TAGORE INTERNATIONAL SCHOOL
EAST OF KAILASH, NEW DELHI

Class XI
PARENT SYLLABUS 2025 -2026
SCIENCE
APRIL, 2025-MAY, 2025

Month	English	Math	Economics	Physics	Chemistry	Biology	Computer science	Psychology	Ped.
April-May	**Hornbill: The Portrait of a Lady** **Poem: A Photograph** **Writing skills:** **1.Poster Making** **2.Speech Writing** Art Integrated Activity: Designing a poster promoting superfoods for elderly **Learning Outcomes:** Each	**Topic: Sets** *Introduction *Sets and their representations *Types of sets- *Subsets *Universal set *Venn Diagrams *Operations on sets **Learning Outcomes:** **Each child will be able to:** *define the Cartesian product of sets. *find the number of elements in a Cartesian product. *define a	INTRODUCTION COLLECTION OF DATA ORGANISATION OF DATA Each student would be able to: **Cognitive:** 1.Understand the meaning of economics in singular and plural sense 2.Critically analyse the uses and limitations of statistics in Economics 3.Identify primary and secondary sources of data	**Topic:Units And Measurements.** **Subtopics:***Need for measurement,Units of measurement Systems of units; SI units *Fundamental and derived units *Dimensions of physical quantities, dimensional analysis and its applications **Lab Activity:** Expt 1: To measure diameter of a small spherical/cylindrical body using Vernier Calipers. **Topic:Kinematics Motion along A Straight Line**	**Topic: Some Basic Concepts Of Chemistry** **Sub-Topics:** Importance of chemistry Nature, Properties and classification of matter Precision, accuracy, significant figures Atomic and molecular masses Laws of Chemical Combination-related numerical Mole Concept-numerical **Learning outcomes:** **Each student will be able to:** Explain the characteristics of three states of matter. Classify	**Topic** Morphology of Flowering Plants **Subtopics** The Root and the Stem The Leaf The Inflorescence and the Flower The Fruit and the Seed Description of Solanaceae **Topic:** Anatomy of Flowering Plants **Subtopics:**	**Unit 1: Computer Systems and Organisation** ● 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) ● Types of software: System	Chapter 1: 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 •Themes of	**Unit I - Changing Trends & Career in Physical Education** Concept, Aims & Objectives of Physical Education Development of Physical Education in India – Post Independence Changing Trends in Sports- playing surface, wearable gears and sports equipment, technological advancements Career Options in Physical Education Khelo-India and Fit-India Program

