

St. Paul's School, Aya Nagar

11th Science Section Monthwise Syllabus

Session 2026-27

Computer Science (083)

Month & No. of periods	Chapter and topics proposed
APRIL	Ch. 1: Computer System Overview Computer Organisation ● I/O devices ● CPU ● Memory ● System Bus ● System software Ch. 2: Data Representation Number systems ● Binary, Decimal, Octal, Hexadecimal ● Converting a number from one system to another Ch. 3: Introduction to Problem Solving Steps of Problem solving: ● Analysing ● Flowchart/ Algorithm/ Pseudocode ● Coding ● Testing ● Maintenance ● Decomposition Ch. 4: Getting Started with Python Working in Python

	• Python Pluse • Script mode • Interactive mode
MAY	Ch 5: Data Handling • Data Types. Int,Float,String,List • Mutable & Immutable types. • Operators Arithmetic,Relational,Logical,Identity Ch 5: Data Handling(cont..) • Expressions and evaluation of expressions. • Type casting. • Working with math module of Python • Errors(Bugs) and Debugging Ch 6:Python Fundamentals Python Character Set. Types of Statements. • Assignment • Dynamic typing • Tokens • Keywords
JULY	Ch 7: Flow of Control Types of Statements: • Sequence • Selection • Iteration

August	If statements: ● If ● If- else ● If-elif ● Nested if Looping statements: ● For ● While Ch-6:String manipulation Creating and accessing strings. String operations: ● Joining ● Replicating ● Slicing ● Appending ● Modifying ● Concatenating ● Deleting
September	Ch-8:List manipulation Creating and accessing lists. List operations: ● Joining ● Replicating ● Slicing ● Appending ● Modifying ● Sorting ● Deleting Searching and Sorting techniques.

	Ch-9:Tuples Creating and accessing tuples. Tuple operations. Methods used:len(),tuple(),index(), sorted(), min() etc
REVISION	
OCTOBER	Ch. 11:Introduction to Python Modules Importing module. Functions: Sin,Cos,Sqrt,Ceil,Floor,Random,Mean, mode,median
NOVEMBER	Ch. 10: Dictionaries ● Characteristics of a Dictionary ● Creating and accessing elements of a dictionary. ● Multiple ways of creating a dictionary. ● Modifying elements. ● Checking for existence of a key in a dictionary. ● Pretty printing a dictionary
DECEMBER Week 1 & 2	Ch. 12:Society, Law and Ethics ● Digital footprints ● Netizens ● Netiquettes ● Data Protection: IPR, Trademark ● E-Waste management,IT law Ch. 12:Society, Law and Ethics ● Cyber crime(Hacking,Phishing,Cyber-security) ● Bullying ● Malware: Viruses,Trojans and Adware
JANUARY	Ch. 12:Society, Law and Ethics Technology and Society Gender and disability in teaching -learning using Computers

	REVISION
FEBRUARY	ANNUAL EXAM 2026-27

St. Paul's School, Aya Nagar

Month	Data Science Focus (Subject-Specific)	Employability Skills (ES) Focus
April	Orientation + Intro to Ethics	ES Unit 1 – Communication Skills-III
May	Ethics in Data Science	ES Unit 2 – Self-management Skills
July	Ethics (contd) + Assessing Data (start)	ES Unit 3 – ICT Skills
August	Assessing Data (contd)	ES Unit 4 – Entrepreneurship Skills
September	Forecasting on Data	ES Unit 5 – Green Skills
October	Randomization	ES – Communication in Group Work
November	Introduction to R Studio (basics)	ES Unit 2 + 4 (Self-management + Entrepreneurship)
December	R Studio (contd) + Project & Practical File	ES – Project Planning & ICT
January	Full Revision + Pre-board	ES – Exam-style Writing & Time Management
February	Final Revision + Practical Exam Prep	ES – Presentation & Viva Skills

Month Wise Syllabus

11th Data Science (844)

Data Science Month Wise Syllabus

Month	Chapters Name	Key activities
April	Orientation + Communication Skills (ES Unit 1) Data Science content: Introduction to Data Science subject, syllabus, assessment pattern (Theory 50 + Practical 50). Idea of practical file, project, and portfolio. ES Unit 1 – Communication Skills-III: Active listening, speaking clearly, polite and formal language, basic email etiquette.	Ice-breaker data survey activity Ice-breaker: “Data about me” – each student shares 3 pieces of data (e.g., hobbies, study hours) in 1–2 sentences. Others practice listening and summarizing. Role-play: One student writes a short email to a teacher asking for a doubt-clearing session; classmates give feedback on clarity and politeness.

