energy, pattern of air masses & cyclones.
October 32	WATER IN THE ATMOSPHERE **SDG- 6** [secure water & sanitation	World Climate Water in the atmosphere: evaporation, humidity, condensation,types of clouds and precipitation. Oceans:	To know the importance of biosphere & bio diversity in ecosystem.	Project on food chain or genetic diversity.

	for a sustainable world] MOVEMENT OF OCEANIC WATER **SDG – 14** [sustainable use of marine resources]	Movement of oceanic water & oceanic reliefs : waves, tides & currents Life on the Earth: Bio diversity & conservation. Distance & Time		**L. OUTCOMES**- Learn about humidity, clouds and the precipitation cycle.
November 25	LIFE ON THE EARTH **SDG – 15** [protect & restore terrestrial ecosystem]	Life on the Earth: Bio diversity & conservation. Distance & Time	To find out the position if the country on globe and learn different relief features present in India.	Map activity **L. OUTCOMES**- Understand ecosystems, food chains & bio-diversity.
December 30	INDIA : PHYSICAL GEOGRAPHY **SDG- 15&17** [Halt all bio diversity loss & global partnership for sustainable development]	India: size & location, Physiographic divisions Topographical Maps Drainage,climate	To understand the physical/natural aspects of India.	Map activity. **L. OUTCOMES –** Understand India' strategic position, physiography, drainage & unpredictability of monsoon.
January 20	INDIA : PHYSICAL GEOGRAPHY **SDG- !5** [protect and restore terrestrial ecosystem]	Natural vegetation & Soil of India. Weather Instruments GIS		**L. OUTCOMES** – Identify types of vegetation and its significance.
February 12	REVISION	Discussions & Class Test		

INFORMATICS PRACTICES

MONTH	PERIODS	CONTENT	LEARNING OBJECTIVES	SUGGESTED ACTIVITY
April	30	Computer Systems and Organisation 1) Basic Computer Organisation: Introduction to computer system, hardware, software, input device, output device, CPU, memory (primary, cache and secondary), units of memory (Bit, Byte, KB, MB, GB, TB, PB). 2)Types of software: system software (operating systems, system utilities, device drivers), programming tools and language translators (assembler, compiler & interpreter), application software. SDG 4 – Quality Education SDG 9 – Industry, Innovation & Infrastructure.	To understand the fundamental functioning of a computer system. S/W classification and usage.	To create a digital presentation on classification of software as a digital portfolio activity. Truth Tables and logic gates. Competencies 1) Digital literacy. 2)Conceptual understanding. 3)Technical awareness.
May	27	Computational Thinking and Programming – 1 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. SDG 4 – Quality Education SDG 9 – Innovation	To understand the concept of problem solving and logic building.	Applications based on case study to form flowcharts ,algorithms and pseudocodes as portfolio activity. Competencies 1)Problem-solving skills 2)Algorithmic thinking 3)Logical reasoning 4)Mathematical thinking 5)Analytical skills
SUMMER BREAK				

July	30	Getting started with Python Familiarization with the basics of Python programming: Introduction to Python, features of Python, executing a simple "hello world" program, execution modes: interactive mode and script mode, Python character set, Python tokens (keyword, identifier, literal, operator, punctuator), variables, concept of l-value and r-value, use of Comments. SDG 4 – Quality Education SDG 8 – Decent Work & Economic Growth	Understand Python IDLE. Fundamentals to learn Python.	To install Python IDLE To start coding small programs with python. Competencies 1)Computational thinking 2)Programming logic 3)Problem-solving
August	32	Python Programming Fundamentals Knowledge of data types: number (integer, floating point, complex),	To learn fundamental concepts of the python	1) Input a welcome message and display it.

		boolean, sequence (string, list, tuple), none, mapping (dictionary), mutable and immutable data type. Structure of a python program. Using def to make a user defined function Operators: arithmetic operators, relational operators, logical operators, assignment operators, augmented assignment operators, identity operators (is, is not), membership operators (in, not in). Flow of Control Flow of control: introduction, use of indentation, sequential flow, conditional and iterative flow control. Conditional statements: if, if-else, if-elif-else. Looping statements: for loop, range function, while loop, flowcharts, break and continue statements, nested loops. SDG 4 – Quality Education SDG 8 – Economic Growth SDG 9 – Innovation & Infrastructure SDG 12 – Responsible Consumption	programming language. To understand and implement operators to form statements and expressions. Generating pattern, summation of series, finding the factorial of a positive number etc.	2) Input two numbers and display the larger / smaller number. 3) Input three numbers and display the largest / smallest number. 4) Determine whether a number is a perfect number, an armstrong number or a palindrome. 6) Write a program to input the value of x and n and print the sum of the following series: 1+x+x2+x3+x4+.... .....xn Competencies 1)Algorithmic thinking 2)Logical structuring 3)Decision-making
September	16	List in Python Lists: introduction, indexing, list operations (concatenation, membership & slicing), traversing a list using loops, built-in funcons: len(), list(), append(), extend(), insert(), count(), index(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum(); nested lists. SDG 4 – Quality Education SDG 9 – Innovation MID TERM EXAMINATION	To implement List methods and operations	Input a list of numbers and swap elements at the even location with the elements at the odd location. Competencies 1)Data organization 2)Analytical thinking

October	28	Dictionary Dictionary: introduction, accessing items in a dictionary using keys, mutability of dictionary (adding a new item, modifying an existing item), traversing a dictionary, built-in functions: len(), dict(), keys(), values(), items(), get(), update(),	To understand the dictionary concept as a unique collection of python and its advanced programmac funcons	To create an interface for all dictionary attributes and methods

		del(), clear(), fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), count(), sorted(), copy() SDG 9 – Innovation SDG 16 – Strong Institutions		Competencies 1)Data structuring 2)Logical thinking 3)Data mapping 4)Critical Thinking 5) Creativity
Novembe r	32	Database concepts Database Concepts: Introduction to database concepts and its need, Database Management System. Relational data model: concept of attribute, domain, tuple, candidate key, primary key, alternate key, foreign key.	To create a database,table, alter table structure.	To create a student table with the student id, class, section, gender, name, dob, and marks as attributes where the student id is the primary key.
December	30	Structured Query Language: Data Definition Language, Data Query Language and Data Manipulation Language. Introduction to MySQL: Creating a database, using database, showing tables using MySQL. Data Types : char, varchar, int, float, date etc. SDG 4 – Quality Education SDG 16 – Peace, Justice & Strong Institutions	To understand and implement SQL subsets queries.	To run queries based on select clauses and Operators. Competencies 1) Data Organization Skills 2) Query Writing Skills 3) Decision-Making Skills 4) Accuracy & Precision

January	23	EMERGING TRENDS AI and Robotics IOT (internet of things) Cloud models , Smart Cities Unit 1 - Revision SOP'S Unit 2 - Revision SOP'S	TO understand the cloud models and applications. SDG 16 – Peace, Justice & Strong Institutions. SDG 5 – Gender Equality SDG 4 – Quality Education.	Project / Practical File Competencies 1)Ethical reasoning 2)Responsible digital citizenship 3)Decision-making
February	12	Revision		

BOOK NAME: A TEXTBOOK OF INFORMATICS PRACTICES WITH PYTHON .
AUTHOR NAME: MS PREETI ARORA
PUBLISHER NAME: DHANPAT RAI PUBLICATIONS

MATHEMATICS

No.	UNITS	MARKS
I	SETS AND FUNCTIONS	23
II	ALLGEBRA	25
III	COORDINATE GEOMETRY	12
IV	CALCULUS	08
V	STATISTICS AND PROBABILITY	12
	TOTAL	80
	INTERNAL ASSESSMENT	20
	SUGGESTED BOOKS : NCERT EXAMPLAR, R.D. SHARMA, M L AGGARWAL	

MONTH & NO. OF PERIODS	CHAPTERS/ UNITS	TOPICS	LEARNING OBJECTIVES/LEARNING OUTCOME	SUGGESTED ACTIVITES
APRIL (20)	UNIT I	**SETS:** Introduction, sets and their representation. Finite, infinite and empty sets, equal sets, subsets, power sets, universal sets, Venn diagrams, operation on sets, complement of sets, practical problems on union and intersection of two sets.	*To understand the importance in the foundation of relation and functions. **SDG 10 Reduce inequalities**	*To represent set theoretic operations using Venn diagram for gender equality in education. **Competencies**: Students classify and analyze social data logically
	UNIT XI	**Introduction to three dimensional: Introduction**, coordinates axes and coordinates planes on 3 dimensional space, coordinates of a point in space, distance between two points, section formula.	* To study basic concepts of geometry in three dimensional space. **SDG 11 Sustainable infrastructure**	*To explain the concepts of octants by three mutually perpendicular planes in space.

