



Kendriya Vidyalaya (Embassy of India School) Moscow

SPLIT-UP SYLLABUS 2024-25

Class	XI	Subject	COMPUTER SCIENCE		
Sr. No.	Month	Number of working Days	Description (Title of the chapter, Topics /Units)	Suggestive Practical, Project, MDP, Tests & Assignments	Suggested methodology to be used (Like PBL/AIL/CCT/ Experiential learning)
01	June 2024	22	Unit I: Computer Systems and Organisation <ul style="list-style-type: none"> 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 software (Operating systems, system utilities, and device drivers), programming tools and language translators (assembler, compiler, and interpreter), and application software. Operating System (OS): functions of the operating system, OS user interface. 	*Anatomy of Computer. * Identify function	*Presentation *Discussion * PBL (Problem-Based Learning) * Experiential learning
02	July 2024	19	<ul style="list-style-type: none"> 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. Encoding Schemes: ASCII, ISCII, and Unicode (UTF8, UTF32) 	*Logic Circuit *Conversion between Number system	*Presentation *Demonstration * CCT * PBL (Problem-Based Learning)

			Unit II: Computational Thinking and Programming - I <ul style="list-style-type: none"> ● Introduction to Problem-solving: Steps for Problem-solving (Analyzing the problem, developing an algorithm, coding, testing, and debugging), representation of algorithms using flowchart and pseudo code, decomposition. 	* Simple Flow chart questions	*Presentation *Demonstration * CCT * PBL (Problem-Based Learning)
03	August 2024	21	<ul style="list-style-type: none"> ● 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 ● Knowledge of data types: Number (integer, floating point, complex), Boolean, sequence (string, list, tuple), None, Mapping (dictionary), mutable and immutable data types. ● Operators: arithmetic operators, relational operators, logical operators, assignment operators, augmented assignment operators, identity operators (is, is not), membership operators (in not in). ● Expressions, statement, type conversion, and input/output: precedence of operators, expression, and evaluation of an expression, type-conversion (explicit and implicit conversion), accepting data as input from the console and displaying output. ● Errors- syntax errors, logical errors, and run-time errors 	<ul style="list-style-type: none"> ● Input a welcome message and display it. ● Input two numbers and display the larger / smaller number. ● Other Practical Questions (follow CBSE syllabus Comp. Sc. Practical List) 	*Presentation *Demonstration * PBL (Problem-Based Learning) * Experiential learning
04.	September 2024	19	<ul style="list-style-type: none"> ● Flow of Control: introduction, use of indentation, sequential flow, conditional and iterative flow ● Conditional statements: if, if-else, if-elif-else, flowcharts, simple programs: e.g.: absolute value, sort 3 numbers and divisibility of a number. ● Iterative Statement: for loop, range(), while loop, flowcharts, 	<ul style="list-style-type: none"> ● Practical Questions (Follow CBSE syllabus Comp. Sc. Practical List) 	*Presentation *Demonstration * PBL (Problem-Based Learning) * Experiential learning

			<p>break and continue statements, nested loops, suggested programs: generating pattern, summation of series, finding the factorial of a positive number, etc.</p> <ul style="list-style-type: none"> • Strings: introduction, string operations (concatenation, repetition, membership and slicing), traversing a string using loops, built-in functions/methods–len(), capitalize(), title(), lower(), upper(), count(), find(), index(), endswith(), startswith(), isalnum(), isalpha(), isdigit(), islower(), isupper(), isspace(), lstrip(), rstrip(), strip(), replace(), join(), partition(), split() <p>Periodic Test-I (Syllabus up to String)</p>		
05.	October 2024	21	<ul style="list-style-type: none"> • Lists: introduction, indexing, list operations (concatenation, repetition, membership and slicing), traversing a list using loops, built-in functions/methods–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; linear search on list of numbers and counting the frequency of elements in a list. 	<ul style="list-style-type: none"> • Practical Questions (follow CBSE syllabus Comp. Sc. Practical List) 	<ul style="list-style-type: none"> *Presentation *Demonstration * PBL (Problem-Based Learning) * Experiential learning
06.	November 2024	19	<ul style="list-style-type: none"> • Tuples: introduction, indexing, tuple operations (concatenation, repetition, membership and slicing); built-in functions/methods – len(), tuple(), count(), index(), sorted(), min(), max(), sum(); tuple assignment, nested tuple; suggested programs: 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. <p>Revision for Half Yearly</p> <p>Half Yearly /Mid-Term Examination (Syllabus up to Tuple)</p>	<ul style="list-style-type: none"> • Practical Questions (follow CBSE syllabus Comp. Sc. Practical List) 	<ul style="list-style-type: none"> *Presentation *Demonstration * PBL (Problem-Based Learning) * Experiential learning

07.	December 2024	21	<ul style="list-style-type: none"> ● Dictionary: introduction, accessing items in a dictionary using keys, mutability of a dictionary (adding a new term, modifying an existing item), traversing a dictionary, built-in functions/methods – len(), dict(), keys(), values(), items(), get(), update(), del(), del, clear(), fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), sorted(); Suggested programs: 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. ● Introduction to Python modules: Importing module using 'import ' and using from statement, importing math module (pi, e, sqrt(), ceil(), floor(), pow(), fabs(), sin(), cos(), tan()); random module (random(), randint(), randrange()), statistics module (mean(), median(), mode()). 	<ul style="list-style-type: none"> ● Practical Questions (follow CBSE syllabus Comp. Sc. Practical List) 	<ul style="list-style-type: none"> *Presentation *Demonstration * PBL (Problem Based Learning) * Experiential learning
08.	January 2025	21	Unit III: Society, Law and Ethics <ul style="list-style-type: none"> ● Digital Footprints ● Digital Society and Netizen: net etiquettes, communication etiquettes, social media etiquettes ● Data Protection: Intellectual property rights (copyright, patent , trademark), violation of IPR(plagiarism, copyright infringement, trademark infringement), open source software and licensing (Creative Commons, GPL and Apache) ● Cyber Crime: definition, hacking, eavesdropping, phishing and fraud emails, ransomware, cyber trolls, cyber bullying ● Cyber safety: safely browsing the web, identity protection, confidentiality ● Malware: viruses, trojans, adware ● E-waste management: proper disposal of used electronic gadgets. ● Information Technology Act (IT Act) ● Technology and society: Gender and disability issues while teaching and using computers Periodic Test-II (Syllabus up to 3rd Unit)	<ul style="list-style-type: none"> ● Group Discussion on Society Laws and Ethics 	<ul style="list-style-type: none"> *Presentation *Demonstration * Dramatization on Society, Law and Ethics * Experiential learning
09.	February 2025	20	Submission of Practical and Project Works <i>Final Practical Examination.</i>	Project Work	CCT

			Revision work for Session Ending Examination		
10.	March 2025	-	<i>Session Ending Examination 2025</i>		