May	Ethics in Data Science + ES Unit 2 Data Science unit: Ethics in Data Science: privacy, consent, data ownership, bias, fairness, responsible use of data. ES Unit 2 – Self-management Skills: Time management, goal setting, self-reflection, stress management (light introduction).	Case-study debate: Use 2–3 short case studies on data misuse (e.g., social media tracking, biased hiring). Groups discuss: “Is this ethical? Why or why not?” and present conclusions. “My study schedule” worksheet: Students create a weekly timetable for 1 week, allocating time for Data Science homework, project work, and revision; teacher discusses how to manage multitasking.
July	Ethics (wrap-up) + Assessing Data + ES Unit 3 Data Science units: Complete Ethics in Data Science topics. Start Assessing Data: data types (qualitative/quantitative, discrete/continuous), primary vs secondary sources, data quality (accuracy, completeness, consistency, timeliness). ES Unit 3 – ICT Skills:	Survey design: Groups design a short survey (e.g., mobile usage, study hours) and learn how to save it properly in a folder (ES link). Spreadsheet practice: Enter survey data into a spreadsheet, create folders for “Class XI Data Science”, “Projects”, “Assignments” (ES–ICT link).

	Basic computer file management, internet searching, handling spreadsheets (Excel/Google Sheets)	
August	Assessing Data (contd) + ES Unit 4 Data Science unit: Descriptive statistics: mean, median, mode, range (conceptual and computational). Tabulation and simple charts (bar chart, pie chart) using spreadsheet. ES Unit 4 – Entrepreneurship Skills: Introduction to entrepreneurship, idea generation, basic problem-solving attitude.	Lab: Enter survey data from July, calculate mean/median/mode, and create at least one chart. “Data-based idea” activity: In groups, students think of a small business idea (e.g., tiffin service, stationery sale) and list 5 pieces of data they would collect (e.g., customer preferences, price points). They present briefly
Sept	Half Yearly Examination (26-27)	

Oct	Forecasting on Data + ES Unit 5 Data Science unit: Forecasting on Data: trends, simple forecasting intuition, time-series examples (school admissions, weather, sales). ES Unit 5 – Green Skills: Basic environmental awareness, sustainable practices, role of data in environment (e.g., pollution data, energy use).	Forecasting lab: Use pre-given data (e.g., yearly temperature or energy consumption) to plot a line chart and make a simple prediction. Group discussion: “How can data help protect the environment?” (using air pollution, waste data, etc.) and write 3–4 points.
Nov	Randomization + ES in Communication Data Science unit: Randomization: randomness, simple probability, random experiments (coins, dice, cards), random sampling. ES focus: Communication in group work (asking questions, clarifying, explaining ideas clearly).	Basic plotting: bar chart of marks or small dataset. “Explain to a friend” activity: One student explains probability concept in simple language to a peer; peer repeats it back and teacher checks understanding (ES communication focus).

Dec	R Studio basics + ES Unit 2 & 4 èIntroduction to R Studio: interface, basic commands, vectors, simple functions (sum, mean, length), basic charts. ES units integrated: ES Unit 2 (Self-management): Managing time for coding practice.	RStudio lab 1: Run simple arithmetic, create a vector, calculate mean/sum.
Jan	R Studio (contd) + Project + ES in Project Planning Data Science unit: More R: data frames, simple statistical analysis, basic boxplot/histogram. Completion of practical file and project/portfolio (as per CBSE). ES units integrated: ES Unit 4 (Entrepreneurship): How data scientists help businesses make decisions.	RStudio lab 1 Mini-project: Choose a small dataset (class marks, daily temperature, sports scores). Describe data type and source, compute basic statistics, create at least one chart, and write a short conclusion. Reflection worksheet: Students write 5–6 lines on “How can self-management help in learning programming?” (ES–Self-management link).

