Class 9 Computer Science Syllabus

Unit 1: Basics of Computers

- Introduction to Computers

- Evolution of Computers (History & Generations: 1st to 5th)

- Classification of Computers (Supercomputers, Mainframes, Mini, Micro)

- Computer Components:

  - Hardware: Input, Output, Processing, Storage Devices

  - Software: System Software, Application Software, Utility Software

- Number System (Binary, Decimal, Octal, Hexadecimal)

- Memory Units (Bit, Byte, KB, MB, GB, TB)

Unit 2: Operating System and GUI

- Introduction to Operating Systems

- Types of Operating Systems (Single-User, Multi-User, Real-Time OS)

- Functions of an Operating System

- Examples: Windows, Linux, macOS, Android

- Basics of Graphical User Interface (GUI)

- File Management (Creating, Renaming, Deleting Files & Folders)

Unit 3: Office Automation Tools

- Word Processing (MS Word, Google Docs, LibreOffice Writer)

- Spreadsheet (MS Excel, Google Sheets, LibreOffice Calc)

- Presentation Software (MS PowerPoint, Google Slides, LibreOffice Impress)

Unit 4: Programming in Python

- Introduction to Programming

- Basics of Python (Data Types, Variables, Operators, Conditions, Loops, Functions, Lists, Tuples)

Unit 5: Algorithm and Flowcharts

- Understanding Algorithms

- Writing Pseudocode

- Flowcharts (Using Symbols: Start, Input, Process, Output, Decision)

- Examples of Simple Flowcharts

Unit 6: HTML and Web Development

- Introduction to HTML
- Basic HTML Tags (<html>, <head>, <title>, <body>, <h1> to <h6>, <p>, <a>, <img>)
- Creating Simple Web Pages
- Introduction to CSS (Inline and Internal CSS)

Unit 7: Database Management System (DBMS)
- What is a Database?
- Introduction to DBMS
- Advantages of Using Databases
- Basic SQL Commands (CREATE TABLE, INSERT, SELECT, UPDATE, DELETE)

Unit 8: Networking and Internet
- Introduction to Computer Networks
- Types of Networks: LAN, WAN, MAN
- Network Devices: Router, Switch, Modem
- IP Address, Domain Name System (DNS)
- Internet and Web Services (Cloud Computing, Search Engines, Email)

Unit 9: Cyber Security and Digital Awareness
- Cyber Threats (Viruses, Worms, Phishing, Hacking)
- Safe Internet Practices (Strong Passwords, Secure Websites)
- Cyber Laws and Ethics
- Digital Footprint and Online Safety

Unit 10: Emerging Technologies (AI, ML, IoT)
- Basics of Artificial Intelligence (AI)
- Machine Learning (ML) and Its Applications
- Internet of Things (IoT)
- Ethical Concerns in AI