MAY (27)	UNIT II UNIT XIII	**RELATIONS AND FUNCTIONS**: Ordered pair, Cartesian product of sets, Numbers of elements in the Cartesian product of two finite set, Cartesian product of the sets of reals with itself. Pictorial Diagram, Domain, Functions Domain &amplitude ; Range,algebra of Real functions **Statistics:** Introduction, measures of dispersion, range, mean deviation, variance and standard deviation, analysis of frequency distributions	*To explain about Cartesian product of two sets domain, co-domain and range. **SDG 4 Quality Education** **SDG 9 Industry and innovation** *To learn the difference between relation & function and examples related to these **SDG 3 Health** **SDG 4 Quality Education**	**Competencies**: Spatial reasoning skills development. *Mapping student performance data using function. **Competencies:** Understanding real-life connection through mathematical relationships. *Analyze school result data. **Competencies :** Data interpretation and decision making skills.
JULY (30)	UNIT III	**TRIGONOMETRIC FUNCTIONS**: Positive and negative angles, measuring angles in Radians & in Degrees & Conversion of one measure to another. Definitions of Trigonometric functions with the help of unit circle. Signs of Trigonometric functions & sketch of the graphs expressing sin (x+y) and cos (x+y) in terms of sin x, sin y, cos x & cosy Deducting the following identities tan(x+y) = tanx +tany/1+tanx tany	*To Explain about angles (anti clock-wise & clockwise) relation between degree and radian. * To explain about quadrants, signs of t-ratios. *To learn the principal and general solutions of	*To verify the relation between degree measure and radian measure of an angle. *Solar Panel angle calculation for energy efficiency

		Sin x +siny = 2 sin x+y/2 cos x-y/2 Sin x –siny = 2 cos x+y/2 sin x-y/2 Cosx +cosy = 2 cos x +y/2 cos x-y/2 Identities related to sin2x, cos2x, tan2x, sin3x and tan3x.General solutions of trigonometric equations. Sample applications of Sine & cosine formulae.	trigonometric equations. **SDG 11 Sustainable City and Communities**	**Competencies:** Application of trigonometry in environment planning.
AUGUST (32) SEPTEMBER (16)	UNIT IV UNIT V	**Complex numbers and Quadratic equations:** Introduction of complex number, algebra of complex numbers, modulus and conjugate, argand plane and polar representation, quadratic equations. **Linear inequalities:** Introduction of inequalities, algebraic solutions of linear inequalities in one and two variables and their graphical representation **REVESION FOR HALF YEARLY EXAM**	*To study graphical representation of complex number, the algebra of complex number and extraction of their roots. **SDG 8 Decent work and economic growth** *1) To learnt word problems of in-equations and find sol^n of word problems . **SDG 1 No poverty**	* To interpret geometrically the meaning of i = √-1 and its integral powers. **Competencies :** Problem solving skills in economic situation *To verify the graph of a given inequality say 5x+4y-40<0 of the form ax +by+c <0, a, b,>0,c<0 represents only one of the two half planes. **Competencies :** Understanding constraints and decision making.

OCTOBER (30)	UNIT VI	**Permutations and combinations:** Introduction, Fundamental principle of counting, permutations, combinations.	*To study some basic counting techniques which will be useful in determining the number of different ways of arranging or selecting the objects **SDG 16 Peace and strong Institutions**	* To find the number of ways in which three cards can be selected from given five cards. **Competencies:** Logical thinking and fairness in decision systems.
OCTOBER (30)	UNIT XIV	**Probability: Random** Experiments; outcomes, sample spaces. Events; occurrence of events, Not or OR events, exhaustive events, mutually exclusive events, axiomatic probability, connections with the theories of earlier classes. Probabilities of an event, probability of Not, And, Or events.	*To learn about finding probability under different situations **SDG 16 Strong institutions**	*To write the sample space ,when a coin is tossed once,2times,3times and 4 times. **Competencies :** Making informed decision under uncertainty.
NOVEMBER (25)	UNIT VII	**Binomial theorem**: Introduction, Binomial theorem for positive integral indices, General and Middle term.	*To study and proof of binomial theorem. General method for finding the expansion of (a+b) **SDG 9 Industry and innovation**	*To construct a Pascal 's Triangle and to write binomial expansion for a given positive integral exponent. **Competencies:** Understanding expansion model in science and technology.

	UNIT VIII	**Sequence and Series**: Sequence and series, Arithmetic Progression (AP), A.M., G.M., general term of a G.P., sum of n terms of G.P. relation between A.M. and G.M.	*To compute any term of G.P. using the nth term formula **SDG 8 Economic growth.**	*To find the formula for the sum of square of first n natural number. *Population growth patterns **Competencies:** Recognizing patterns in financial and environmental data.
DECEMBER (30)	UNIT IX	**Straight line:** Brief recall of 2-dimensional Geometry from earlier classes. Slope of a line and angle between two lines. Various form of equations of line: parallel to axes, point-slope form, slope intercept form, 2point form, intercept form and normal form.General equations of line. Equation of family of lines passing through the point of intersection of two lines. Distance of a point from line.	*To explain slope of a line. *To learn about equation of a line passing through the intersection of lines. *To recognize the conic as a locus of a point satisfying certain geometric conditions **SDG 11 Sustainable cities**	* To verify that the equations of a line passing through the point of Intersection of 2 lines. *Road design and slope measurement **Competencies:** Application of coordinate geometry in urban planning.
	UNIT X	**Conic Sections:** *Sections of a cone: Circle, Parabola, Ellipse, Hyperbola, appoint, a straight line & a pair of intersecting lines as a degenerated case of coni section, Standard equations & simple properties of parabola, Ellipse and Hyperbola, Standard equation of circle.	*To identify the equation of circle ellipse, parabola and hyperbola **SDG 9 Innovation**	*To construct a parabola. **C**ompetencies : Understanding mathematical shape in technology.

JANUARY (23)	UNIT XII	**Limits and Derivatives: Introduction, Intuitive idea of derivatives, limits , limits of trigonometric functions, derivaitves**	* To define limit of a function. *To explain how to find derivative by using formula, first principle. **SDG 3** **Good Health and well-being**	***Rate of change in heart rate or temperature **Competencies :** Understanding change and growth patterns.
FEBRUARY (12)		REVISION FOR ANNUAL EXAMINATION		
Competencies Developed : The chapters aim to develop conceptual understanding, mathematical reasoning, procedural fluency, visualization skills and application of mathematical concepts.				

EXAMINATION SYLLABUS :

S.NO	EXAMINATION	SYLLABUS
1.	UT 1	CH-1 - Sets CH-2 – Relation and Functions CH 11- Introduction to 3- Dimensional Geometry Ch3 - Trigonometric functions
2.	MID TERM	CH - 1,2,3, 11

		CH-13- Statisitcs CH- 4 – Complex Numbers CH-5 – linear Inequalities
3.	UT 2	CH -6 – Permutations and Combinations CH – 14 Probability CH -7 - Binomial theorem CH – 8- Sequence and series
4.	ANNUAL EXAMINATION	All Chapters (Ch 1 to Ch 14)

