aglasem.com

FOR PUNJAB CLASS 9 PREPARATION

PSEB 9th Class Syllabus 2027 Computer Science

EXAM	YEAR	TYPE	SUBJECT
Punjab Class 9	2027	Syllabus	Computer Science

SYLLABUS – COMPUTER SCIENCE

(SESSION: 2026-27)

9TH CLASS

Unit-I

CHAPTER 1: NETWORKING AND DIGITAL COMMUNICATION

- Human vs. Digital Communication: Why do humans and computers communicate? Introduction to Digital Communication.
- Data Communication: Components of Data Communication (Sender, Medium, Receiver, Protocol), Transmission Media (Wired: Ethernet, Coaxial, USB, HDMI and Optical fibre' Wireless: WiFi, Bluetooth, Infrared, Mobile networks, Satellite signals), Modes of Data Transmission: Simplex, Half Duplex, Full Duplex
- Introduction to Computer Networks, How information travels in a network?, Speed parameters in Digital Netowkrs: Ping, Download, Upload,
- Components of a Computer Network: Client and Server Computers, Ethernet Port, Hub, Switch, Router, Bridge, Gateway, Transmission Media.
- Network Topologies: Bus, Ring, Star, Mesh, Tree, Hybrid, Advantages and Disadvantages of each topology
- Types of Networks: PAN, LAN, MAN, WAN (with real-life examples)

CHAPTER 2: INTERNET APPLICATIONS

- Introduction to the Internet and World Wide Web, Web Browsers and Websites, URL, Web Applications (apps), Introduction to Google Chrome Web Browser, Page Translation features, CAPTCHA, Trusted stores for Applications
- Online Search and Information Access: Using Search Engine, Search Query, Image Search, Google Lens, Trusted Websites, Using AI Chatbots, Google Maps
- Learning from Videos: Playback Speed, Subtitles, Auto-Translation
- Cloud-based Applications for Creating Digital Contents: Documents, Presentations, Spreadsheets, Websites and Forms; Applicable Siutations for these Apps; Creating a Google Form
- Online Communication and Collaboration: Voice Call, SMS, Chat, Email, Cloud Documents (Storage and Sharing), Online Meetings, Downloading and Uploading, Handling Notifications.
- Emails: Historic significance of Email, Email Communication using Gmail (Creating and using email accounts; Sending, receiving, and replying emails)
- How to create, upload, download, and share files in cloud storage (Google Drive)?
- Digital Photo Albums and Social Media,
- Managing Time and Tasks: Google Calendar, Google Keep

Unit-II

CHAPTER 3: E-GOVERNANCE AND CYBER SAFETY

- Introduction to E-Governance, its meaning and need
- Difference between Governance and E-Governance
- Purposes and Advantages of Various Models of E-Governance: G2C, G2B, G2E, G2G
- Foundations of E-Governance: Connectivity, Skilled People, Data & Content, Investment
- E-Governance Services: National Level, State Level, Local Level (Urban and Rural)
- Online Official Document Storage and DigiLocker
- Internet Threats: Virus, Spyware, Trojan Horse, Phishing
- Safe Online Habits, Protection Against Online Fraud
- Cyber Crime and Cyber Ethics: Computer as a target and as a weapon, Ethical use of digital technologies

CHAPTER 8: DATABASE MANAGEMENT SYSTEM

- Data and Information: Raw Data vs Processed Information
- Introduction to Database and its Terminology: Entity, Attribute, Record, Table, Keys (Primary Key and Foreign Key), Relationships between Entities (One-to-One, One-to-Many, Many-to-Many)
- Limitations of Spreadsheet-based Data Management
- Introduction to Database Management System (DBMS) and its need
- Components of DBMS Environment: Hardware, Software (Operating System, DBMS, Business Applications, Tools), Data, Procedures, Users (End Users, Specialists such as Data Analysts, Business Users, Technical Users such as Database Administrators, Database Designers, Developers or Application Programmers)
- Database Operations and SQL: Data Definition (DDL), Data Manipulation (DML), Data Control (DCL)

Unit-III

CHAPTER 4: MICROSOFT EXCEL (PART-1) – SPREADSHEET BASICS

- Introduction to Spreadsheets; Uses of Spreadsheets
- Essential Spreadsheet Concepts: Grid (rows, columns, cells), Table structure with attributes as column headers and rows as records.
- Spreadsheet Interface and Components: File, Workbook and Worksheet controls, Options and Commands, Active Cell, Name box and Formula bar, Display Area, Spreadsheet View controls.
- Working with Spreadsheets: Entering and Editing Data, Selecting and Managing Cells, Using Fill Handle and Copy–Paste, Working with Data Series, Data Formats

- Basic Formatting: Font Style, Alignment, Cell formatting—Borders and Colours, Printing: Print Area, Print Preview, Page Layout, Headers, Footers, Gridlines
- Introduction to Visualizing Data Summaries

CHAPTER 5: MICROSOFT EXCEL (PART-2) – CALCULATIONS AND DECISION MAKING

- Basic Calculations using Formulas: Operators and Operands
- Copying Formulas and Cell Referencing: Relative, Absolute, Mixed References
- Arithmetic Operators in formulas and their Precedence
- Using functions for calculations in Excel Sheets, Mathematical and Counting Functions: SUM, AVERAGE, MIN, MAX, ROUND, LARGE, RANK
- Using Formulas for Making Decisions: Conditional Operators (=, <, <=, >, >=. <>), Conditional Functions (IF, COUNTIF, SUMIF) and Logical Functions (AND, OR)
- Conditional Formatting

Unit-IV

CHAPTER 6: MICROSOFT EXCEL (PART-3) – CLEANING AND CONNECTING DATA

- Data Consistency and Data Quality: Identifying and Removing Duplicate Records, Sorting Data, Manual Data Cleaning using Find and Replace
- General functions used on text data: LEN, ISNUMBER, Count Values: COUNT , COUNTA , COUNTBLANK,
- Standardising and Cleaning textual data: TRIM, UPPER, LOWER, PROPER
- Extracting Parts of Text: LEFT, RIGHT, MID
- Combining and Splitting Text: Concatenation operator, CONCAT, TEXTJOIN, TEXTSPLIT
- Finding Text within a Larger String: SEARCH and FIND
- Working with Dates and Times: TODAY, NOW, DAY, MONTH, YEAR, DATEDIF, TEXT
- Defining Named Ranges and Using them in Data Validation
- Connecting Related Data Across Spreadsheets Using Unique Identifiers: XLOOKUP

CHAPTER 7: MICROSOFT EXCEL (PART-4) – DATA ANALYSIS AND VISUAL REPORTING

- Preparing Data for Analysis: Organising and categorising data
- Using Filters: Category Filters, Text Filters, Number Filters, Colour Filters, Combining Multiple Filters for Decision Making
- Introduction to Pivot Tables: Creating Pivot Tables using Rows, Columns, Values, Filters
- Summarising Data Using Pivot Tables: Count, Sum, Average, Analysing Group-wise Performance
- Using Charts for Visual Reporting: Purpose of Visual Reporting, interactive charts with Pivot Tables, Common Chart Types, Customisation of Charts, Using charts to Identify Trends and Comparisons

aglasem.com For more Question Papers, Sample Papers, Notes & Syllabus visit aglasem.com