

ISC Class 11 Computer Science (with Java) (CS)

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

UNITS	SESSION
8	2026-27

Exam pattern. Total 100 marks. Theory paper: 70 marks (a compulsory short-answer section plus sections A, B and C with internal choice). Practical paper: 30 marks (planning session to hand-write a Java program, followed by an examination session to key-in and execute it on the computer).

Practical. 30-mark practical exam based on Java programming. Students complete a minimum of about 20 lab assignments across the year plus ONE project based on the syllabus. In the exam, candidates plan and hand-write a Java program, then key-in and execute it on seen and unseen inputs, attaching the program listing and output to the answer script.

#	UNIT AND TOPICS	MARKS
1	Computer Systems and Number Representation Number systems: binary, octal, decimal, hexadecimal and inter-conversions; Integer encodings: sign-magnitude, one's and two's complement representation; Floating-point representation; character encoding (ASCII, ISCII, UNICODE); High-level structure of a computer: block diagram, functional units and data flow	—
2	Boolean Algebra and Computer Architecture Propositional (Boolean) logic, logic gates: AND, OR, NOT, NAND, NOR, XOR, XNOR; Truth tables, basic logic circuits and half/full adders; Basic architecture of a simple processor and instruction set; Memory units and types: RAM, ROM, cache and secondary storage	—
3	Software and Algorithmic Problem Solving System and application software; operating system basics, booting; Process, memory and file management overview; Introduction to algorithmic problem solving using Java; Designing and expressing algorithms for problems	—
4	Object-Oriented Programming with Java Objects as data (attributes) and behaviour (methods/functions); Classes, objects and the object-oriented paradigm; Primitive values, wrapper classes, data types and type casting; Variables, expressions, operators and operator precedence	—
5	Statements, Control Flow and Functions	—

#	UNIT AND TOPICS	MARKS
	Statements, scope and variable visibility; Conditional statements: if, if-else, nested if, switch; Iterative statements: while, do-while, for; jump statements; Functions/methods: arguments, return values and static members	
6	Arrays and Strings Single and multi-dimensional arrays; address calculation (row-major, column-major); Sorting techniques: bubble, selection and insertion sort; Searching techniques: linear and binary search; Java String class and basic string operations	—
7	Elementary Data Structures and Implementation Stacks, queues and deques as elementary data structures; Recursion and recursive problem solving; Basic file input/output in Java; Implementation of algorithms in Java to solve problems	—
8	Social Context of Computing Intellectual property rights, software licensing and copyrights; Privacy, data security and computer-related crimes; Ethical issues and professional responsibility in IT; New developments and emerging trends in information technology	—

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