Feb	Final revision + Practical exam prep + ES in Presentation	Practical file: Ensure index, programs, outputs, and project report are neatly maintained (ES–ICT and organization skills).
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Mathematics		
Month	Chapters and Topic Covered	Practical/Activities
APRIL	1. Sets 2. Relations and functions	Assignment on Sets Activity 1 - To represent set theoretic operations using Venn diagrams. Activity 2 - To distinguish between a Relation and a Function.
MAY	3. Trigonometric Functions	Common worksheet on Sets, Relations and functions and Trigonometric Functions during summer vacations. Activity 3 - To find the values of sine and cosine functions in second, third and fourth quadrants using their given values in first quadrant.
JULY	4. Complex numbers and quadratic equations 5. Linear Inequalities	Assignment on Complex numbers and quadratic equations and Linear inequalities. Activity 4 - To interpret geometrically the meaning of $i = -1$ and its integral powers.

AUGUST	6. Permutations and Combinations 7. Binomial theorem	Assignment on Permutations and Combinations Activity 5 - To construct a Pascal's Triangle and to write binomial expansion for a given positive integral exponent Assignment on Binomial Theorem
SEPTEMBER	Revision for TERM-1 8. Sequence and Series (Last week)	Assignment on Sequences and series Activity 6 - To demonstrate that the Arithmetic mean of two different positive numbers is always greater than the Geometric mean.
OCTOBER	9. Straight Lines 10. Conic Sections	Assignment on Straight Lines Assignment on Conic Sections Activity 7 - To construct different types of conic sections.
NOVEMBER	11. Introduction to three Dimensional Geometry 12. Limits and derivatives	Activity 8 - To explain the concept of octants by three mutually perpendicular planes in space Assignment on Introduction to three Dimensional Geometry Assignment on Limits and derivatives Activity 9 - Verification of the geometrical significance of derivatives.
DECEMBER	13. Statistics 14. Probability	Assignment on Statistics Assignment on Probability Activity 10 - To write the sample space, when a coin is tossed once, two times, three times, four times.
January	Revision	

Psychology		
Month	Chapters and Topic Covered	Practical/Activities
April	Chapter -1 Understanding Psychology	
May	Chapter-2 Methods of enquiry in Psychology	Project File Discussion
July	Chapter-3 Human Development	
August	Chapter -4 Sensory attentional and perceptual processes	Practical 1
October	Chapter -5 Learning	
November	Chapter - 6 Human memory	Practical 2
December	Chapter-7 Thinking Chapter 8- Motivation and Emotions	Conduction of two practicals
January	Revision using Teach back method for important topics	

CHEMISTRY -043

Month	Chapters	Practicals
2nd week of April	Unit 1: Some Basic Concepts of Chemistry General Introduction: Importance and scope of Chemistry, Nature of matter, laws of chemical combination, Dalton's atomic theory: concept of elements, atoms and molecules, atomic and molecular masses, mole concept and molar mass, percentage composition, empirical and molecular formula, chemical reactions, stoichiometry and calculations based on stoichiometry	Preparation of std oxalic acid solution Volumetric analysis a) NaOH Vs N/10

		oxalic acid b) HCl Vs N/10 oxalic acid
MAY	Unit 2: 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, concept of shells and subshells, dual nature of matter and light, de Broglie's relationship, Heisenberg uncertainty principle, 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.	Salt analysis

JULY	Unit 3: Classification of	INVESTIGATORY FILE
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	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, valiancy, Nomenclature of elements with atomic number greater than 100. Unit 4: Chemical Bonding and Molecular Structure Valence electrons, ionic bond, covalent bond, bond parameters, Lewis structure, polar character of covalent bond, covalent character of ionic bond, valence bond theory, resonance, geometry of covalent molecules, VSEPR theory, concept of hybridization, involving s, p and d orbitals and shapes of some simple molecules, molecular orbital theory of homonuclear diatomic molecules (qualitative idea only), Hydrogen bond.	SUBMISSION
AUGUST	Unit 4: Concept of hybridization, involving s, p and d orbitals and shapes of some simple molecules,	Salt Analysis

	molecular orbital theory of homonuclear diatomic molecules (qualitative idea only), Hydrogen bond. Unit 7: Redox Reactions Classical Idea of Redox Reactions – Oxidation and Reduction Reactions, Redox Reactions in Terms of Electron Transfer Reactions, Oxidation Number, Redox Reactions and Electrode Processes.	
SEPTEMBER	HALF YEARLY EXAM INCLUDES CHAPTER 1 - 4 AND CHAPTER -7 Unit 8: Organic Chemistry – Some Basic Principles and Techniques General Introduction, Tetravalence of Carbon: Shapes of Organic Compounds, Structural Representations of Organic Compounds, Classification of Organic Compounds.	Common ion effect Change in PH with concentration Crystallization CuSO₄
OCTOBER	Unit 8: Organic Chemistry – Some Basic Principles and Techniques ; Nomenclature of Organic Compounds, Isomerism, Fundamental Concepts in Organic	Determination of boiling point Determination of melting point

