

DELHI POLICE PUBLIC SCHOOL

Annual Syllabus: 2025-26

Subject: COMPUTER SCIENCE

Class: XI

MONTH	UNIT/CHAPTER/TOPIC
APRIL	<p>Unit I: Computer Systems and Organization (CSO)</p> <p>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)</p> <p>Types of software: system software (operating systems, system utilities, device drivers), programming tools and language translators (assembler, compiler & interpreter), application software</p> <p>Operating system (OS): functions of operating system, OS user interface</p>
MAY	<p>Boolean logic: NOT, AND, OR, NAND, NOR, XOR, truth table, De Morgan's laws and logic circuits</p> <p>Number system: Binary, Octal, Decimal and Hexadecimal number system; conversion between number systems.</p> <p>Encoding schemes: ASCII, ISCII and UNICODE (UTF8, UTF32)</p> <p>Unit 2: Computational Thinking and Programming-1</p> <p>Introduction to Problem solving: Introduction to problem solving: Steps for problem solving (analysing the problem, developing an algorithm, coding, testing and debugging). representation of algorithms using flow chart and pseudo code, decomposition.</p> <p>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</p> <p>Python character set, Python tokens (keyword, identifier, literal, operator, punctuator), variables, concept of l-value and r-value, use of comments</p> <p>Knowledge of data types: number (integer, floating point, complex), boolean, sequence (string, list, tuple), none, mapping (dictionary), mutable and immutable data types</p>
JULY	<p>Unit 2 Contd...</p> <p>Operators: arithmetic operators, relational operators, logical operators, assignment operator, augmented assignment operators, identity operators (is, is not), membership operators (in, not in)</p> <p>Expressions, statement, type conversion & input/output: precedence of</p>

	<p>operators, expression, evaluation of expression, python statement, type conversion (explicit & implicit conversion), accepting data as input from the console and displaying output</p> <p>Errors: syntax errors, logical errors, runtime errors</p> <p>Flow of control: introduction, use of indentation, sequential flow, conditional and iterative flow control</p> <p>Conditional statements: if, if-else, if-elif-else, flowcharts</p> <p>Iterative statements: for loop, range function, while loop, flowcharts, break and continue statements, nested loops</p>
AUGUST	<p>Strings: introduction, indexing, string operations (concatenation, repetition, membership & slicing), traversing a string using loops, built-in functions: len(), capitalize(), title(), lower(), upper(), count(), find(), index(), endswith(), startswith(), isalnum(), isalpha(), isdigit(), islower(), isupper(), isspace(), lstrip(),rstrip(), strip(), replace(), join(), partition(), split()</p> <p>Lists: introduction, indexing, list operations (concatenation, repetition, membership & slicing), traversing a list using loops,</p>
SEPTEMBER	REVISION, HALF YEARLY EXAM commences, Evaluation
OCTOBER	<p>Built-in functions: len(), list(), append(), extend(), insert(), count(), index(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum(); nested lists</p> <p>Tuples: introduction, indexing, tuple operations (concatenation, repetition, membership & slicing), built-in functions: len(), tuple(), count(), index(), sorted(), min(), max(), sum(); tuple assignment, nested tuple</p>
NOVEMBER	<p>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(), del, clear(), fromkeys(), copy(), pop(), popitem(), setdefault(), max(), min(), count(), sorted(), copy();</p> <p>Introduction to Python modules: Introduction to Python modules: Importing module using 'import <module>' and using from statement,</p>
DECEMBER	<p>Importing math module (pi, e, sqrt, ceil, floor, pow, fabs, sin, cos, tan); random module (random, randint, randrange), statistics module (mean, median, mode)</p> <p>Unit III: Society, Law and Ethics</p> <p>Digital Footprints</p> <p>Digital society and Netizen: net etiquettes, communication etiquettes, social</p>

	<p>media etiquettes</p> <p>Data protection: Intellectual Property Right (copyright, patent, trademark), violation of IPR (plagiarism, copyright infringement, trademark infringement), open source softwares and licensing (Creative Commons, GPL and Apache) Cyber-crime: definition, hacking, eavesdropping, phishing and fraud emails, ransomware, preventing cyber crime</p>
JANUARY	<p>Cyber safety: safely browsing the web, identity protection, confidentiality, cyber trolls and bullying.</p> <p>Malware: viruses, trojans, adware</p> <p>E-waste management: proper disposal of used electronic gadgets, Indian Information Technology Act (IT Act)</p> <p>Technology & Society: Gender and disability issues while teaching and using computers</p> <p>REVISION</p>
FEBRUARY	ANNUAL EXAMS COMMENCES