PHYSICAL EDUCATION

Month/ No of Periods	TOPIC	CONTENT	Learning objectives	Learning Outcomes withspecificcompetencies	Relevant SDGs Activity Integration
APRIL/ 10	**Changing Trends andCareers in PhysicalEducation**	*Concept, Aims &ObjectivesofPhysicalEducation. *DevelopmentofPhysical Education inIndia – PostIndependence. *ChangingTrendsinSports- playingsurface, wearablegear and sportsequipment,technologicaladvancements. *Career options inPhysicalEducation. *Khelo-IndiaProgramandFit–IndiaProgram.	*To make the studentsunderstandthemeaning,aims, and objectives ofPhysicalEducation. *ToTeachstudentsaboutthedevelopment of physicaleducation in India afterIndependence. *To educate students aboutthe development of sportssurfaces, wearable gear,sports equipment, andtechnology. *Tomakestudentsknowthedifferent career optionsavailablein the field. *To make them know abouttheKheloIndiaProgram	After completing the unit,thestudentswillbe able to: Recognizethe concept, aim, and objectives of PhysicalEducation. Identify the Post-independence development in PhysicalEducation. CategorizeChanging Trends in Sports- playing surface, wearable gear, sports equipment, technological Exploredifferent careeroptionsinthe field of Physical Education. Make out the developmentofKhelo India and Fit India Program.	• SDG 3 – Good Health and Well-Being: Emphasizes healthy lifestyles and physical activity. • SDG 4 – Quality Education: PE supports inclusive, holistic education outcomes
APRIL/ 11	OlympismValue Education	Olympism – Conceptand Olympics Values (Excellence, Friendship&Respect) Olympic Value Education – JoyofEffort, Fair Play, Respect for Others, Pursuit of Excellence, Balance Among Body, Will &Mind Ancient and Modern Olympics Olympics - Symbols, Motto,Flag, Oath,and AnthemOlympic Movement Structure- IOC,NOC,	To make the studentsaware ofConceptsand OlympicsValues (Excellence, Friendship &Respect) To make students learn about Olympic ValueEducation – Joy of Effort, Fair Play, Respect for Others, Pursuit of Excellence,	Aftercompletingthe unit,thestudents will be able to: Incorporate values of Olympisminyour life. Differentiate betweenModern and Ancient Olympic Games,	• SDG 16 – Peace, Justice & Strong Institutions: Values like respect and fairness mirror peace/inclusion goals. • SDG 4 – Quality Education: Value

		IFS,Other members	BalanceAmong Body, Will&Mind. To make students understand ancientand modern Olympic games. To make the studentsaware of Olympics - Symbols,Motto, Flag, Oath, and Anthem To make studentslearn about the working and functioning of IOC,NOCand IFS,andother Members.	Paralympics,and Special Olympic games Identitythe OlympicSymbol and Ideals. Describe the structureofthe Olympic movement structure	education helps build character and social
MAY/15	**Yoga**	Meaning and importanceof Yoga Introductionto AstangaYoga YogicKriyas (ShatKarma) Pranayama anditstypes. Active Lifestyleand stress management throughYoga	To make the studentsawareof the meaning and importance of yoga. Tomakethem learn about Astangayoga. Toteachstudents about yogickriya, speciallyshat karmas. To make the learnand practicetypesof Pran Tomakethem learn the importanceof yoga in stress management.	Aftercompleting the unit, the students will be able to: Recognize theconcept ofyogaand beawareof the importance ofit Identify the elementsofyoga Identify the Asanas, Pranayama's, meditation, and yogic kriyas. Classify variousyogic activities for the enhancement of concentration Know about relaxation technique sfor improving concentrate-ion	• SDG 3 – Good Health & Well-Being: Promotes mental health, stress relief, physical balance. • SDG 4 – Quality Education: Encourages life skills for lifelong well-being.

MAY/07	**Physical Educationand Sports for Childrenwith Special Needs**.	Conceptof Disabilityand Disorder Typesof Disability,its causes &nature (Intellectual disability, Physical disability). Disability Etiquette Aim and objectivesof Adaptive physical Education Role of various professionals for children with special needs (Counselor, Occupational Therapist, Physiotherapist, Physical Education Teacher, Speech Therapist, andSpecial Educator)	To make the studentsaware concept of Disability and Disorder. To make students aware ofdifferenttypes ofdisabilities. To make students learn aboutDisability Etiquette. To make the students Understand the aims and objectives AdaptivePhysical Education. To make students aware ofroleofvarious professionalsfor children with special needs.	Aftercompleting the unit, the students will be able to: Identify the concept of Disabilityand Disorder. Outlinetypesof disability and describe their causes and nature. Adhereto and respect childrenwith special needs by following etiquettes. Identify possibilities andscopein adaptive physical education. Relatevarious types ofprofessional support for childrenwith specialneeds along with theirrolesand responsibilities.	• SDG 10 – Reduced Inequalities: Inclusive sport and equal access for all abilities. • SDG 4 – Quality Education: Ensures education is equitable and inclusive.
JULY/11	**PhysicalFitness, Wellness,and Lifestyle**	Meaning& importanceof Wellness, Health, and Physical Fitness. Components/ Dimensionsof Wellness, Health, and Physical Fitness Traditional Sports&Regional Games for promoting wellness. Leadership through Physical Activityand Sports Introduction toFirstAid– PRICE	To make the students understand the Meaning & importance of Wellness,Health, and Physical Fitness Tomakestudents aware of the Components/ Dimensions of Wellness, Health, and Physical Fitness Tomakestudents learn Traditional Sports&Regional Games to promotewellness To develop Leadership qualitiesthrough PhysicalActivity and Sports in students Tomakestudents learnFirstAidand its management skills	Aftercompleting the unit, the students will be able to: Explain wellness and itsimportance anddefinethe components of wellness. Classify physical fitnessand recognize its importancein life. Distinguish betweenskill-relatedand health-related. Componentsof physical fitness. Illustrate traditional sports and	• SDG 3 – Good Health & Well-Being: Addresses lifestyle, disease prevention, wellness promotion. • SDG 4 – Quality Education: Helps build holistic knowledge for personal development.

				regionalgames to promote wellness. Relate leadership through physical activityand sports Illustrate the different steps usedinfirstaid -PRICE.	
JULY/11	**Test, Measurement& Evaluation**	DefineTest, Measurementand Evaluation Importance of Test, Measurem nets and Evaluation inSports. CalculationofBMI,Waist – Hip Ratio, Skin fold measurement t(3-site) Somatotypes (EndomorphMesomorph&EctomorphMeasurement S ofhealth- relatedfitness	To Introduce the students with the terms like test, measurementand evaluation along with itsimportance To Introducing them the methods of calculatingBMI, Waist- hip ratio and Skin fold measurement. To make the studentsawareof thedifferent somatotypes. To make the studentslearn the method to measurehealth-related fitness.	Aftercompleting the unit, the studentswillbe able to: Definetheterms test, measurement, and evaluation, Differentiate normand criterion referenced standards, Differentiate formative and summative evaluation, Discuss the importance of measurement andevaluation processes, Understand BMI:Apopular clinical standard and itscomputation Differentiate between Endomorphy, Mesomorph&Ectomorp h h describe the procedure of Anthropometric Measurement	• SDG 3 – Good Health & Well-Being: Fitness assessment supports informed health decisions. • SDG 4 – Quality Education: Encourages scientific/analytical learning and self-monitoring.
AUG/10	**Fundamentalsof Anatomy, Physiologyin Sports**	Definitionand importanceof Anatomy and Physiologyin Exercise and Sports. Functions of Skeletal System, Classification of Bones, andTypesof Joints. Properties and Functionsof Muscles.	Thestudentswill learnthe meaning and definition & identify the importance of anatomy, physiology, and kinesiology.	Aftercompleting the unit, the students will be able to:	• SDG 3 – Good Health & Well-Being: Understanding the

		Structureand Functions of Circulatory System and Heart. Structureand Functions of Respiratory System.	Studentswill understandthe main functions and Classificationof Bone and the TypesofJoints. . Thestudentswill learn the Propertiesand Functionsof Muscles. The students will learntheStructure and Functions of theCirculatory SystemandHeart. Thestudentswill learn the Structureand Functionsof Respiratory System.	Identifythe importanceof anatomy and physiology. Recognizethe functionsofthe skeleton. Understandthe functionsof bones and identifyvarious types of joints. Figure out the properties and functions of muscles and understand howtheywork. Understandthe anatomyof the respiratory system and describe it'sworking. Identifyand analysesthe layout and functions of Circulatory System.	body enhances healthy lifestyles. • SDG 4 – Quality Education: Supports scientific literacy
AUG/10	**Fundamentals OfKinesiology And Biomechanics inSports**	Definitionand Importanceof Kinesiology and Biomechanicss in Sports. Principles of Biomechanicss Kinetics and Kinematicsin Sports Types of Body Movements- Flexion, Extension, Abduction, Adduction, Rotation, Circumductionn,Supination&Pronation Axis and Planes – Conceptand itsapplicationin body movements	Thestudentswill learnthe meaning and definition & identify the importance of Kinesiology and Biomechanicsin sports. To make the studentslearn theprinciplesof biomechanics To make the students understandthe concept of Kineticsand Kinematicsin Sports To make the studentslearn aboutdifferent types of body movements. To make the students understandthe concept of Axis and Planes and itsapplicationin body movements.	Aftercompleting the unit, the students will be able to: Understand Kinesiologyand Biomechanics with their application in sports Explain biomechanical principlesand theirutilization in sports and physical education. Illustrate fundamental body movements andtheirbasic patterns. Learn about the Axis and Planes andtheir	SDG 4 – Quality Education: Applies science to movement (enhances learning depth).

