

ICSE Class 9 Computer Applications

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

UNITS 12	SESSION 2026-27
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Exam pattern. Theory: one written paper of 2 hours for 100 marks (Section A compulsory short-answer questions, ~40 marks, covering the whole syllabus; Section B with choice, ~60 marks). Internal Assessment: 100 marks, based on practical lab assignments completed through the year.

Practical. Internal Assessment (100 marks) through practical Java/BlueJ lab work. Students complete a minimum of 20 lab assignments across the year to reinforce concepts covered in class, evaluated by the subject teacher.

#	UNIT AND TOPICS	MARKS
1	Introduction to Object Oriented Programming Concepts Principles of Object Oriented Programming; Difference between Procedure Oriented and Object Oriented programming; Concepts of OOP: encapsulation, inheritance, polymorphism, abstraction; Data abstraction and data hiding	—
2	Introduction to Java History and features of Java; Types of Java programs: Applets and Applications; Java compilation process; Java source code, Byte code, Object code; Java Virtual Machine (JVM)	—
3	Elementary Concept of Objects and Classes Modelling entities and their behaviour using objects; Class as a group of objects / a user-defined data type; Class as a blueprint and object as an instance; Objects encapsulating state (data members) and behaviour (methods)	—
4	Values and Data Types Character set, ASCII code, Unicode; Escape sequences; Tokens: keywords, identifiers, literals, punctuators, operators; Constants and variables; Primitive and non-primitive (composite) data types; Type conversion: implicit (coercion) and explicit (casting)	—
5	Operators in Java Forms of operators: unary, binary, ternary; Arithmetic, relational, logical, assignment operators; Increment and decrement operators (prefix and postfix); Short-hand / compound assignment operators; Precedence and associativity of operators; new operator for dynamic memory; dot operator to access class members; Evaluation of expressions	—

#	UNIT AND TOPICS	MARKS
6	Working with Methods Defining and using methods; Method signature, parameters and return type; Pure and impure methods; Calling methods and passing arguments	—
7	Input in Java Initialization vs parameters vs run-time input; Introduction to packages; Input stream using the Scanner class; Scanner methods: nextInt(), nextLong(), nextShort(), nextFloat(), nextDouble(), next(), nextLine(), next().charAt(0); Types of errors: syntax, runtime and logical errors	—
8	Mathematical Library Methods Introduction to the package java.lang (default); Methods of the Math class (pow, sqrt, abs, max, min, round, random, cbrt, ceil, floor, etc.)	—
9	Conditional Constructs in Java if, if-else, if-else-if ladder; Nested if statements; switch-case, default, break and fall-through; Menu-driven programs; System.exit(0) to terminate a program; Ternary operator as a conditional construct	—
10	Iterative Constructs in Java Concept and types of loops; Entry-controlled loops: for and while; Exit-controlled loop: do-while; Variations in looping statements; Jump statements: break and continue; Inter-conversion between for, while and do-while (finite and infinite loops)	—
11	Nested for Loops Concept of loops within loops; Generating patterns of numbers, characters and symbols; Series and table programs using nested loops	—
12	Computing and Ethics Ethical use of computers and software; Intellectual property rights, plagiarism and software piracy; Open-source vs proprietary software; Responsible and safe computing	—

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