

CHINMAYA VIDYALAYA – PALAKKAD CLUSTER

CURRICULUM PLAN 2025-26

CLASS: XI

Subject: Informatics Practices

Resource material/text: PREETHI ARORA & NCERT **No: of chapters:** 8

Month / No: of working days	Unit/Chapter/Sub Theme	Key Concept	Activities/ Practicals/ Tech. integration/Art Integration/ Experiential Learning	Learning Outcomes	CVP Integrated values	No:of prds allott ed /Chapte r	No.Of perio ds as per CBSE
June (22)	COMPUTER SYSTEM Geography-Industries	Basic computer organization, Mobile system organization, Types of Software, Memory units, Compiler and Interpreter. Operating System- need, functions of OS, user interface.	AI & EL: Prepare PPT on the topic “Mobile system organization”. TI : Tata Edge	Students develop a basic understanding of computer systems - architectures, mobile and cloud computing.	Universal outlook ➤ Citizens of the world Intellectual development ➤ Classification	10	10
July (24)	INTRODUCTION TO PYTHON Mathematics- Knowing numbers, Integers, fractions	Features of Python, Python Character Set, Identifiers, Keywords, Literals, Delimiters, Operators, Comments, Variable, data types, operators & types, accepting input from the console, assignment statement, expressions, operators and their precedence, Execution of a program, types of errors	AI : Create Tag cloud EL : Identify the invalid identifiers. State the output of given code. Categorize errors. TI : Develop programs to calculate Simple Interest/ to accept 2 no's and perform arithmetic operations/ Tata Edge	Ability to understand the notion of data types and data structures and Apply in different situations.	Intellectual development ➤ Comparison ➤ Classification ➤ Imagination ➤ Observation ➤ Abstract Thinking	13	

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August (21)	FLOW OF CONTROL Mathematics - Knowing numbers	Conditional statements: if, if- else, if-elif-else Program flow with conditions Notion of iterative computation and control flow: for(range(),len()), while	AI : Draw Flowchartsfor if statement EL / TI : Program to find odd or even , Program to find the number as positive or negative programs to sort 3 numbers/ divisibility of a number/ factorial of a number/Fibonacci series Tata Edge	Ability to understand and apply basic computational thinkingand apply the differentprogramming constructs	Intellectual development ➤ Observation ➤ Abstract Thinking ➤ Classification	10 5	
September (18)	LISTS Chemistry(Sci) - Metalsand non metals	Lists: Definition, Creation of a list, Traversal of a list. Operations on a list - concatenation, repetition, membership; functions/methods List Slicing; Nested lists; findingthe maximum, minimum, mean of numeric values stored in a list; linear searchon list of numbers andcount the frequency of elements in a list.	AI : Prepare infographyfor List functions. EI/TI : Develop programs to read a list of n integers and find their median/ to find thenumber of times an element occurs in the list/to read a list of elements. Input an element from theuser that has to be inserted in the list.	Ability to understand and apply the conceptsof list while solving programs.	Intellectual development ➤ Imagination ➤ Creativity ➤ Classification ➤ Organization	15	

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October (22)	DICTIONARIES Mathematics – Sets	Definition, Creation, Accessing elements of a dictionary, add an item, modify an item in a dictionary; Traversal, functions/methods programs	AI : Create Tag Cloud Topic : Tuple functions and Dictionary Functions EL/TI : Write programs to find the minimum, maximum, mean of values stored in a Tuple /perform linear search on a tuple of numbers/count the frequency of elements in a tuple /count the number of times a character appears in a given string using a dictionary/ create a dictionary with names of employees, their salary and access them Tata Class Edge	Ability to learn the concept of immutable sequence type tuple & its manipulation. Ability to learn the concept of sequence type dictionaries & its manipulation	Intellectual development ➤ Comparison ➤ Classification ➤ Organization ➤ Imagination & Creativity	15	63
	REVISION					5	

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November (23)	DATA BASE CONCEPTS Periodic Tables - Chemistry	Introduction to database concepts and its need. Relational data model: Concept of domain, relation, tuple, attribute, degree, cardinality, key, primary key, candidate key, alternate key and foreign key.	AI: Create TagCloud about Database terms. EL : An organisation wants to create a database EMP to maintain details about its employees .Name the attributes of EMPLOYEE, which can be used as candidate keys. Name the tables and the key which are required to retrieve this detail. TI : Tata Class Edge software	Ability to understand database concepts and its related terms. Ability to identify the different types of keys	Intellectual development ❖ Organization ❖ Classification ❖ Comparison	20	

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December (20)	STRUCTURED QUERY LANGUAGE Sets, Statistics – Mathematics	Advantages of using SQL, DDL and DML Data Types SQL commands - CREATE, INSERT, UPDATE, DELETE, SELECT, Functions in SQL, ORDER BY	AI: Create a Concept map for SQL commands EL & TI: Create a database Sports. Create a table “TEAM” with following considerations: It should have a column TeamID for storing an integer value between 1 to 9, which refers to unique identification of a team. Manipulate using order by	Retrieve and manipulate data in RDBMS using Structured Query Language	Intellectual development ❖ Organization ❖ Classification Comparison	15	40
January (22)	EMERGING TRENDS REVISION and Project (Investigatory Project)	Artificial Intelligence (AI), Machine learning, Big Data, Internet of Things (IoT), Cloud Computing and cloud services, Blockchains REVISION through class test or solving questions from previous board papers	EL: Collect the names of a few data centers in India along with the major services that they provide. TI : Tata Edge	Students realize the huge impact (in the future) on digital economy and interaction in digital societies Recollect the topics studied and implement by developing small applications like	Intellectual development ➤ Observation ➤ Comparison ➤ Classification	10	7

				calculator, game etc.			
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PLAN 2025-26**