				application with bodymovements.	
SEPT					
Sept/ 10	**Psychologyand Sports**	Definition & Importance of Psychology in Physical Education& Sports; Developmental Characteristics at Different Stagesof Development. Adolescent Problems&their Management Team Cohesion andSports; Introductionto Psychological Attributes: Attention, Resilience, Mental Toughness	Thestudentswill identify the definition and importance of Psychology in Physical Education and sports. Thestudentswill be able to differentiate characteristicsof growth and development at different stages. -Studentswillbe able to identify the issues and management related to adolescents Thestudentswill be able to understandthe importanceof teamcohesionin sports Studentswill distinguish different Psychological Attributes like Attention, Resilience,and Mental Toughness.	Aftercompleting the unit, the students will be able to: Identifytherole of Psychology inPhysical Education and Sports Differentiate characteristics of growth and developmentat differentstages. Explain the issuesrelated to adolescent behavior and Team Cohesion in Sports Correlate the psychological conceptswith the sports and athletespecific situations	• SDG 3 – Good Health & Well-Being: Mental awareness and emotional balance. • SDG 4 – Quality Education: Social/psychologic al awareness for learners.
OCT/1 5	**Training& DopinginSpo rts**	Conceptand Principlesof Sports Training Training Load:Over Load, Adaptation, and Recovery Warming-up &Limbering Down– Types, Method & Importance. Conceptof Skill, Technique, Tactics& Strategies Concept of Doping and its disadvantage.	To make the studentsaware about of concepts and principles of sports training. Tomakestudents learn and understand the Training Load, OverLoad, Adaptation, and Recovery concepts.	Aftercompleting the unit, the students will be able to: Understand theconcept andprinciples of sports training. Summaries trainingload and its concept.	SDG 3 – Good Health & Well-Being: Promotes safe practices and fairness.

			To make students Understandthe importance of warningupand limberingdown exercises. Tointroducethe termslikeSkills, Techniques, Tactics, and Strategiesto the students. Tomakestudents aware of the doping substances and their disadvantages in sports.	Understandthe concept of warming up & limberingdown in sports training and their types, method &importance Acquire the ability to differentiate between the skill,technique, tactics & strategiesin sportstraining Interpret conceptof doping.	• SDG 16 – Peace, Justice & Strong Institutions: Ethics in sport aligns with fairness values.
NOV &DEC		**REVISON OF UNITE-I TO X AND CBSE PAPER PRE- BOARD EXAM**			

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: Anyone one IOA recognised Sport/Game of choice. Labelled diagram of Field & Equipment. Also mention its Rules, Terminologies & Skills.

PHYSICS

MONTH	PERIOD	UNIT	CONTENT	LEARNING OBJECTIVE	ACTIVITIES
April	**12**	**1)Physical world and measurement**	Ch-2:Units and measurements Need for measurement: Units of measurement; systems of units; SI units, fundamental and derived units. significant figures. Dimensions of physical quantities, dimensional analysis and its applications	Students will learn about : • The Need of measurement along with basics of fundamental and derived units. • significance and importance of dimensional analysis of any physical quantity • Significant figures • **SDG 4: Quality Education** –	To measure to diameter of a small spherical body using Vernier Calliper **(Critical thinking and problem solving)**
April	**14**	**2)Kinematics**	Ch-3:Motion in a straight line Frame of reference, Motion in a straight line, Elementary concepts of differentiation and integration for describing motion, uniform and non-uniform motion ,Instantaneous velocity, uniformly accelerated motion, velocity - time and position-time graphs. Relations for uniformly	Students will learn about : • The term motion as a relative term and classification of motion. • Mathematical tools used in physics • The significance of three equations of motion • Graphs representing various types of motion • **SDG 11: Sustainable Cities & Communities-**	To measure the internal diameter and depth of the given beaker using Vernier Calliper and find its volume. **(Observational skill and problem solving)**

May	**15**	**2)Kinematics**	accelerated motion (graphical treatment) <u>Ch-4:Motion in plane</u> Scalar and vector quantities; position and displacement vectors, general vectors and their notations, equality of vectors, multiplication of vectors by a real number; addition and subtraction of vectors, Unit vector; Resolution of a vector in a plane, rectangular components, Scalar and Vector product of vectors.	Students will learn about: basics of Scalar and Vector quantities along with its Mathematical analysis, laws of adding vector quantities Multiplication of vectors **SDG-11 Sustainable Cities & Communities** **SDG-13 Climate Action**	To make a paper scale of given least count and measure lengths of your pen using this **(Scientific enquiry and curiosity)**
July	**8**	**2)Kinematics**		The concept of Projectile and its mathematical analysis **SDG-9 Industry, Innovation & Infrastructure**	To plot the graph for given set of variables and identify the dependent and independent variables. **(Scientific enquiry and curiosity)** To measure the thickness of given sheet of paper using Screw gauge **(Manipulative and procedural skills)**
July	**17**	**3)Laws of Motion**	<u>Ch-4:Motion in plane</u> Motion in a plane, cases of uniform velocity and uniform acceleration projectile motion, uniform circular motion <u>Ch–5: Laws of Motion</u> Intuitive concept of force, Inertia, Newton's first law of motion; momentum and Newton's second law of motion; impulse; Newton's third law of motion.	Students will learn about : • Concept of force • Newton's laws of motion and their applications. • Laws of conservation of linear momentum and its applications • friction : its advantages and disadvantages • concurrent forces • dynamics of circular motion	To determine the radius of given Spherical surface by a spherometer **(Manipulative and procedural skills)**

August	**10** **12**	**4)Work, Energy and Power** **6)Gravitation**	Law of conservation of linear momentum and its applications. Equilibrium of concurrent forces, Static and kinetic friction, laws of friction, rolling friction, lubrication. Dynamics of uniform circular motion: Centripetal force, examples of circular motion (vehicle on a level circular road Vehicle on a banked road). <u>Ch-6-Work ,Energy and Power</u> Work done by a constant force and a variable force; kinetic energy, work-energy theorem, power; Notion of potential energy, potential energy of a spring, conservative forces; non-conservative forces; motion in a vertical circle, elastic and inelastic collisions in one and two dimensions. <u>Ch–8: Gravitation</u>	• **SDG-9 Industry, Innovation & Infrastructure** • **SDG-3 Good Health & Well-being** Student will learn about: • the concept of Work, Energy and Power • Potential energy and its types :gravitational and elastic • collision and its types • motion of an object in vertical circle • **SDG-7 Affordable & Clean Energy** • **SDG-12 Responsible Consumption & Production** • Students will learn about: • Concept of gravitational force between two bodies and its conservative nature. • Concept of variation of acceleration due to gravity with height, depth • escape and orbital velocity of a satellite. • **SDG-13 Climate Action**	To study the relationship between force of limiting friction and normal rection and to find the coefficient of friction between a block and a horizontal surface **(Integrated and experimental skills and scientific temperament)** To study the variation in range of projectile with angle of projection **(Knowledge and critical thinking**)

