



BLOOM PUBLIC SCHOOL

C-8 Vasant Kunj, New Delhi

Syllabus for the Session 2026-27

Class: XI

Subject: COMPUTER SCIENCE(083)

SYLLABUS			
MONTH	CHAPTER (NCERT Text book)	CONTENT (Topics)	Practical/ Activities
April	Ch-1: Computer System	<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, 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	<ul style="list-style-type: none"> • 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	<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. 	Programs based on Python

		<ul style="list-style-type: none"> • 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	<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, 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(), 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 	Programs based on Python
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	

<p>October</p>	<p>Ch-10: Tuples and Dictionaries</p>	<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. ● 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()). 	<p>Programs based on Python</p>
<p>November</p>	<p>Ch-11: Societal Impact</p>	<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 	<p>Discussion</p>

December	Ch-11: Societal Impact	<ul style="list-style-type: none"> • 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	FULL SYLLABUS		