	student will be able to- -compare and contrast city life and rural life -identify the exposition, climax and resolution points in the plot of the stories under discussion -suggest ways to connect with elderly and bring harmony in the family -describe a photograph and experience/s related to it -design relevant and attractive posters -use catchy phrases to make their speech sound	relation. *describe a relation in roster, set-builder, arrow diagram form. *find the domain and range of a relation. *define a function *find the domain and range of a function. *list the various types of function. *draw the graphs of various functions. **Topic Relations and Functions** **Sub Topics:** * Introduction *Cartesian Products of Sets *Relation *Functions: a) Some functions and their graph **Learning Outcomes:**	4.Evaluate various methods of collection of primary data 5.Compare and contrast census and sampling method 6. familiarise with the techniques of sampling. Affective: 1. Learners will demonstrate an appreciation for the importance of structured data organization, showing increased confidence and enthusiasm in applying proper data management techniques to enhance organizational effectiveness. 2. They will value the ethical considerations in data collection and ensure integrity and consistency in data presentation. Psychomotor:	**Subtopics:** *Rest and Motion *Average and Instantaneous Speed and Velocity *Graphical Representation Numerical **Lab Activity:** Expt 2: To measure the internal diameter and depth of a given beaker/ calorimeter using Vernier Calipers and find its volume. Expt 3: To measure diameter of a given wire and thickness of a given sheet using screw gauge **Learning Outcomes:** **Each student will be able to:** *write units of derived physical quantities. *enumerate the advantages of SI unit over other system of units. *differentiate between dimensional quantities and dimensionless quantities with examples *differentiate	different substances into elements, compound and mixtures. Define & explain various laws of chemical combination and solve related numerical. Discuss the significance of atomic mass, average atomic mass, molecular mass and formula mass. Explain the term mole and write formulae related to mole concept. Solve numerical on mole concept. **Lab Activity (Volumetric Analysis)** Instructions for Volumetric analysis & experiment demonstration and file format discussion. Determine the strength of the given NaOH solution by titrating it against M/10 HCl solution. **Topic: Some Basic Concepts Of Chemist contd..** Sub Topics:	The Tissue System Anatomy of Dicotyledonous and Monocotyledonous Plants **Topic:** Structural organization in animals **Subtopics:** Morphology of Frog Anatomy of Frog **Topic** Cell: The Unit of Life **Subtopics:** Cell and Cell Theory An Overview of Cells Prokaryotic Cells Eukaryotic Cells **Learning Outcomes:** Each student will be able to explain the structure and function of different plant	software (Operating systems, system utilities, device drivers), programming tools and language translators (assembler, compiler, and interpreter), application software ● Operating System(OS): functions of the operating system, OS user interface ● Boolean logic: NOT, AND, OR, NAND, NOR, XOR, NOT, truth tables and De Morgan's laws, Logic circuits ● Number System: Binary, Octal, Decimal and Hexadecimal number system; conversion between number systems	Research and Applications •Psychology and Other Disciplines •Psychology in Everyday Life **Learning outcomes:** Explain Psychology as a discipline State the relationshipo f mind with behaviour Explain the evolution of Psychology Differentiate between different branches of Psychology Chapter 2: Methods of Enquiry in Psychology •Goals of Psychological Enquiry •Steps in Conducting Scientific	**Learning Outcomes:** Each student will be able to: Explain the concept of physical education, its aims & objectives Identify the Postindependence development in Physical Education Know the changing trends & career options in physical education Understand Khelo India & Fit India program **Unit II - Olympism Value Education** Olympism – Concept and Olympics Values (Excellence, Friendship & Respect) Olympic Value Education – Joy of Effort, Fair Play, Respect for Others, Pursuit of Excellence, Balance Among Body, Will & Mind Ancient and Modern Olympics Olympics - Symbols, Motto, Flag, Oath, and Anthem Olympic Movement Structure - IOC, NOC, IFS, Other members **Learning Outcomes:** Each student will be able to:

	polished -deliver a formal speech in the class	*Ordered pair *Cartesian product of two non- empty sets. *Define Relation between two non- empty sets. its Domain and Range. *Define Function. its Domain and Range. *Difference between relation and function. *How different types of functions can be represented by graphs. **Topic: Trigonometric Functions** **Sub-Topic** *Introduction *Angles *Degree measure *Radian measure *relation between degree and	1. Appreciate the significance of organization of data into appropriate structures (e.g., tables, rows, columns, categories) to facilitate easier analysis and retrieval. PRESENTATION OF DATA Tabular Presentation (6) Diagrammatic Presentation- bar diagram simple bar diagram, multiple and subdivided bar diagram deviation bar diagram, percentage bar diagram, (7) histogram frequency of frequency polygon (5) **Learning Outcomes:** Each student would be able to: Cognitive: 1.understand	between dimensional and dimensionless constants. *apply dimensions to check correctness of given equation and deduce equations. *differentiate between rest and motion with example. *graphically represent variation of position,velocity with time for different situations.	Empirical and molecular formula- numerical Reactions in solutions (mass %age, molarity, molality, mole fraction). Limiting reagent, Stoichiometry ad stoichiometric calculations, related numerical. **Learning Outcomes:** **Each student will be able to:** Define the term empirical formula and molecular formula and relate the two. Define the terms- molarity, molality and mole fraction. Calculate the empirical & molecular formula for a compound from the given data. Solve numerical based on molarity, molality and mole fraction. Analyse and explain the terms-limiting reagent and stoichiometry. Solve numerical based on limiting reagent and	parts (roots, stems, leaves, flowers). classify various types of roots (taproots, fibrous roots) and stems (herbaceous, woody) compare the roots of aquatic plants and terrestrial plants. identify the different types of leaves (simple, compound) differentiate between pinnately compound leaf and palmately compound leaf. (two points) compare racemose and cymose inflorescence describe the structure of a typical flower and its components (calyx, corolla, androecium, gynoecium). differentiate between apocarpous and syncarpous ovary (two points) draw labeled	● Encoding Schemes: ASCII, ISCII, and Unicode (UTF8, UTF32) **Basics of Python** a simple “hello world" program, the process of writing a program (Interactive & Script mode), running it and print statements; simple data-types: integer, float and string. If..else Loops **Learning Outcomes:** By the end of this unit, each child should be able to: 1.Understand the structure of a computer system: 2. Recognize the roles of hardware and software within a computer system.	Research •Alternative Paradigms of Research •Nature of Psychological Data •Some Important Methods in Psychology -Observational Method Experimental Method •Some Important Methods in Psychology -Correlational Research - Survey Research -Psychological Testing -Case Study **Learning Outcomes:** ● State the goals of enquiry ●State the different types of data used by psychologists ●describe some	Differentiate between Ancient Olympic & Modern Olympic games Understand Olympism (concept & values) Know the Symbols, Motto, Flag, Oath, and Anthem of Olympics **Unit III - Yoga** Meaning & Importance of Yoga Introduction to Ashtanga Yoga Yogic Kriyas (Shat Karma) Pranayama and its types Active Lifestyle and stress management through Yoga **Learning Outcomes:** Each student will be able to: Know the meaning & importance of yoga Understand Ashtanga Yoga Describe Yogic Kriyas (Shat Karma) Learn and practice types of Pranayama Know about relaxation techniques for improving concentration **Unit V - Physical Fitness, Health and Wellness** Meaning and Importance of Wellness, Health and

