

Computer Knowledge

Important Points for Revision

1. Selecting the Entire Document in MS Word

- **Shortcut Key:** Use Ctrl + A.
- **Alternative Methods:**
 - On the Home tab, in the Editing group, click **Select** > **Select All**.
 - Move the pointer to the left of any text until it turns into a right-pointing arrow, then triple-click.

2. Programming Language for Applets

- **Language :** Java.
- **Features of Java:**
 - Concurrent, class-based, object-oriented.
 - "Write once, run anywhere" (WORA) capability.
 - Developed by James Gosling at Sun Microsystems in 1995.
 - Popular for client-server web applications.

3. Cybernetics

- **Definition:** The study of control and communication in animals and machines.
- **Origin:** Defined by Norbert Wiener in 1948.
- **Modern Use:** Refers to technology-based control systems.

4. Traditional Mouse and Mouse Pad

- **Purpose of Mouse Pad:** Provides friction for better movement.
- **Functions of a Mouse:**
 - Move the cursor.
 - Select items with clicks.
 - Access menus using right-click.

5. Toggle and Modifier Keys

- **Toggle Keys:**
 - Caps Lock: Capitalizes all letters.
 - Num Lock: Enables number input from the keypad.
 - Scroll Lock: Scrolls through content.

- **Modifier Keys:**
 - Shift, Alt, Ctrl, Fn.

6. Number Systems

- **Hexadecimal:** Includes 0-9 and A-F.
- **Other Systems:**
 - Decimal: 0-9.
 - Binary: 0, 1.
 - Octal: 0-7.

7. Titan Supercomputer

- **Country:** USA.
- **Details:** Cray XK7 system used at Oak Ridge National Laboratory.

8. Booting a Computer

- **Booting:** Loading the operating system.
- **Types:**
 - Cold Boot: Starting from an OFF position.
 - Warm Boot: Restarting without completely turning off.

9. COBOL Programming Language

- **Full Form:** Common Business-Oriented Language.
- **Use:** Business, finance, and administrative systems.
- **Generation:** Second-generation computers.

10. Examples of Web Browsers

- **Firefox:** Developed by Mozilla Foundation.
- **Chrome:** Developed by Google.

11. Gutter Margin

- **Definition:** Additional margin for binding in page layouts.
- **Placement:** Inside edge of pages in facing layouts.

12. ASCII Code

- **Full Form:** American Standard Code for Information Interchange.
 - **Purpose:** Numerical representation of characters and actions.
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13. Microsoft Windows Versions

- **Non-Version:** Windows NE.
 - **Features:** GUI, multitasking, virtual memory, and peripheral support.
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14. Input vs. Output Devices

- **Output Devices:** Monitor, speakers, printer, projector.
 - **Webcam:** Example of an input device.
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15. Domain Names

- **.com:** Commercial.
 - **.gov:** Government.
 - **.org:** Non-Profit Organization.
 - **.int:** International Treaties.
 - **.mil:** Military.
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16. Fork in Computing

- **Definition:** A process creating a copy of itself.
 - **Use:** Process creation in Unix-like systems.
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17. Assembly Language

- **Definition:** Low-level programming language for specific processors.
 - **Conversion:** Compiled to machine code using an assembler.
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18. DirectX APIs

- **Developer:** Microsoft.
 - **Purpose:** Multimedia tasks, especially gaming and video.
 - **Examples:** Direct3D, DirectSound, DirectMusic.
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19. Mobile Commerce (m-Commerce)

- **Definition:** Delivery of e-commerce via wireless technology.
- **Examples:** Mobile ticketing, vouchers, coupons.

20. Home Button in Web Browsers

- **Purpose:** Returns to a designated start page or personalized web page.

21. Zipping of a file

- **Definition:** Method of lossless data compression.
- **Key Points:**
 - Archive format containing one or more compressed files.
 - File extensions: .zip or .ZIP.

22. Central Computer or Program

- **Term:** Server.
- **Key Points:**
 - Provides functionality for other devices or programs (clients).
 - Follows a client-server model.
 - Examples of services: Data/resource sharing, computation.

23. Non-Graphical Web Browser

- **Definition:** Browsers supporting only text, not graphics.
- **Examples of Graphical Browsers:** Internet Explorer, Firefox, Safari, Chrome.
- **Non-Graphical Example:** Apache (HTTP server).

24. XP

- **Stands for:** Extreme Programming.
- **Key Points:**
 - Agile software development methodology.
 - Frequent releases, short cycles.
 - Improves software quality and customer responsiveness.

25. Data Descriptions in Databases

- **Term:** Data Dictionary (Metadata Repository).
- **Key Points:**
 - Centralized information repository about data.

- Defines name, data type, and length of each field.

26. Programming Language for Applets

- **Language:** Java.
- **Key Points:**
 - Small programs for specific tasks.
 - Runs within a larger program or web page.

27. Parent Company of Google

- **Term:** Alphabet Inc.
- **Key Points:**
 - Established in 2015.
 - Parent company for Google and other subsidiaries.

