CBSE Class 11 Computer Science Essentials (CS)

Unit-wise syllabus and marks for the 2026-27 session.

UNITS	SESSION
3	2026-27

Exam pattern. Total 100 marks: Theory 70 + Practical 30. Theory: Unit 1 Computer Systems and Organisation 10 marks, Unit 2 Computational Thinking and Programming-1 45 marks, Unit 3 Society, Law and Ethics 15 marks. Practical 30 marks: Lab Test 12 (Python program scored 60% logic + 20% documentation + 20% code quality), Report file 7, Viva voce 3, Project 8.

Practical. Practical work (30 marks) includes a lab test with a Python program, a report file of at least 20 Python programs, a viva voce, and a project that integrates the concepts learned. The suggested practical list covers number/pattern programs, prime/Armstrong/palindrome checks, Fibonacci series, GCD/LCM, string vowel-consonant counting, and search/swap operations on lists and tuples.

#	UNIT AND TOPICS	MARKS
1	**Unit 1: Computer Systems and Organisation** Basic computer organisation: hardware, software, input/output devices, CPU, memory (primary, cache, 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, interpreter), application software; Operating System: functions of the OS, OS user interface; Boolean logic: NOT, AND, OR, NAND, NOR, XOR, truth tables, De Morgan's laws, logic circuits; Number System: Binary, Octal, Decimal and Hexadecimal; conversion between number systems; Encoding Schemes: ASCII, ISCII, Unicode (UTF8, UTF32)	–
2	**Unit 2: Computational Thinking and Programming - I** Introduction to problem-solving: analyzing the problem, developing an algorithm, coding, testing, debugging; flowcharts, pseudocode, decomposition; Basics of Python: features of Python, hello world program, interactive vs script mode, character set, tokens (keyword, identifier, literal, operator, punctuator), variables, l-value and r-value, comments; Data types: integer, floating point, complex, boolean, string, list, tuple, None, dictionary; mutable vs immutable types; Operators: arithmetic, relational, logical, assignment, augmented assignment, identity (is, is not), membership (in, not in); Expressions, statements, type conversion (explicit and implicit), operator precedence, input/output from console; Errors: syntax errors, logical errors, run-time errors; Flow of control: indentation, sequential, conditional and iterative flow; Conditional statements: if, if-else, if-elif-else (e.g. absolute value, sort 3 numbers, divisibility)	–
3	**Unit 3: Society, Law and Ethics**	–

#	UNIT AND TOPICS	MARKS
	Digital footprints; Digital society and netizen: net, communication and social media etiquettes; Data protection: intellectual property rights (copyright, patent, trademark), violation of IPR (plagiarism, copyright/trademark infringement), open source software and licensing (Creative Commons, GPL, Apache); Cyber crime: hacking, eavesdropping, phishing and fraud emails, ransomware, cyber trolls, cyber bullying; Cyber safety: safe web browsing, identity protection, confidentiality; Malware: viruses, trojans, adware; E-waste management: proper disposal of electronic gadgets; Information Technology Act (IT Act)	