	Reaction Mechanism, Methods of Purification of Organic Compounds, Qualitative Analysis of Organic Compounds, Quantitative Analysis	
NOVEMBER	Unit 9: Hydrocarbons Classification, Alkanes, Alkenes, Alkynes, Aromatic Hydrocarbon, Carcinogenic and Toxicity.	
DECEMBER	Unit 6: Equilibrium Equilibrium in Physical Processes, Equilibrium in Chemical Processes – Dynamic Equilibrium, Law of Chemical Equilibrium and Equilibrium Constant, Homogeneous Equilibria, Heterogeneous Equilibria, Applications of Equilibrium Constants, Relationship between Equilibrium Constant K, Reaction Quotient Q and Gibbs Energy G, Factors Affecting Equilibria, Ionic Equilibrium in Solution, Acids, Bases and Salts, Ionization of Acids and Bases, Buffer Solutions, Solubility Equilibria of Sparingly Soluble Salts.	
JANUARY	Unit 5: Thermodynamics Thermodynamic Terms, Applications, Measurement	

	of ΔU and ΔH: Calorimetry, Enthalpy Change, and ΔH of a Reaction – Reaction Enthalpy, Enthalpies for Different Types of Reactions, Spontaneity, Gibbs Energy Change and Equilibrium. REVISION	
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Physics (042)		
Month	Chapters and Topic Covered	Practical/Activities
2nd week of April-2nd Week of July	Unit I: Physical World and Measurements Chapter–1: Units and Measurements Need for measurement: Units of measurement; systems of units; SI units, fundamental and derived units. significant figures, Determining the uncertainty in result. Dimensions of physical quantities, dimensional analysis and its applications. Unit II: Kinematics Chapter–2: 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, average speed and average velocity and instantaneous velocity, uniformly accelerated motion, velocity - time and position-time graphs. Relations for uniformly accelerated motion (graphical and calculus treatment).Chapter–3: Motion in a Plane 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	1. To measure diameter of a small spherical/cylindrical body and to measure internal diameter and depth of a given beaker/calorimeter using Vernier Callipers and hence find its volume.

	of a vector in a plane, rectangular components, Scalar and Vector product of vectors. Motion in a plane, cases of uniform velocity and uniform acceleration projectile motion, uniform circular motion.	
3rd week of July - 3rd week of August	Unit III: Laws of Motion Chapter–4: Laws of Motion 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. 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). Unit IV: Work, Energy and Power Chapter– 5: Work, Energy and Power 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. Unit V: Motion of System of Particles and Rigid Body Chapter–6: System of Particles and Rotational Motion Centre of mass of a two-particle system, momentum conservation and Centre of mass motion. Centre of mass of a rigid body; centre 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	2. To measure diameter of a given wire and thickness of a given sheet using screw gauge. Activities 1. To make a paper scale of given least count, e.g., 0.2cm, 0.5 cm.

	of linear and rotational motions. Moment of inertia, radius of gyration, values of moments of inertia for simple geometrical objects (no derivation). Unit VI: Gravitation Chapter – 7: Gravitation 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 speed, orbital velocity of a satellite, energy of an orbiting satellite.	
September	Unit VII: Properties of Bulk Matter Chapter–8: Mechanical Properties of Solids Elasticity, Stress-strain relationship, Hooke's law, Young's modulus, bulk modulus, shear modulus of rigidity (qualitative idea only), Poisson's ratio; elastic energy. Application of elastic behavior of materials (qualitative idea only).	3. To determine volume of an irregular lamina using screw gauge.
October	Chapter–9: 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, terminal velocity, streamline and turbulent flow, critical velocity, Bernoulli's theorem and its simple applications (Torricelli's law and Dynamic lift). 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. Chapter–10: Thermal Properties of Matter Heat, temperature, thermal expansion; thermal expansion of solids, liquids and gases, anomalous expansion of water; specific heat capacity; C_p, C_v - calorimetry; change of state - latent heat capacity. Heat transfer-conduction, convection and radiation, thermal conductivity,	6. To find the weight of a given body using the parallelogram law of vectors.