August	**8**	**7)Properties of Bulk Matter**	Kepler's laws of planetary motion, universal law of gravitation. Acceleration due to gravity and its variation with altitude and depth. Gravitational potential energy and gravitational potential, escape velocity, orbital velocity of a satellite.	• **SDG-9 Industry,Innovation & Infrastructure** Students will learn about: • the concept of elasticity and rigidity of a body with stress-strain analysis • **SDG-9 Industry, Innovation & Infrastructure**	
September	**14**		<u>Ch–9: Mechanical Properties of Solids</u> Elasticity, Stress-strain relationship, Hooke's law, Young's modulus, bulk		
October	**12**	**10)Oscillations and waves**	modulus, shear modulus of rigidity (qualitative idea only), Poisson's ratio; elastic energy **<u>REVISION AND MID TERM EXAMINATION(2025-26)</u>** <u>Ch-14:Oscillations</u> Periodic motion - time period, frequency, displacement as a function of time, periodic	Students will learn about : • the basic concept of SHM and phase. • the Concept of Different forms of energy possessed by a body executing SHM with its mathematical analysis. • some examples of S.H.M. • **SDG-4 Quality Education**	To determine specific heat capacity of a given solid by the method of mixtures. **(Knowledge ,critical and creative thinking)**

October **November**	**13** **18**	**10)Oscillations and waves** **7)Properties of Bulk Matter**	functions. Simple harmonic motion (S.H.M) and its equation; phase; oscillations of a loaded spring- restoring force and force constant; energy in S.H.M. Kinetic and potential energies; simple pendulum derivation of expression for its time period. Ch-15:Waves Wave motion: Transverse and longitudinal waves, speed of travelling wave, displacement relation for a progressive wave, principle of superposition of waves, reflection of waves, standing waves in strings and organ pipes, fundamental mode and harmonics, Beats, Ch–10: Mechanical Properties of Fluids Pressure due to a fluid column; Pascal's law and its applications (hydraulic lift and hydraulic brakes), effect of gravity on fluid pressure. Viscosity, Stokes' law,	Students will learn about : • the Mathematical analysis of waves • the concept of reflection of waves along with concept of harmonics. • Beat phenomenon and its applications • **SDG-4 Quality Education** • **SDG-3 Good Health & Well-being** Students will learn about : • Practicality of Fluid dynamics in real life (Pascal's Law, Bernoulli's theorem, Magnus Effect) • Concept of surface Tension and Surface energy • Shape of meniscus of liquid in a capillary • Excess pressure inside a drop, bubble • **SDG-6 Clean Water & Sanitation** • **SDG-9 Industry, Innovation & Infrastructure**	To find force constant of a helical spring by plotting a graph between load and extension **(Knowledge, critical-thinking)** To observe and explain the effect of heating on a bi-metallic strip. **(Knowledge, critical-thinking)** To study the effect of detergent on surface tension of water by observing capillary rise. **(Scientific temperament, Knowledge, critical-thinking)**

November	**11**		terminal velocity, streamline and turbulent flow, critical velocity, Bernoulli's theorem and its simple applications. Surface energy and surface tension, angle of contact, excess of pressure across a curved surface, application of surface tension ideas to drops, bubbles and capillary rise.	Student will learn about : • the Different methods of heat transfer, • Concept of thermal expansion • Laws of cooling • Black body radiations • **SDG-7 Affordable & Clean Energy** • **SDG-13 Climate Action**	To determine the coefficient of viscosity of given viscous liquid by measuring the terminal velocity of given spherical body **(Integrated and experimental skills and scientific temperament)**
December	**12**	**8)Thermodynamics**	<u>Ch–11: Thermal Properties of Matter</u> Heat, temperature, thermal expansion; thermal expansion of solids, liquids and gases, anomalous expansion of water; specific heat capacity; Cp, Cv - calorimetry; change of state - latent heat capacity. Heat transfer-conduction, convection and radiation, thermal conductivity, qualitative ideas of Blackbody radiation, Wein's displacement Law, Stefan's law .	Students will learn about : • Heat, work and Internal energy of the system • Different types of thermodynamic process. • laws of thermodynamics • **SDG-7 Affordable & Clean Energy** • **SDG-13 Climate Action**	To study the relationship between temperature of a hot body and time by plotting a cooling curve **(Observational skills, critical thinking and analysis)**

December **January**	**18** **12**	**5)Motion of system of particles and rigid body** **9) Behavior of Perfect Gases and Kinetic Theory of Gases**	<u>Ch–12: Thermodynamics</u> Thermal equilibrium and definition of temperature zeroth law of thermodynamics, heat, work and internal energy. First law of thermodynamics, Second law of thermodynamics: gaseous state of matter, change of condition of gaseous state -isothermal, adiabatic, reversible, irreversible, and cyclic processes <u>Ch-7: System of Particles and Rotational Motion</u> Centre of mass of a two-particle system, momentum conservation and Centre of mass motion. Centre of mass of a rigid body; center of mass of a uniform rod. Moment of a force, torque, angular momentum, law of conservation of angular momentum and its applications. Equilibrium of rigid bodies, rigid body rotation and equations of rotational motion, comparison of linear and	Students will learn about : • concept of rotational dynamics • different parameters of rotating body (Torque, Angular momentum, moment of inertia) and applying different theorems to find the moment of inertia of simple geometrical objects. • comparison of linear and rotational motion • **SDG-9 Industry, Innovation & Infrastructure** • **SDG-11 Sustainable Cities & Communities** Students will learn about : • Pressure exerted by a gas on the walls of the container.	To note the change in level of liquid in a container on heating and interpret the result **(Observational skills and scientific temperament)**

January **February**	**10** **10**		rotational motions. Moment of inertia, radius of gyration, values of moments of inertia for simple geometrical objects (no derivation). <u>13.Kinetic Theory-</u> Equation of state of a perfect gas, work done in compressing a gas. Kinetic theory of gases - assumptions, concept of pressure. Kinetic interpretation of temperature; rms speed of gas molecules; degrees of freedom, law of equipartition of energy (statement only) and application to specific heat capacities of gases; concept of mean free path, Avogadro's number. **Revision for annual examination** **Revision for annual examination** **ANNUAL EXAMINATION (2025-26)**	• relation between different specific heat capacities • kinetic interpretation of temperature • **SDG-12 Responsible consumption and production**	

POLITICAL SCIENCE

Chapter No.	ChapterName	Marks
	PARTA INDIANCONSTITUTIONATWORK	
1	Constitution:WhyandHow?	8
2	RightsintheIndianConstitution	
3	ElectionandRepresentation	6
4	Executive	12
5	Legislature	
6	Judiciary	
7	Federalism	6
8	LocalGovernments	4
9	ConstitutionasaLiving Document	4
10	ThePhilosophyoftheConstitution	
	MarksallottedtoIndianConstitutionatWork	**40**
	PARTB POLITICALTHEORY	
1	PoliticalTheory:AnIntroduction	4
2	Freedom	12
3	Equality	
4	SocialJustice	6
5	Rights	4
6	Citizenship	8
7	Nationalism	
8	Secularism	6
	MarksallottedforPoliticalTheory	**40**
	Total	**80**

MONTH/ PERIOD	BOOK	CONTENT	LEARNING OBJECTIVES	SUGGESTED ACTIVITIES/ COMPETENCIES
APRIL/20	**PART A**	**1. Constitution:WhyandHow?** **SDG 16: Peace, Justice and Strong Institutions** a) Whydo we need aconstitution? Constitution allows coordination and assurance • Specificationofdecision-makingpowers • Limitationsonthepowers ofgovernment • Aspirationsandgoalsofas ociety • Fundamentalidentityofa people b) Theauthorityofaconstitutio n • Modeofpromulgation • Thesubstantiveprovision sofconstitution • Balancedinstitutionaldes ign c) HowwastheIndianConstituti onmade? • CompositionoftheConsti tuentAssembly • Procedures • Inheritanceofthenationa listmovement • Institutionalarrangement s. • ProvisionsadaptedfromC onstitutionsof different countries	• Appreciatetheneedfor aconstitution. • Understandthehistorical processesand the circumstances in which the Indian Constitution was drafted. • Criticallyevaluatehowconstitu tions, govern the distribution of power in society. • Analyze the ways in which the provisions of the Constitution have worked in real political life	Students prepare a short speech or debate on issues like fundamental rights, division of powers, or federalism. **Coordination and Assurance** **Allocation of Power**

