

CLASS XI INFORMATION PRACTICES (PYTHON & MySQL)
[AS PER CBSE SYLLABUS]

<u>UNIT</u>	<u>UNIT NAME</u>	<u>MARKS</u>
1	Introduction to Computer System	10
2	Introduction to Python	25
3	Database concepts and the Structured Query Language	30
4	Introduction to Emerging Trends	5

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, types of memory – primary and secondary, data deletion, its recovery and related security concerns.
- **Software:** purpose and types – system and application software, generic and specific purpose software.

Unit 2: Introduction to Python Coding

- **Python programming,** Python interpreter - interactive and script mode
 - The structure of a program, indentation, identifiers, keywords, constants, variables
 - Types of operators, precedence of operators, data types, mutable and immutable data types
 - statements, expressions, evaluation and comments, input and output statements
 - data type conversion, debugging.
- **Control Statements:**
 - Conditional statement (if, if-else, if-elif, nested if)
 - Looping Statement (for loop, while loop)
 - Jump Statement (break, continue)
 - **Nested Loops**
- **Lists:** list operations
 - creating, initializing, traversing and manipulating lists
 - list methods and built-in functions.
- **Dictionary:** concept of key-value pair
 - creating, initializing, traversing, updating and deleting elements
 - Dictionary methods and built-in functions.

Unit 3: Database concepts and the Structured Query Language (MySQL)

- **Database Concepts:** Introduction to database concepts and its need
 - Database Management System.
- **Relational data model:** Concept of domain, tuple, relation
 - candidate key, primary key, alternate key
- Advantages of using Structured Query Language (SQL)
 - Data Definition Language, Data Query Language and Data Manipulation Language
- Introduction to MySQL, creating a database using MySQL, Data Types
- **Data Definition:** CREATE TABLE
- **Data Query:** SELECT, FROM, WHERE.
- **Data Manipulation:** INSERT

Unit 4: Introduction to the Emerging Trends

- Artificial Intelligence (AI), 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, Block chain technology.

Key Features: → Theory + Practical Sessions → Assignments → Backup Classes

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