28. Properties of Fiber Optic

- **Functionality:** Works on light refraction at critical angles.
- **Key Points:**
 - Core made of high-quality glass or plastic.
 - Two modes: Single-mode (single ray) and Multi-mode (multiple rays).
 - Speed and special connectors: SC, ST, MT-RJ.

29. Hexadecimal Number System

- **Base:** 16.
- **Characteristics:**
 - Digits: 0-9; Letters: A (10) to F (15).
 - Positions represent powers of 16.

30. Computer Viruses

- **Examples:** WannaCry, Code Red, Melissa.
- **Definition:** Malicious software loaded without user knowledge.
- **First Virus:** Elk Cloner (1982).

31. PROM

- **Full Form:** Programmable Read-Only Memory.
- **Key Points:**

- Permanent digital memory.
- Data cannot be changed once programmed.

32. System Software

- **Definition:** Files and programs forming an operating system.
- **Examples:** Assemblers, compilers, system utilities, drivers.

33. Real-Time Operating System

- **Definition:** Processes inputs with minimal delay.
- **Examples:** VRTX, RT Linux, Lynx.
- **Applications:** Medical imaging, air traffic control.

34. Bits in IPv4

- **IPv4 Address Length:** 32 bits.
- **IPv6 Address Length:** 128 bits.

35. Blu-ray Disc Capacity

- **Single Layer:** 25 GB.
- **Dual Layer:** 50 GB.

36. Permanent Memory in Computers

- **Term:** Read-Only Memory (ROM).
- **Key Points:**
 - Non-volatile memory.
 - Stores firmware and low-level programs.

37. Mini Computers

- **Definition:** Smaller versions of large computers.
 - **Key Points:**
 - Features of large computers.
 - Moderate physical size.
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38. Processing

- **Definition:** Transforming input into output.
 - **Key Points:**
 - Involves executing program instructions.
 - Multiple processes may run concurrently.
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39. 'E' in EPROM

- **Stands for:** Erasable.
 - **Key Points:**
 - Data erased using ultraviolet light.
 - Used for firmware storage.
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40. Non-Impact Printers

- **Examples:** Laser Printers, Inkjet Printers.
 - **Comparison with Impact Printers:**
 - Non-Impact: No physical contact; page printing.
 - Impact: Physical contact; uses ribbon (e.g., Dot-Matrix Printer).
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41. Programming Language for Smart Contracts

- **Language:** Solidity.
 - **Key Points:**
 - Designed for writing smart contracts on Ethereum.
 - Open-source, governed by Ethereum Foundation.
 - Statically-typed language for Ethereum Virtual Machine (EVM).
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42. API

- **Definition:** Application Programming Interface.
 - **Key Points:**
 - Set of rules enabling software communication.
 - Facilitates integration of different software systems.
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43. Non-Relational Database

- **Term:** NoSQL Databases.
- **Examples:** MongoDB, Cassandra, Redis, Neo4j.
- **Categories:** Key-value stores, Graph stores, Column stores, Document stores.

44. Ctrl+F4 in MS Word

- **Function:** Closes the current document.
 - **Additional Shortcut:** Alt+F4 closes all open documents and exits Word.
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45. JPEG

- **Full Form:** Joint Photographic Experts Group.
 - **Key Points:**
 - Lossy compression format for digital images.
 - File Extensions: .jpg, .jpeg, .jpe, .jif, .jfif, .jfi.
 - Supports up to 24-bit color.
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46. Primary Key in Databases

- **Purpose:**
 - Uniquely identifies records.
 - Ensures data integrity and prevents duplicates.
 - Establishes relationships between tables.
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47. DDoS

- **Full Form:** Distributed Denial of Service.
 - **Key Points:**
 - Cyberattack using multiple compromised systems.
 - Floods target system with traffic to disrupt services.
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48. Excel Workbook Extensions

- **Excel 97-2003 Workbook:** .xls.
 - **Excel 2010/2007 Workbook:** .xlsx.
 - **Excel 2010/2007 Template:** .xltx.
 - **Excel 97-2003 Template:** .xlt.
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49. Northbridge

- **Function:** Integrated circuit for CPU, memory, and AGP communication.
- **Key Points:**
 - Directly connects components like RAM and graphics controller.
 - Acts as a bridge to the southbridge chip.

50. Google Social Networking Site

- **Term:** Orkut.
- **Key Points:** Closed in September 2014.

51. Direct X

- **Developed By:** Microsoft.
- **Key Points:**
 - Collection of APIs for multimedia tasks.
 - Used in game programming and video rendering.

52. macOS Versions

- **Examples:**
 - Catalina (2019).
 - Mojave (2018).
 - High Sierra (2017).

53. ISCI

- **Full Form:** Indian Script Code for Information Interchange.
- **Developed By:** Bureau of Indian Standards (1986).
- **Purpose:** Coding scheme for Indian scripts and symbols.

54. Virtual Memory

- **Definition:** Temporary volatile memory on storage drive.
- **Key Points:**
 - Created when RAM is low.
 - Slower than main memory.