		2. RightsintheIndianConstitution **SDG 16:Peace, Justice and Strong Institutions** a) Theimportanceofrights • BillofRights b) FundamentalrightsintheIndian Constitution • RighttoEquality • RighttoFreedom • RightagainstExploitation • RighttoFreedomof Religion • CulturalandEducationalRights • RighttoConstitutionalRemedies c) Directiveprinciplesofstatepolicy • Whatdothedirectiveprinciplescontain? **3.** Relationshipbetweenfundamentalrights and directive principles	• Analyze the working of the Constitution in real life • Learn to respect others, think critically, and make informed decisions • Identify violations of the rights to equality and freedom in the society around them • Justify the need for reasonable restrictions on the rights guaranteed. • Use freedom of expression to advocate for ensuring rights is given to people around them.	PPT: Understand how the judiciary protects Fundamental Rights. **Legal Awareness**
	PART B	**1. PoliticalTheory:AnIntroduction** **SDG 16:Peace, Justice and Strong Institutions** a) Whatispolitics? b) Whatdowe studyinpoliticaltheory? c) PuttingPoliticaltheoryinto practice **2.** Whyshouldwestudypolitical theory?	• Definethetermpoliticsandidentifyvarious political principles. • ExplaintheinnateideasofvariousPolitical theories. • Appreciate the contribution of Political Thinkers	GroupDiscussion: Minorities having their own schools and colleges. **Logical Reasoning** **ResponsibleCitizenship**

MAY/25	**PART A**	**3.Electionand Representation** **SDG 16: Peace, Justice and Strong Institutions** a) Electionsystemin India • FirstPastthePostSystem • ProportionalRepresentation b) WhydidIndiaadopttheFPTPsystem? c) Reservationofconstituencies d) Freeandfairelections • Universalfranchiseandrighttocontest • IndependentElectionCommission e) ElectoralReforms	• Identify different types and methods of election. • Therole of various stakeholders in ensuring free and fair election • Demonstrate the innate role played by Election Commission • Compare election systems of different countries of the world	**Electoral Reforms Debate**: Discuss whether India should switch from FPTP to a variant of PR or implement one-third reservation for women in Parliament. **AnalyticalReasoning** **Informed Citizenship**
		4. Executive **SDG 16: Peace, Justice and Strong Institutions** • Whatisanexecutive? • What are the different types of executives? • ParliamentaryexecutiveinIndia • PowerandpositionofPresident • DiscretionaryPowersofthePresident • PrimeMinisterandCouncil ofministers • PermanentExecutive:Bureaucracy	• RecognizethemeaningofExecutive. • CompareandcontrastheParliamentary and Presidential Executive. • Analyzethecompositionandfunctioningof the executive. • Knowthe significanceoftheadministrative machinery.	Group Discussion: Why is the Prime Minister often called the "**linchpin of the Government**"? **Decision-Making**
JULY/30	**PART A**	**5.Legislature** **SDG 16: Peace, Justice and Strong Institutions** a) Whydoweneedaparliament? b) Whydo we needtwohousesofparliament? • RajyaSabha • LokSabha c) Whatdoestheparliamentdo	• DescribethelawmakingprocessinIndia. • Differentiate between the powers and functions of Lok Sabha and Rajya Sabha. • Examine the parliamentary control over the Executive.	Mock Parliament: Conduct a **Question Hour** where "Opposition" students ask tough questions on school facilities, and "Ministers"mustprovide

		? • PowersofRajyaSabha • SpecialPowersofRajyaSabha d) Howdoestheparliamentmakelaws? e) Howdoesth eparliamen tcontrol the executive? f) Whatdothecommitteesof parliamentdo? g) Howdoestheparliamentregulateitself?	• Analyze the role of Legislature. • Parliamentary committees for the success of Indian democracy.	accountable answers. **Analytical Reasoning**
	PART B	**2.Freedom** **SDG 16: Peace, Justice and Strong Institutions** a) TheIdeal offreedom b) ThesourcesofConstraints-Whydowe need constraints? c) TheHarmPrinciple NegativeandPositiveliberty	• Appreciatetheidealoffreedom. • Criticallyevaluatethedimensionsofnegative and positive liberty. • Assess the possible limitations on freedom resultingfromthesocialandeconomicstructures of society.	Case Study - Nelson Mandela:discuss how his personal struggle against apartheid represented a broader fight for collective freedom. **Self-Management & Accountability**
UT-1				
AUGUST/32	**PART A**	**6. Judiciary** **SDG 16: Peace, Justice and Strong Institutions** a) Whydoweneedanindependentjudiciary? • IndependenceofJudiciary • AppointmentofJudges • RemovalofJudges b) StructureoftheJudiciary	• Identifythedifferentaspectswhichmakes the Judiciary independent. • Compareandcontrastthe different jurisdictions	Group Discuss on a community problem (e.g., a broken park or local pollution).
		c) JurisdictionofsupremeCourt • OriginalJurisdiction • WritJurisdiction • AppellateJurisdiction • AdvisoryJurisdiction • JudicialActivism d) JudiciaryandRights • JudiciaryandParliame	• Analyzethereasons whyJudiciary has become proactive. • Examine thereasons for theconflicts	Research a famous case where the Judiciary and Parliament clashed, such as the Kesavananda Bharati case. Explain the "Basic Structure" doctrine in simple terms.

		nt	betweenthejudiciaryandparliamentwith respect to ConstitutionalAmendments.	**Decisiveness & Judgment Effective Communication & Writing**
	PART B	**3.Equality** **SDG 10:Reduced Inequalities** a) Whydoesequality matter? Equalityofopportunities • NaturalandSocialInequalities b) Threedimensionsofequality c) Feminism,Socialism Howcanwepromoteequality?	• Understandthemoral andpoliticalidealsof equality. • Assess how equality isperceived through different ideologies • Recognizethemeansandmethodstopromote equality. • Evaluatethepossiblesolutionstominimize inequality.	Design a visual map showing the three main dimensions: Political Social Economic **ConflictResolution Retention**
		4.SocialJustice **SDG 10:Reduced Inequalities** a) WhatisJustice? • EqualTreatmentfor Equals • ProportionateJustice • RecognitionofSpecialNeeds b) Justdistribution c) JohnRawlsTheoryofJustice d) PursuingSocialJustice FreeMarketsversusState Intervention	• Classifythedifferentdimensions ofjustice. • Appreciatethemeasurestakenbythe government of India to secure social justice. • Enlist the basic minimum requirements of peopleforlivingahealthyanddproductivelife. • StateJohn Rawls'theoryofveil ofignorance.	Group Discuss: Does this "veil" make you choose rules that protect the weakest members? **Systemic&Structural Analysis**
SEPTEMBER/ 16	**PART A**	**7.Federalism** **SDG 16: Peace, Justice and Strong Institutions** a) Whatis Federalism? b) FederalismintheIndianConstitution • DivisionofPowers Federalismwithastrongcentral government c) ConflictsinIndia'sfederalsystem • Centre-	• Explainthebasicfeaturesofafederation. • Identify the different levels of the government &subjects on which the union and state governments can make laws.	Design a chart showing how taxes are collected by the Centre and distributed to States. Use the Finance Commission's role as the primary

		StateRelations • DemandsforAutonomy • RoleofGovernorsandPresident'sRule • DemandsforNewStates • InterstateConflicts d) Specialprovisions JammuandKashmir	• Discuss the various constitutionalprovisions that led to a strong Centre in India.	focus. **Intergovernmental Coordination & Collaboration**
MID-TERM EXAMINATION				
OCTOBER/32	**PART A**	**8.LocalGovernments** **SDG 11: Sustainable Cities and Communities** a) Whylocalgovernments? b) GrowthofLocalGovernmentinIndia • LocalGovernmentsinIndependentIndia c) 73rdand74thamendments d) 73rdAmendment • ThreeTierStructure • Elections • Reservations • TransferofSubjects • StateElectionCommissioners • StateFinanceCommission e) 74thAmendment • Implementationof73rdand74thAmendments	• Understand the Panchayati Raj system of local government in India, its emergence and significance • Identify the objectives, functions and sources of income of rural and urban local government bodies • Justify the significance of 73rd and 74th constitutional amendments • Acknowledge and examine the significance of decentralization	**"Funds vs. Functions"**: Debate whether local governments have too many responsibilities but too little money to actually do anything. **Conflict Resolution & Diplomacy** **Resilience & Crisis Management**
	PART B	**5. Rights** **SDG 16: Peace, Justice and Strong Institutions** a) Whatare Rights? b) Wheredorightscomefrom? c) Legalrightsandthestate d) Kindsof rights Rightsandresponsibilities	• Definerights. • Identifytheneedforrightsanditsimportance to mankind. • whyrightsneed tobesanctionedbylaw.	Case Study: Identify cases of rights violations discussed in the media over the last few days. Reflect on what the government and civil society should do to prevent such violations.