	qualitative ideas of Blackbody radiation, Wein's displacement Law, Stefan's law	
November	Unit VIII: Thermodynamics Chapter–11: Thermodynamics Thermal equilibrium and definition of temperature, zeroth law of thermodynamics, heat, work and internal energy. First law of thermodynamics, Second law of thermodynamics: Thermodynamic state variable and equation of state. Change of condition of gaseous state - isothermal, adiabatic, reversible, irreversible, and cyclic processes. Unit IX: Behavior of Perfect Gases and Kinetic Theory of Gases Chapter–12: Kinetic Theory 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 equi-partition of energy (statement only) and application to specific heat capacities of gases; concept of mean free path, Avogadro's number.	7. Using a simple pendulum, plot its graph and use it to find the effective length of second's pendulum. 8. To study variation of time period of a simple pendulum of a given length by taking bobs of same size but different masses and interpret the result.
December	Unit X: Oscillations and Waves Chapter–13: Oscillations Periodic motion - time period, frequency, displacement as a function of time, periodic functions and their applications. Simple harmonic motion (S.H.M), uniform circular motion and its equations of motion; 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. Chapter–14: Waves	9. To study the relationship between force of limiting friction and normal reaction and to find the co- efficiency of friction between a block and a horizontal surface. 10. To find the downward force, along an inclined plane, acting on a roller due to the

	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.	gravitational pull of the earth and study its relationship with the angle of inclination θ by plotting a graph between force and $\sin\theta$.
January	Revision	

Month-wise Syllabus

Physical Education		
Month	Chapters and Topic Covered	Practical/Activities
APRIL	CHAPTER-1 CHANGING TRENDS & CAREER IN PHYSICAL EDUCATION • Concept ,Aim & Objectives of physical education • Changing trends in sports - playing surface, wearable gears and sports equipment, technological advancements • Career options in physical education • Khelo india and fit india program	Topics will be discussed for Practical Project
MAY	CHAPTER-2 OLYMPISM • Ancient and modern olympics • Olympism- concept and olympics values	• Class Test

	measurement & evaluation in physical education & sports. ● Classification of test in physical education and sports. ● Test administration guidelines in physical education and sports.	
OCTOBER	CHAPTER-7 FUNDAMENTALS OF ANATOMY, PHYSIOLOGY IN SPORTS ● Definition and importance of anatomy and physiology in exercise and sports ● Functions of skeletal system, classification of bones and types of joints. ● Function and structure of circulatory system and heart. ● Function and structure of respiratory system	
November	CHAPTER-8 FUNDAMENTALS OF KINESIOLOGY AND BIOMECHANICS IN SPORTS ● Definition and importance of kinesiology and biomechanics in sports ● Principles of biomechanics ● Types of body movements ● Axis and planes- concept and its application in body movements CHAPTER-9 PSYCHOLOGY & SPORTS ● Definition & importance	

	of psychology in physical education & sports • Adolescent problems & their management • Team cohesion and sports	
DECEMBER	CHAPTER-10 TRAINING AND DOPING IN SPORTS • Concept and principles of sports training • Training load: over load, adaptation, and recovery • Concept of doping and its disadvantages	

BIOLOGY

Month	Chapters and Topic Covered	Practical/Activities
July	· CH 1 :The Living World · CH 2 :Biological Classification · CH 3 :Plant Kingdom · CH 4 :Animal Kingdom	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. Virtual specimens/slides/models and identifying features of – Amoeba, Hydra, liverfluke, Ascaris, leech, earthworm, prawn, silkworm, honeybee, snail, starfish, shark, rohu, frog, lizard, pigeon and rabbit.
August	· CH 5 :Morphology of Flowering Plants · CH 6 :Anatomy of Flowering Plants · CH 7 :Structural Organisation in Animals	Study and describe locally available common flowering plants from the family Solanaceae (Poaceae, Asteraceae or Brassicaceae can be substituted in case of particular geographical location) Preparation and study of T.S. of dicot and monocot roots and stems

		Comparative study of the rates of transpiration in the upper and lower surfaces of leaves. Different types of inflorescence (cymose and racemose).
September	· CH 8 :Cell: The Unit of Life · CH 9 :Biomolecules	Study of plasmolysis in epidermal peels Study of osmosis by potato osmometer
October	· CH 10 :Cell Cycle and Cell Division · CH 11 :Photosynthesis in Higher Plants · CH 12 :Respiration in Plants	Test for the presence of sugar, starch, proteins and fats in suitable plant and animal materials. Separation of plant pigments through paper chromatography Study of the rate of respiration in flower buds/leaf tissue and germinating seeds.
November	· CH 13 :Plant-Growth and Development · CH 14 :Breathing and Exchange of Gases	Human skeleton and different types of joints with the help of virtual images/models only.