		radian *Trigonometric functions *Signs of trigonometric functions *Trigonometric Functions of sum and difference. **Learning Outcomes:** *Explanation of positive and negative angles with figures. *Units to measure angles. *Radian and Degree measure and conversion from one to another. * Transformation of trigonometric functions in all four quadrants *Trigonometric functions of sum and difference of two angles. * Explain sum and difference formulas for Cos(A ± B)	different ways to present the numerical data in diagrams 2.compare and analyse the diagrams 3.compute median and mode using diagrams. Affective: The learners would be able to: 1. demonstrate an appreciation for accurate and ethical presentation of data. 2. develop sensitivity to the consequences of manipulating or misrepresenting data. 3. accept responsibility for how their presentation of data can influence decisions, opinions, or actions. Psychomotor: Learners would be able to: create bar		stoichiometric calculations. **Topic:Classification Of Elements and Periodicity in Properties** **Sub Topics:** Need of classification, History of classification Mendeleev's Periodic Table Modern periodic law and the present long form of periodic table Nomenclature of elements with atomic no. > 100/ Electronic Configuration Division into blocks-characteristics of s, p, d & f block elements. Position in the periodic table **Learning Outcomes:** Discuss the need of classification of elements. Discuss the basis and features, law, merits and demerits of Mendeleev's and Modern Periodic Table. Explain the significance of electronic configuration as the	diagrams of different plant structures, highlighting their functions. describe different types of plant tissue systems. differentiate between a guard cell and an epidermal cell. (two points) explain the functions and significance of epidermal tissue and ground tissue. distinguish between open and closed vascular bundles. (two points) draw labelled diagrams of stomatal apparatus and vascular bundles. differentiate between monocot and dicot stem as well as monocot and dicot root (two points) compare external features of male frogs and female frogs. describe the different organ systems in a frog	3. Identify and describe the functions of key components such as the CPU, memory, and input/output devices. Hardware Components: 4. Understand the function of various hardware components like input devices (e.g., keyboard, mouse), output devices (e.g., monitor, printer), CPU, and memory (primary, cache, secondary). 5. Recognize different memory types: Primary memory (RAM), cache memory, and secondary memory (hard drives, SSDs, etc.). Units of Memory:	important methods of psychological enquiry ●explain the methods of analysing data, ●state the limitations of psychological enquiry and ethical considerations	Physical Fitness Components/Dimensions of Wellness, Health and Physical Fitness Traditional Sports & Regional Games for promoting wellness Leadership through Physical Activity and Sports Introduction to First Aid – PRICE **Learning Outcomes:** Each student will be able to: Know the meaning and importance of Physical Fitness, Wellness & health Understand the components of physical fitness, wellness and health Explain traditional sports & regional games for promoting wellness Relate leadership through physical activity and sports Differentiate steps used in first aid - PRICE