NOVEMBER/ 25	**PART A**	**9.ConstitutionasaLivingDocument** **SDG 16: Peace, Justice and Strong Institutions** a) Areconstitutionsstatic? b) Howtoamendtheconstitution? c) Whyhavetherebeensomany amendments?	• AnalyzetheworkingoftheConstitution. • takenplaceandthecontroversiesraised. • AppreciatewhytheConstitutioniscalleda Living Document.	Case Study: Analyze why this amendment is often called a "Mini-Constitution" and discuss the controversies surrounding the changes made during the Emergency period.
		d) Contentsofamendmentsmadesofar • DifferingInterpretations • AmendmentsthroughPoliticalConsensus • ControversialAmendments e) Basicstructureandevolutionof the constitution f) ConstitutionasaLivingDocument • ContributionofJudiciary		**Balance of Stability and Change Democratic Maturity & Consensus.**
	PART B	**6. Citizenship** **SDG 11: Sustainable Cities and Communities** a) Introduction b) Fullandequalmembership c) EqualRights d) CitizenandNation e) UniversalCitizenship GlobalCitizenship	• Explainthemeaningof citizenship. • Contributetomeaningfuldiscussiononwaysof granting citizenship. • Discusstheprobablesolutionsoralternativesto solve citizenship issue	**Defining "Full Membership"**: Discuss the plight of urban slum dwellers. **Participatory & Influencing Skills**
UT-2				

DECEMBER/ 30	**PART A**	**10. ThePhilosophyoftheConstitution** **SDG 10: Reduced Inequalities** a) Whatismeantbyphilosophyof the constitution? Constitution asmeans ofDemocratic Transformation b) Whydoweneedtogo backtotheConstituent Assembly? c) Whatisthepoliticalphilosophyof our constitution? • Individualfreedom • Social Justice • Respectfordiversityandminority rights • Secularism • Universalfranchise • Federalism • Nationalidentity d) ProceduralAchievements e) Criticisms f) Limitations	• Appreciate the philosophical vision ofour Constitution. • Recognizethecorefeaturesoftheindian Constitution. • Evaluatethestrengthsandlimitationsofthe Constitution.	Research the criticism that the Constitution is borrowed or "alien". **Democratic Participation & Deliberation**
		7. Nationalism **SDG 17: Partnerships for the Goals** a) IntroducingNationalism b) NationsandNationalism • SharedBeliefsand History • SharedNationalIdentity c) Nationalself-determination NationalismandPluralism	Understand the concepts of nation and nationalism • Assess the strengths and limitations of nationalism. • Identify and buildanunderstandingonthefactorsrelatedtocreationofcollectiveidentities	The "Imagined Community" Workshop: Ask every student to write down one thing that makes them feel "Indian."

JANUARY/20		**8. Secularism** **SDG 16: Peace, Justice, and Strong Institutions** a) WhatisSecularism? b) Inter-religiousDomination c) Intra-religiousDomination d) SecularState • Thewesternmodelofsecularism • TheIndianmodelofsecularism e) CriticismsofIndiansecularism • WesternImportandMinoritism • Interventionist VoteBankPolitics	• DefineSecularism. • Differentiatebetween Inter-religiousand Intra-Religious Domination. • RecognizetheconceptofaSecularState. • CompareWesternandIndianModelof Secularism.	Research how secularism works in different countries and write a report on it. **Constitutional Literacy** **Global Cultural Competence**
FEBRUARY/12		**REVISION OF THE WHOLE SYLLABUS FOR ANNUAL EXAMINATION**		

PrescribedTextbooks:

1. IndianConstitutionatWork,ClassXI,PublishedbyNCERT
2. PoliticalTheory,ClassXI,PublishedbyNCERT
3. AddedReferenceMaterialavailablewiththedocumentintheAnnexure

GENERAL COMPETENCIES

- Understanding Constitution and Democracy
- Political Theory and Critical Thinking
- Analytical and Application Skills
- Research and Communication

PSYCHOLOGY

Prescribed Books:

1. Psychology, Class XI, Published by NCERT

Theory Paper **3 Hours**

Marks: 70

Units	Topics	Marks
I	What is Psychology?	11
II	Methods of Enquiry in Psychology	13
III	Human Development	11
IV	Sensory, Attentional and Perceptual Processes	8
V	Learning	9
VI	Human Memory	8
VII	Thinking	5
VIII	Motivation and Emotion	5
	Total	**70**

COURSE CONTENT

MONTH	UNIT	TOPIC	LEARNING OBJECTIVES	SUGGESTED ACTIVITIES
APRIL (20)	1. SDG 4 Quality education	What is Psychology? *The topics in this unit are:* Introduction What is Psychology? Psychology as a Discipline Psychology as a Natural Science Psychology as a Social Science Understanding Mind and Behaviour Popular Notions about the Discipline of Psychology Evolution of Psychology Development of Psychology in India Branches of Psychology Psychology and Other Disciplines Psychology in Everyday Life	Students will be able to define the term psychology.students will be able to evaluate on the concept of psychology as science as well as social science.	1.Class presentation (BYOD) 2.Mind map making
MAY (27)	2. SDG 4 Quality education	**Methods of Enquiry in Psychology** *The topics in this unit are:* Introduction Goals of Psychological Enquiry Steps in Conducting Scientific Research Alternative Paradigms of Research Nature of Psychological Data Some Important Methods in Psychology Observational Method Experimental Method Correlational Research Survey Research Psychological Testing Case Study	Students will be able to evaluate all the methods of psychological enquiry.	1.Class presentation 2. Building hypothesis 3. Mind map making

JUNE		**SUMMER VACATION**		
JULY (30)	3. SDG 3 Good health and well being	Analysis of Data Quantitative Method Qualitative Method Limitations of Psychological Enquiry Ethical Issues **Human Development** *The topics in this unit are:* Introduction Meaning of Development Life-Span Perspective on Development Factors Influencing Development Context of Development Overview of Developmental Stages Prenatal Stage Infancy Childhood Challenges of Adolescence Adulthood and Old Age	Students will be able to mention the various developmental stages and their significances.	1.Make a power point presentation on the various developmental stages of life. 2.Mind map making
AUG (32)	5. SDG 4 Quality education	**Learning** *The topics in this unit are:* Introduction Nature of Learning Paradigms of Learning Classical Conditioning Determinants of Classical Conditioning Operant/Instrumental Conditioning Determinants of Operant Conditioning Key Learning Processes Observational Learning Cognitive Learning Verbal Learning Skill Learning Factors Facilitating Learning	Students will be able to define the term learning. They will also be able to classify all the types of learning.	1.Chart making 2.Mind map making 3.experiment conduction

		Learning Disabilities **PRACTICAL- EXPERIMENT 1** **RECAPITULATION OF CHAP 2&3**		
SEPT(16)	4. SDG 4 Quality education	**Sensory, Attentional and Perceptual Processes** *The topics in this unit are:* Introduction Knowing the world Nature and varieties of Stimulus Sense Modalities Functional limitation of sense organs Attentional Processes Selective Attention Sustained Attention Perceptual Processes Processing Approaches in Perception The Perceiver	Students will be able to Define and evaluate on the concept of perception and attention.	1.Group discussion 2.Mind map making
MID TERM EXAMINATION				
OCT (30)		Principles of Perceptual Organisation Perception of Space, Depth and Distance Monocular Cues and Binocular Cues Perceptual Constancies Illusions		