	· CH 15 :Body Fluids and Circulation	
December	· CH 16 :Excretory Products and their Elimination · CH 17 :Locomotion and Movement · CH 18 :Neural Control and Coordination · CH 19:Chemical Coordination and Integration	Test for the presence of urea in urine. Test for the presence of sugar in urine. Test for the presence of albumin in urine. Test for the presence of bile salts in urine.
January	Discussion of group projects	

ECONOMICS

Economics Books - Micro Economics and Statistics for Economics By: Sandeep Garg		
Month	Chapters and Topic Covered	Practical/Activities

July	Unit 1 of Micro CH 1: Introduction [Micro]	Economic Icebreaker: Start the class with a discussion about everyday economic decisions students make. Ask questions like "Why did you choose to buy the brand of smartphone you own?" or "How do you decide where to eat lunch?" This can lead to a discussion about scarcity, choice, and opportunity cost.
	Unit 1 of Statistics CH 1: Introduction	
	Unit 2 of Micro CH 2: Consumer's Equilibrium	
	Unit 1 of Statistics CH 2: Meaning, Scope, Functions and Importance of Statistics	Statistical Research Presentation: Divide students into groups and assign each group a specific area where statistics are used (e.g., economics, sociology, medicine). Have them research and prepare a presentation on the meaning, scope, functions, and importance of statistics in their assigned field.
	Unit 2 of Micro CH 3: Demand CH 4: Elasticity of Demand	
	Unit 2 of Statistics CH 3: Collection of Data	Data Collection Project: Assign students to design and conduct a survey or observational study on

	CH 4: Organisation of Data	a topic of interest. They should plan the data collection process, create survey questions or observation criteria, and collect data from their peers or members of the community. This activity will familiarize students with different methods of data collection and the challenges involved.
PT1	Syllabus covered in July	
August	Unit 3 of Micro CH 5: Production Function CH 6: Cost	Cost Curve Construction: Provide students with data on a firm's costs and instruct them to plot various cost curves (e.g., total cost curve, average total cost curve, marginal cost curve). Discuss the relationships between these curves and their implications for the firm's production decisions, economies of scale, and pricing strategies.
	Unit 2 of Statistics CH 5: Tabular Presentation CH 6: Diagrammatic Presentation CH 7: Graphic Presentation	
September	Unit 3 of Micro CH 7: Revenue	
	Unit 3 of Statistics CH 8: Measures of Central Tendency- Arithmetic Mean	Real-world Applications of the Arithmetic Mean: Present students with real-world scenarios where the arithmetic mean is used to summarize data

		(e.g., average household income, average temperature over a period). Discuss the relevance of the arithmetic mean in these contexts and its implications for decision-making and policy formulation.
Half Yearly	Full syllabus covered till September	
October	Unit 3 of Micro CH 8: Producer's Equilibrium CH 9: Supply	Producer's Equilibrium Simulation: Divide students into groups, with each group representing a different firm in a specific industry. Provide them with information about production costs, market prices, and revenue. Instruct them to make production decisions to maximize profits, considering factors such as marginal cost, marginal revenue, and price elasticity of supply.
	Unit 3 of Statistics CH 9: Measures of Central Tendency- Median and Mode	
PT2	Syllabus covered in October	
November	Unit 4 of Micro CH 10: Main Market Forms	Market Forms Role-Playing Game: Divide students into groups, with each group representing a different market form (perfect competition, monopoly, monopolistic competition, oligopoly). Assign them roles such as producers, consumers, and regulators. Have them simulate market

		interactions, pricing strategies, and outcomes characteristic of their assigned market form.
	Unit 3 of Statistics CH 10: Measures of Correlation	
December	Unit 4 of Micro CH 11: Price Determination and Simple Applications	
	Unit 3 of Statistics CH 11: Index Numbers	Inflation Rate Calculation: Provide students with data on prices for a basket of goods and services over several years. Instruct them to calculate inflation rates using a price index (e.g., consumer price index) and discuss the significance of inflation in the economy, its impact on purchasing power, and its measurement through index numbers.
January	Revision of full syllabus	
Final Term	Full Syllabus	PROJECT WORK & VIVA

Mathematics		
Month	Chapters and Topic Covered	Practical/Activities
July	1. Sets 2. Relations and functions	Assignment on Sets Activity 1 - To represent set theoretic operations using Venn diagrams.