		Sin(A ± B) Tan(A ± B) * Explain multiple formulas like sin 2x, cos 2x, tan 2x, sin 3x, cos 3x, tan 3x	graphs, pie charts, line graphs, and other visual representations of data using appropriate tools.		basis of classification. Write and explain the electronic configuration of first twenty elements (using rules for filling of orbitals). Classify the elements into s, p, d & f blocks and compare their characteristics. Write IUPAC names for elements with Z > 100 Predict the position of the elements (period and group no) in the periodic table using configuration. **Lab Activity (Volumetric Analysis)** Determine the strength of the given NaOH solution by titrating it against M/20 oxalic acid solution.	(digestive, circulatory, nervous, respiratory, etc.). explain the functions of different tissues and organs in a frog. illustrate the adaptive features of frogs that help them survive in both aquatic and terrestrial environments. analyse the importance of frogs in the ecosystem explain the structure and function of different cell organelles. compare prokaryotic and eukaryotic cells as well as plant and animal cells, differentiate between cell wall and cell membrane. (two points) justify giving reason as to why lysosomes are known as suicide bags of the cell	Understand memory units and conversions: bit, byte, kilobyte (KB), megabyte (MB), gigabyte (GB), terabyte (TB), and petabyte (PB). Be able to perform basic conversions between these units. 6. Understand the role and functions of system software, including: Operating Systems (OS): Functions such as managing hardware, memory, processes, and enabling user interaction. System Utilities: Tools for system maintenance, such as antivirus programs, disk cleanup, etc. Device Drivers: Software that		

						while mitochondria are known as power houses of the cell. explain the importance of the nucleus as the control center of the cell. justify giving reason as to why nucleolus is larger in actively working cells.	facilitates communication between hardware devices and the operating system. Programming Tools and Language Translators: 7. Understand the different language translators: Assembler: Converts assembly language into machine code. Compiler: Converts high-level programming languages (like C, Java) into machine code in one go. Interpreter: Converts high-level programming languages into machine code line by line. Application Software: 8. Understand the role of application software (e.g.,		

							word processors, web browsers, and games) in enabling specific tasks or services for the user. 9. Understand the core functions of an Operating System, such as: Process management Memory management Device management File management User interface management (CLI vs GUI) OS User Interface: Differentiate between command-line interfaces (CLI) and graphical user interfaces (GUI). Understand how an OS interacts with the user and facilitates the running of		

							applications. 10. Learn the basic Boolean logic gates: NOT (inversion) AND OR NAND (NOT AND) NOR (NOT OR) XOR (exclusive OR) Truth Tables: 11. Understand the concept of truth tables to represent the output of Boolean expressions for different inputs. De Morgan's Laws: 12. Understand and apply De Morgan's laws for simplifying Boolean expressions: The negation of a conjunction is the disjunction of the negations.		

							The negation of a disjunction is the conjunction of the negations. Logic Circuits: 13. Be able to design and interpret logic circuits based on Boolean expressions and truth tables. 14. Understand the representation and properties of the binary (base-2), octal (base-8), decimal (base-10), and hexadecimal (base-16) number systems. Conversion Between Number Systems: Learn how to convert numbers between different number systems (e.g., binary to		

							decimal, hexadecimal to binary). 15. Understand character encoding schemes and how text is represented in computers. ASCII (American Standard Code for Information Interchange): A 7-bit encoding scheme for English characters. ISCII (Indian Script Code for Information Interchange): An encoding standard used for Indian languages. Unicode: A more comprehensive encoding system for international text representation, with versions like UTF-8 (variable-length		

							encoding) and UTF-32 (fixed-length encoding). Basics of Python By the end of this topic, each child will be able to: Write and run basic Python programs. Use print statements to output information Work with simple data types such as integers, floats, and strings. Use if..else statements for decision-making and loops for repetitive tasks.		