	6. SDG 4 Quality education	Socio-Cultural Influences on Perception **Human Memory** *The topics in this unit are:* Introduction Nature of memory Information Processing Approach : The Stage Model Memory Systems : Sensory, Short-term and Longterm Memories Levels of Processing Types of Long-term Memory □ Declarative and Procedural; Episodic and Semantic Nature and Causes of Forgetting	Students will be able to classify the types of memory and state the strategies involved in improving our memory.	1.Creating mnemonics 2. Mind map making
NOV(30)	6 SDG 4 Quality education AND SDG 16 Peace, justice and strong institution .	**Thinking** *The topics in this unit are:* Introduction Nature of Thinking Building Blocks of Thought The Processes of Thinking Problem Solving Reasoning Decision-making Nature and Process of Creative Thinking Nature of Creative Thinking Process of Creative Thinking Thought and Language Development of Language and Language Use	Students will be able to evaluate and discuss on the concept of thinking. They will be able to critically evaluate divergent ad convergent thinking.	1.Role play to demonstrate the process of decision making and judgement
DEC (30)	9. SDG 4 Quality education	Motivation and Emotion *The topics in this unit are:* Introduction Nature of Motivation	Students will be able to define the term motivation. They	1.Group discussion 2. debate on Maslow's

		Types of Motives Biological Motives Psychosocial Motives Maslow's Hierarchy of Needs Nature of Emotions Expression of Emotions Culture and Emotional Expression Culture and Emotional Labelling Managing Negative Emotions Enhancing Positive Emotions	will also be able to discuss the theories of motivation and emotion	hierarchy of needs.
JAN (23)		**PROJECT- CASE PROFILE** **PRACTICAL – EXPERIMENT 2**	Students will develop the specific skills required to build a case study. Students will be able to create hypothesis for their experiment conduction.	1.experiment conduction 2. Building case profile
FEB (12)		**REVISION**	Students will be able to recapitulate the entire syllabus.	
ANNUAL EXAMINATION				

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 (Projects, experiments, small studies, etc.) 30 marks

The students shall be required to undertake ***one project and conduct two experiments.*** The project would involve the use of different methods of enquiry like observation, survey, interview, questionnaire, small studies related to the topics covered in the course (e.g. Human development, Learning, Memory, Motivation, Perception, Attention and Thinking). Experiments could focus on cause-and-effect relationship. **Practical Examination**

Practical (Experiments) file	05 Marks
Project File	05 Marks
Viva Voce (Project and experiments)	05 Marks
One experiment (05 marks for conduct of experiment and 10 marks for reporting)	15 Marks
Total	**30 Marks**

SYLLABUS FOR EXAMINATION (2026-27)

1. **UNIT TEST 1** : CHAPTER 1&3
2. **MID TERM** : CHAPTER 1,2,3&4
3. **UNIT TEST 2**: CHAPTER 5,6&7
4. **ANNUAL EXAMINATION** : CHAPTER 1,2,3,4,5,6&7

HINDI

माह	इकाई	विषयवस्तु	कला समेकित गतिविधियाँ
		1 पाठ्यपुस्तक 2.गद्य 3. पद्य 4 व्याकरण 5 लेखन 6. अंतराल	
अप्रैल /20		पद्य- कबीर के पद (SDG5,10,12,16)) व्याकरण- अनौपचारिक पत्र(SDG4,17), अपठित गद्यांश(SDG4), अपठित काव्यांश (SDG4), दृश्य लेखन(SDG4)	कार्य प्रपत्र-अपठित गद्यांश
मई/25		गद्य- ईदगाह(SDG1,4,10,16) दोपहर का भोजन(SDG2,3,4,10), पद्य- सूरदास के पद(SDG5,10,12,16) व्याकरण-संचार(SDG4), प्रिंटमाध्यम(SDG4)	प्रेमचंद की कोई एक कहानी पढ़कर उसकी सचित्र समीक्षा कीजिए।(SDG1,16,2)
जुलाई /25		गद्य- टॉर्च बेचने वाला(SDG1,3,10,16),गूँगे(1,3,4,10,16) पद्य- संध्या के बाद(SDG1,3,4,10,16),देव(SDG1,3,4,10,16) व्याकरण- डायरी लेखन(SDG4), ,कार्य सूची(SDG4) अंतराल- हुसैन की कहानी अपनी जुबानी(SDG1,2,3,4)	*विकलांगों की समस्या पर आधारित कोई फिल्म देखकर उसकी समीक्षा कीजिए।(SDG10,3,4) *मकबूल हुसैन की पेंटिंग्स का कोलाज बनाइए (SDG4,10,8)
अगस्त/ 30		गद्य- ज्योतिबा फूले(SDG1,4,5,10,16),खानाबदोश(SDG1,3,4,10) पद्य- ,संध्या के बाद(SDG1,3,4,10,16)	ज्योतिबा फुले के जीवन व कार्यों पर परियोजना कार्य कीजिए। (SDG4,5,10,16)

		व्याकरण- पत्रकारिता(SDG4),कथा पटकथा(SDG4)	
सितंबर/16	अर्धवार्षिक परीक्षा	पद्य- अपठित गद्यांश(SDG4),अपठित काव्यांश (SDG4), करवाए गए कार्य की पुनरावृत्ति व्याकरण- इंटरनेट(SDG4),रेडियो(SDG4)	श्रवण वाचन कौशल (ASL)
अक्टूबर/30		गद्य- भारतवर्ष की उन्नति कैसे हो सकती है।(1,5,8,10,16), उसकी मां (SDG1,3,4,10,16) पद्य- हस्तक्षेप(SDG16,10,5) ,घर में वापसी(SDG3,4,10,16), महादेवी वर्मा(SDG4,8,10,16), व्याकरण- दृश्य लेखन(SDG4)	उसकी मां कहानी के आधार पर अपना व अपनी मां के संबंधों पर कहानी लिखिए।(SDG4,3,5)
नवंबर/25		गद्य-गद्य के पाठों की सप्रसंग व्याख्या पद्य- बादल को घिरते देखा है(SDG13,4,12,15) व्याकरण- अपठित गद्यांश(SDG4), अपठित काव्यांश (SDG4), अंतराल- निबंधात्मक प्रश्न उत्तर	अपने आसपास के मौसम और बादल का अवलोकन करके कोई एक कविता या लघु कहानी चित्र सहित लिखिए। (SDG13,4)
दिसंबर/28		गद्य-गद्य के पाठों के बहुविकल्पीय प्रश्न पद्य- पद्य के पाठों के बहुविकल्पीय प्रश्न व्याकरण- अपठित गद्यांश(SDG4),अपठित काव्यांश (SDG4), अंतराल-आवारा मसीहा (SDG4,10,16)	शरत चंद्र चट्टोपाध्याय के जीवन से संबंधित किसी एक घटना का वर्णन कीजिए ।(4,5,10)
जनवरी/20		व्याकरण- करवाए गए कार्य की पुनरावृति	श्रवण वाचन कौशल (ASL)

		श्रवण वाचन कौशल (ASL)	
फरवरी/12		**करवाए गए कार्य की पुनरावृति**	**श्रवण कौशल अभ्यास करवाया जाएगा ।**

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 व 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...

गद्य--- गद्य पाठों से विद्यार्थियों में भाषा और संचार कौशल, आलोचनात्मक सोच, पठन समझ, नैतिक और सामाजिक मूल्यों की समझ, सहानुभूति और रचनात्मक सोच जैसी क्षमताएँ विकसित होती हैं। ये competencies उनके व्यक्तित्व और सीखने की प्रक्रिया को मजबूत बनाती हैं।"

पद्य--हिंदी पद्य पाठों से विद्यार्थियों में भाषा और संचार कौशल, आलोचनात्मक सोच, पठन समझ, नैतिक और सामाजिक मूल्यों की समझ, सहानुभूति और भावनात्मक बुद्धिमत्ता, साथ ही रचनात्मक और सौंदर्यबोध जैसी क्षमताएँ विकसित होती हैं। ये competenciesउनके व्यक्तित्व और सीखने की प्रक्रिया को समृद्ध बनाती हैं।"

अंतराल-"अंतराल के दोनों पाठों के अध्ययन से विद्यार्थियों में भाषा और संचार कौशल, आलोचनात्मक सोच, पठन समझ, नैतिक और सामाजिक मूल्यों की समझ, सहानुभूति और सामाजिक जागरूकता, साथ ही रचनात्मक अभिव्यक्ति जैसी क्षमताएँ विकसित होती हैं। ये competencies उनके व्यक्तित्व और सीखने की प्रक्रिया को समृद्ध बनाती हैं।"