

CAREERS360
PREPARATION Series

PSEB 11th

Computer Science Syllabus

Syllabus - Computer Science
Session 2024-25
Class 11th

❖ Web Designing with HTML

- Introduction, What is Good Web Design – Simplicity, Consistency, Typography & Usage Text, Multidivisional Design, Pictures, Videos and Audio, Communication and Address, Social Sharing Feature, (F) Design
- Phases of Website Development
- HTML Concept, HTML's Role in the Web, Structure of HTML Documents-Head Part, Body Part; HTML Editor
- **Working with Links and Images:** Working with Links (using href, target, title attributes), Working with Images (using src, alt, width, height, title attributes)
- **Style Sheets:** Benefits of CSS; Types of Style Sheets-Inline style, Internal style sheet, External style sheet; CSS Syntax; CSS Selectors- The Element Selector, The ID Selector, The CLASS Selector, Grouping Selectors
- **Different Style Sheet Properties:** CSS Background, Text, Fonts, Links, Lists, Border, Margin, Padding Properties, CSS Box Model; Example Program for CSS Properties

❖ Usage of Internet

- Internet, Internet Service Provider (ISP), Web Browsers, Bookmarks and Favourites, Identify Secure Sites (HTTPS, Lock Symbol)
- **Internet & its Application:** Communication (What Are the Advantages of Internet Communication, What Are the Types of Internet Communication), Job Search (Ways to use the Internet for your job search: Job search engines, Social Media, Visit employer websites to look for jobs and work opportunities), Online Shopping (Some famous online stores, How to buy a product through online shopping, Advantages and Disadvantages of Shopping Online), Travel (How Internet helps in Travelling, Facility of Fastag in travelling, What are the benefits of using FASTag), Social Networking (Facebook, YouTube, WhatsApp, Instagram, Twitter)
- **Internet Search:** Search Engines (Google.com, Bing.com, Wikipedia.com, Encyclopedia.com), Search Techniques (By Using Specific Keywords, By Simplify Your Search Terms, By Using Quotation Marks, By Removing

Unhelpful Words, Search Using Operators, Combination Searches, Search a Specific Site, Finding Related Sites, Image Search News Search, Map Search)

- Internet and World Wide Web
- **Internet Security:** Internet Threats-Hackers, Viruses, Spyware, Worms, Phishing, Spamming; Ways to protect from the threats

❖ **Cyber Threats and Security**

- Introduction, What is Cyber?,
- **Cyber Threats/Attacks:** Cyber Threat/Attack Types-Stalking, Piracy, Phishing, Hacking, Spamming, Email Spoofing, Denial of Service Attack /DOS Attack, Web Jacking, Internet Time-Theft, Salami Attack, Data Diddling
- **Causes of Cyber Threats/Attacks:** Easy Access to the Internet, Lack of Technical Information, Non-Use of Security and Privacy, Criminal Wisdom or Feeling of Revenge, Ignorance of IT Crime and Law, Excessive Use of Mobile Technology and Social Media
- **Malware & Its Variants:** Adware, Spyware, Viruses, Ransom ware, Computer Worms, Trojan Horse, Browser Hacking / Hi-Jacking Software, Steelware
- **Cyber Security & Techniques:** What is Cyber-Security Technology and its Types- Authentication, Strong Password, Encryption, Antivirus, Firewall, Digital Signatures
- Cyber Space & WWW
- Introduction to IT Act 2000: Objectives of the IT Act, Features of the IT Act

❖ **Computer System and Maintenance**

- Introduction, Computer Maintenance and Security
- **Preventive Maintenance:** Basic Guidelines for Preventive Maintenance
- Booting and Safe mode Problems: How to Start Windows in Safe Mode, How to Fix Your PC in Safe Mode-Scan for Malware, Run System Restore, Uninstall Recently Installed Software, Update Hardware Drivers, To check system crashes
- **Installation of Device Drivers:** Download the drivers manually, How to install the driver; Plug and Play Hardware Installation

- Type of Ports: Serial Port, Parallel Port, PS/2 Port, Universal Serial Bus (or USB) Port, VGA Port, Power Connector, Modem Port. Ethernet Port. Digital Video Interface, DVI port
- PC Security Tools: Importance of PC Security tools
- Software Update and Upgrade
- **MS Office Installation:** Installing MS Office, Activation instructions
- Introduction to Windows Operating Systems: Windows 10, Windows 8.1, Windows 7
- Introduction to Thin Client Technology
- **Control Panel:** Display Properties, Mouse and Keyboard, Date and Time, Devices and Printers, Regional Settings, Fonts
- **Utility Programs:** File Compression tools, Disk Defragmentation, Disk Clean-up, Backup and Restore
- Shutting Down Options: Switch User, Log Off, Lock Screen, Restart, Sleep, Hibernate, Shut Down or Turn Off

❖ **DBMS**

- Introduction, Database, DBMS, Application Areas of DBMS, Data Base Life Cycle, DBMS Working-Designers, Administrators, End Users
- **Architecture of DBMS:** 1-tier DBMS architecture, 2-tier DBMS architecture, 3-tier DBMS architecture
- **Features/ Characteristics of DBMS:** Reducing Data Redundancy, Sharing of Data, Data Integrity, Data Security, Privacy, Backup and Recovery, Data Consistency
- **Limitations of DBMS:** Setup Cost, Database Complexity, Technical staff requirement, Database Failure, Performance
- Cloud Database

❖ **Concept of Programming and Programming Languages**

- Introduction, Concept of Program and Programming, Programming Languages
- **Types of Programming Languages-** Low Level Languages: Machine Language (Advantages and Disadvantages of Machine Language) Assembly Language (Advantages and Disadvantages of Assembly Language); High Level

Languages: Procedural or Procedure Oriented Languages, Problem-Oriented or Non-Procedural Languages, Object-Oriented Programming Languages, Logic-Oriented languages (Advantages and Disadvantages of High-Level Languages)

- **Language Translator:** Assembler, Interpreter and Compiler
- **Programming Process:** Defining the problem, Planning the Solution (Algorithms, Basic Examples of Algorithms, Flow Charts: Symbols used for flow-charts, Basic Examples of flow charts), Coding the Solution, Compile the program, Testing and Debugging the Program (Syntax Errors, Logical Errors), Documenting the Program

❖ **Introduction to C and Basic Structure of C Program**

- Introduction and History of C, Why C is called Middle Level Language
- Introduction to C Editors & IDEs: Turbo C, Code::Blocks
- Creating and Executing C Programs, Getting Started with C
- Character set
- **Tokens:** keywords, Identifiers-Naming Rules, Literals (Numeric Literals, Character Literals), Operators, Special Symbols
- Concept of variables & constants and their declarations, Data types – Primitive Data types only
- Header files (stdio.h, conio.h, math.h, string.h) in C, Input and Output Statements in C-scanf() and printf() functions, Structure of a C program

❖ **Operators and Expressions in C**

- Introduction and Concept of Operator and Operand
- **Expressions:** Numerical Expressions, Logical or Conditional Expressions
- Types of Operators according to number of Operands: Unary operators, Binary operators, Ternary Operator
- **General Classification of Operators:** Arithmetic Operators, Relational Operators, Logical Operators, Assignment Operators, Bitwise Operators, Increment & Decrement Operators (prefix and postfix), Conditional Operators, Additional Operators (sizeof operator)
- **Type Conversion:** Implicit Conversion, Explicit Conversion
- Precedence of Operators