CLASS: XII

Subject: Informatics Practices

Resource material/text: PREETHI ARORA

No: of chapters: 7

Month /No:of working days	Unit/chapter/ Subtheme	Key Concept	Activities/ Practicals/ Tech. integration / Art Integration/ Experiential Learning	Learning outcomes	CVP Integrated values	No:of Periods allotted	No of periods as per CBSE
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<p>June (22)</p>	<p>DATAHANDLING USING PANDAS</p> <p>Factorial of numbers - MathematicsPhysics</p>	<p>Introduction to Python libraries- Pandas, Matplotlib. Data structures in Pandas - Series and data frames.Series: Creation of series from dictionary, scalar value; mathematical operations; series attributes, head and tail functions; selection, indexing and slicing. Data Frames: creation of data frames from dictionary of series, list of dictionaries, text/CSV files, display, iteration.</p>	<p>AI & EL&TI: Create Power point/Video Presentation groupwise, on topic- Basics of data</p>	<p>Ability to understand Data representation in various departments</p>	<p>Intellectual development</p> <ul style="list-style-type: none"> ❖ Organization ❖ Classification ❖ Specialization ❖ Comparison 	<p>12</p>	
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July (24)	DATAHANDLING USING PANDAS Technical Terms – Maths hysics	Operations on rows and columns: add (insert /append) , select, delete (drop column and row), rename, Head and Tail functions, indexing using labels, Boolean indexing.	AI: Drawing flow charts using apt symbols to design the programs whatever they are doing. EL & TI : Develop programs in Python for the following : Create Mark series	Ability to understand the data analysis by comparing various datas	❖ Intellectual development ❖ Organization	14	50
August (21)	DATA VISUALISATION Forming line while moving around – Physical Education STRUCTURED QUERY LANGUAGE Sets, Statistics – Mathematics	Data Visualization : Purpose of plotting, drawing and saving of plots using Matplotlib (line plot, bar graph, histogram). Customizing plots;; adding label, title, and legend in plots. Revision of Database concepts, Math functions: POWER (), ROUND (), MOD ()	AI: Observe ECG RECORDS EL & TI: Develop Python programs to implement student analysis in various subjects TI : TataClassEdge software	Ability to use data structure Compare data structures: with graphs	Intellectual development ❖ Classification ❖ Organization ❖ Creativity ❖ Comparison	12 6	

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September (18)	STRUCTURED QUERY LANGUAGE Sets, Statistics – Mathematics	. • Text functions: UCASE ()/UPPER (), LCASE ()/LOWER (), MID ()/SUBSTRING ()/SUBSTR (), LENGTH (), LEFT (), RIGHT (), INSTR (), LTRIM (), RTRIM (), TRIM (). • Date Functions: NOW (), DATE (), MONTH (), MONTHNAME (), YEAR (), DAY (), DAYNAME (). Aggregate Functions: MAX (), MIN (), AVG (), SUM (), COUNT (); using COUNT (*). • Querying and manipulating data using Group by, Having, Order by	AI: Create a Concept mapfor SQL commands EL & TI: Create a databaseSports. Create a table “TEAM” with following considerations: i) It should have a column TeamID for storing an integer value between 1 to 9, which refers to unique identification of ateam. ii) Each TeamID should have its associated name (TeamName), which should be a string of length notless than 10 characters. iii) Insert records tothe table. iv) Query records	Retrieve and manipulate data in RDBMS using Structured Query Language functions	Intelle ctual devel opme nt ❖ Organizatio n ❖ Classif icatio n Comp arison	17	37

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October (22)	COMPUTER NETWORKS Ray Optics - Physics	Evolution of network, Structure of a network, Types of networks, wired and wireless networks; Network devices, Network topologies, network protocols, mobile communication technologies, Email protocols, Network securityconcepts, introduction to web services	AI & EL&TI: Create Power point/Video Presentation group wise,on topic- Basics of network Create Tag cloud of Security Aspects	Ability to understand Computer networks: network, type s, network devices, , basic protocols, web services .	Intellectual development ❖ Comparison ❖ Classification ❖ Organization	8	14
	REVISION SOCIETAL IMPACT Subject : Geography Chapter Name: Industries	Digital footprint, net and communication etiquettes, data protection, intellectual property rights (IPR), plagiarism, licensing and copyright, free and open source software (FOSS), cybercrime and cyber laws, hacking, phishing, cyber bullying, overview of Indian IT Act.E-waste: hazards and management.	AI : Prepare chart on the best practices used to ensure confidentiality of information	Students become aware of the possible risks in social networks and the safety measures to avoid them.	Intellectual development ➤ Observation ➤ Abstract Thinking	8	
December & January	Practical File work Project work Pre-board Examination AISSCE Practical	Prepare Practical File Implementation of the concepts studied in thecourse	AI&EL&TI : Conversion of Python programs and SQL commands to document files.Create investigatory groupprojects as mentioned in the CBSE Syllabus using Python CSV	Team work	Intellectual Development ❖ Assessment	5	

