CBSE Class 11 Informatics Practices (IP)

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

UNITS	THEORY MARKS	SESSION
4	70	2026-27

Exam pattern. Total 100 marks: Theory 70 marks (Unit 1: 10, Unit 2: 25, Unit 3: 30, Unit 4: 5) + Practical 30 marks.

Practical. Practical component carries 30 marks: Problem solving using Python (11), Creating a database in MySQL and performing queries (7), Practical file with a minimum of 14 Python programs and 14 SQL queries (7), and Viva-Voce (5). Suggested practicals include average/grade calculators, interest and EMI/GST computations, list and dictionary problems, and SQL tasks such as creating a student table, inserting records, and filtering by marks or date ranges.

#	UNIT AND TOPICS	MARKS
1	**Unit 1: Introduction to Computer System** Introduction to computer and computing: evolution of computing devices; Components of a computer system and their interconnections; Input/output devices; Computer Memory: units of memory, primary and secondary memory; Data deletion, its recovery and related security concerns; Software: purpose and types - system and application software; Generic and specific purpose software	10 marks
2	**Unit 2: Introduction to Python** Basics of Python programming; interactive and script execution modes; Structure of a program, indentation, identifiers, keywords, constants, variables; Types of operators and precedence of operators; Data types, mutable and immutable data types, statements and expression evaluation; Comments, input and output statements, data type conversion, debugging; Control statements: if-else, if-elif-else, while loop, for loop; Lists: creating, initializing, traversing and manipulating; list methods and built-in functions - len(), list(), append(), insert(), count(), index(), remove(), pop(), reverse(), sort(), min(), max(), sum(); Dictionaries: key-value pairs, creating, initializing, traversing, updating, deleting; methods - dict(), len(), keys(), values(), items(), update(), del(), clear()	25 marks
3	**Unit 3: Database Concepts and the Structured Query Language** Introduction to database concepts and its need; Database Management System; Relational data model: domain, tuple, relation, candidate key, primary key, alternate key; Advantages of SQL; DDL, DQL and DML; Introduction to MySQL; creating a database; data types; Data Definition: CREATE DATABASE, CREATE TABLE, DROP, ALTER; Data Query: SELECT, FROM, WHERE with relational operators, BETWEEN, logical operators, IS NULL, IS NOT NULL; Data Manipulation: INSERT, DELETE, UPDATE	30 marks
4	**Unit 4: Introduction to Emerging Trends**	5 marks

#	UNIT AND TOPICS	MARKS
	Artificial Intelligence, Machine Learning, Natural Language Processing; Immersive experience (AR, VR), Robotics; Big Data and its characteristics, Internet of Things (IoT), Sensors, Smart cities; Cloud Computing and Cloud Services (SaaS, IaaS, PaaS); Grid Computing, Blockchain technology	