BLOOM PUBLIC SCHOOL

C-8 Vasant Kunj, New Delhi

Syllabus for the Session 2025-26

Class: XI

Subject: COMPUTER SCIENCE(083)

SYLLABUS			
MONTH	**CHAPTER (NCERT Text book)**	**CONTENT (Topics)**	**Practical/Activities**
April	**Ch-1: Computer System**	• 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, 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, truth tables and De Morgan's laws, Logic circuits	Discussion
May	**Ch-1: Computer System** **Ch-4: Introduction to Problem-Solving**	• Number System: Binary, Octal, Decimal and Hexadecimal number system; conversion between number systems • Encoding Schemes: ASCII, ISCII, and Unicode (UTF8, UTF32) • Introduction to Problem-solving: Steps for Problem-solving (Analyzing the problem, developing an algorithm, coding, testing, and debugging), representation of algorithms using flowchart and pseudocode, decomposition	Discussion
July	**Ch-5: Getting Started with Python**	• Familiarization with the basics of Python programming: Introduction to Python, Features	Programs based on Python

		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, 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	
August	**Ch-6: Flow of Control** **Ch-8: Strings** **Ch-9: Lists**	● 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, break and continue statements, nested loops, suggested programs: generating pattern, summation of series, finding the factorial of a positive number, etc. ● Strings: introduction, string operations (concatenation, repetition, membership and slicing), traversing a string using loops, built-in functions/methods–len(), capitalize(), title(), lower(),	Programs based on Python

		upper(), count(), find(), index(), endswith(), startswith(), isalnum(), isalpha(), isdigit(), islower(), isupper(), isspace(),lstrip(), rstrip(), strip(), replace(), join(), partition(), split() • 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	
September	**Ch-1: Computer System** **Ch-4: Introduction to Problem-Solving** **Ch-5: Getting Started with python** **Ch-6: Flow of Control** **Ch-8: Strings** **Ch-9: Lists**	**REVISION FOR MID TERM EXAMINATION**	

October	**Ch-10: Tuples and Dictionaries**	● 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. ● 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, 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()).	Programs based on Python
November	**Ch-11: Societal Impact**	● Digital Footprints ● Digital Society and Netizen: net etiquettes, communication etiquettes, social media etiquettes ● Data Protection: Intellectual property rights (copyright, patent,	Discussion

		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	
December	**Ch-11: Societal Impact**	● 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	Project based on Python
January	**Ch-1: Computer System** **Ch-4: Introduction to Problem-Solving** **Ch-5: Getting Started with python** **Ch-6: Flow of Control** **Ch-8: Strings** **Ch-9: Lists** **Ch-10: Tuples and Dictionaries** **Ch-11: Societal Impact**	**REVISION FOR FINAL EXAMINATION**	
February	**FINAL EXAMINATION**		

ASSESSMENT SYLLABUS	
PERIODIC ASSESSMENT -1	Ch-1: Computer System Ch-4: Introduction to Problem-Solving Ch-5: Getting Started with python
PERIODIC ASSESSMENT -2	Ch-10: Tuples and Dictionaries Ch-11: Societal Impact
MID TERM EXAM	Ch-1: Computer System Ch-4: Introduction to Problem-Solving Ch-5: Getting Started with python Ch-6: Flow of Control Ch-8: Strings

	Ch-9: Lists
FINAL EXAMINATION	Ch-1: Computer System Ch-4: Introduction to Problem-Solving Ch-5: Getting Started with python Ch-6: Flow of Control Ch-8: Strings Ch-9: Lists Ch-10: Tuples and Dictionaries Ch-11: Societal Impact