		Activity 2 - To distinguish between a Relation and a Function.
August	3. Trigonometric Functions 4. Complex numbers and quadratic equations 5. Linear Inequalities	Common worksheet on Sets, Relations and functions and Trigonometric Functions during summer vacations. Activity 3 - To find the values of sine and cosine functions in second, third and fourth quadrants using their given values in first quadrant.
September	6. Permutations and Combinations	Assignment on Complex numbers and quadratic equations and Linear inequalities. Activity 4 - To interpret geometrically the meaning of $i = -1$ and its integral powers.
October	Permutations and Combinations (continued) 7. Binomial theorem	Assignment on Permutations and Combinations Activity 5 - To construct a Pascal's Triangle and to write binomial expansion for a given positive integral exponent Assignment on Binomial Theorem
November	8. Sequences and series 9. Straight Lines 10. Conic Sections	Assignment on Sequences and series Assignment on Straight Lines Activity 6 - To demonstrate that the Arithmetic mean of two different positive numbers is always greater than the Geometric mean.

December	11. Introduction to three Dimensional Geometry 12. Limits and derivatives 13. Statistics	Assignment on Conic Sections Activity 7 - To construct different types of conic sections. Activity 8 - To explain the concept of octants by three mutually perpendicular planes in space Assignment on Introduction to three Dimensional Geometry Assignment on Limits and derivatives Activity 9 - Verification of the geometrical significance of derivatives.
January (first week)	14. Probability 15. Revision from second week	Assignment on Statistics Assignment on Probability Activity 10 - To write the sample space, when a coin is tossed once, two times, three times, four times.

CLASS 11

English Core (301)

Month	Lessons and Topics Proposed	Activities
April 14 Days	Hornbill 1. The Portrait of a Lady Snapshots 1. The Summer of a Beautiful White Horse Writing Skills 1. Poster 2. Classified Advertisements	

May 16 Days	Hornbill 1. A Photograph 2. We're Not Afraid to Die... If We Can All Be Together Reading Skills 3. Note Making and Summarisation	Assignments 1. Holiday Homework 2. Allocation of Project Work 3. Allocation of AIL 4. Worksheets on note making and summarisation. 5. Notes on gap filling (tenses and clauses), and re-ordering/transformation of sentences.
	SUMMER VACATIONS	
July 26 Days	<u>P.T. I Syllabus</u> Reading Skills 1. Unseen passage Grammar and Writing Skills 1. Gap Filling (Tenses, Clauses) 2. Reordering of Sentences 3. Classified Advertisements Literature 1. The Portrait of a Lady 2. The Summer of a Beautiful White Horse 3. A Photograph	Submission of the First Draft of the Project by Students and Feedback Submission to Students
	Hornbill 1. The Laburnum Top 2. Discovering Tut: The Saga Continues Snapshots 3. The Address	

	Writing Skills 4. Speech	
August 19 Days	Hornbill 1. The Voice of the Rain Snapshots 1. Mother's Day Writing Skills 1. Debate	Assessment of Listening Skills and Submission of the Second Draft of the Project

September 03 Days	Reading Skills Practice Worksheets - Reading Comprehension Passages - Note Making and Summarisation	
	Half-Yearly Exam – Syllabus covered till the first week of September.	
October 24 Days	Hornbill 1. Childhood 2. The Adventure Snapshots 1. Birth	
November 17 Days	Hornbill 1. Silk Road 2. Father to Son	
December 21 Days	P.T. II Syllabus Reading Skills 1. Note-Making and Summarisation Writing Skills 1. Poster 2. Speech/Debate Literature 1. The Adventure 2. Childhood 3. Birth	
	Snapshots 1. The Tale of Melon City Revision - One Unseen Case-Based Passage - Note Making and Summarisation - Classifieds	Viva and Speaking Skills Assessment
January 14 Days	Revision - Speech/Debate - Focus Spots from Term 1 Syllabus	Viva and Speaking Skills Assessment
February	Annual Exam – Complete Syllabus	