55. Apple Word Processor

- **Name:** Pages.
- **Key Points:**
 - Part of the iWork suite.
 - Runs on macOS, iPadOS, and iOS.

56. Social Media for B2B

- **Examples:**
 - LinkedIn (ideal for networking).
 - Twitter (relevant conversations).

57. Shortcut Keys in PowerPoint

- **New Slide:** Ctrl+M.
- **Other Shortcuts:**
 - Ctrl+N: New presentation.
 - Ctrl+B: Bold text.
 - Ctrl+K: Insert hyperlink.

58. Frames Per Second (FPS)

- **Standard Rate:** 30 fps.
- **Key Points:**
 - Ensures smooth movement.
 - Industry standard for television.

59. Example of Operating System

- **Examples:**
 - Windows.
 - macOS.
 - Linux.
- **Definition:** Manages hardware and software resources.

60. Sequential File Access

- **Definition:** Accessing data in a predetermined order.
- **Example:** Tape storage.

61. Footnote in MS Word

- **Location:** Found under the **Insert** tab.
- **Steps:**
 - Click where the footnote is needed.
 - Select **Insert > Insert Footnote**.
 - Word adds a reference mark in the text and footnote mark at the page's bottom.

62. Language for Creating Web Pages

- **Language:** HTML (HyperText Markup Language).
- **Key Points:**
 - Used to create web pages displayed on the Internet.
 - Identified by Uniform Resource Locator (URL).

63. Word Size in Microprocessors

- **Definition:** Maximum number of bits a microprocessor processes at a time.
- **Minimum Word Size:** 16 bits.
- **Current Range:** 16 to 64 bits.
- **Microprocessor Generations:**
 - 1st Gen (1971-73): 4/8 bits.
 - 2nd Gen (1974-78): 8 bits.
 - 3rd Gen (1979-80): 16 bits.
 - 4th Gen (1981-95): 32 bits.
 - 5th Gen (1995–Present): 64 bits.

64. Deep Blue Supercomputer

- **Developer:** IBM.
- **Key Points:** First computer to defeat a world chess champion under standard time controls.

65. Dumb Terminal

- **Definition:** A simple monitor with minimal processing power.
- **Key Points:** Cannot process advanced functions like screen clearing or cursor control.

66. Invalid Chart Type in Excel

- **Correct Chart Types:** Line, Pie, Scatter, Bar.
- **Invalid Chart Type:** Cube Chart.

67. A-Z Sorting in MS Word

- **Function:** Sorts text alphabetically in ascending order.
- **Steps:**
 - Highlight the column to alphabetize.
 - Select **Sort and Filter > Sort A to Z**.

68. Transition Effects in PowerPoint

- **Definition:** Motion and visual effects between slides.
- **Key Points:** Used to create smooth transitions for better presentation flow.

69. Nibble in Computing

- **Definition:** A group of 4 bits.
- **Key Points:**
 - Half of an Octet.
 - Represented by a single hexadecimal digit.

70. Joystick

- **Definition:** Input device for controlling positions and speed in video games.
- **Key Points:**
 - Provides two-dimensional and three-dimensional control.
 - Used in games, flight simulators, etc.

71. Logic Gates

- **Definition:** Basic building blocks of digital systems.
- **Examples:** AND, OR, NOT gates.

72. Social Engineering Tactic

- **Example:** Phishing.
- **Key Points:**
 - Tricks individuals into providing sensitive data.
 - Common features: Hyperlinks, urgency, unusual senders.

73. VGA Device

- **Full Form:** Video Graphics Adapter/Array.
- **Key Points:**
 - Display standard by IBM.
 - Provides 640x480 resolution with 16 colors at 60 Hz.

74. Projector

- **Definition:** Device for displaying content on large screens.
 - **Key Points:** Commonly used for presentations and videos.
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75. Shortcut to Close Current Tab in Browsers

- **Shortcut:** Ctrl + W (or Ctrl + Shift + W).
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76. WiMax Technology

- **Full Form:** Worldwide Interoperability for Microwave Access.
 - **Key Points:**
 - Based on IEEE 802.16.
 - Range: Up to 50 km.
 - Speed: Up to 70 Mbps.
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77. W3C (World Wide Web Consortium)

- **Founder:** Tim Berners-Lee.
 - **Key Points:**
 - Develops web standards.
 - Mission: Lead the web to its full potential.
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78. Thin-Film Transistor (TFT)

- **Variant of:** Liquid Crystal Display (LCD).
 - **Key Points:**
 - Active matrix display technology.
 - Faster response and better display quality.
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79. Composite Key in Databases

- **Definition:** Combination of two or more columns to uniquely identify table rows.
 - **Key Point:** Columns individually do not guarantee uniqueness.
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80. Firefox Web Browser

- **Developer:** Mozilla Foundation.

- **Key Features:**
 - Tabbed browsing, spell check, pop-up blocker, private browsing.
 - Open-source and customizable with extensions.

81. Language for Operating Systems

- **Most Appropriate Language:** Assembly Level Language.
- **Key Points:**
 - Directly runs on the processor.
 - Easier for programmers compared to machine language.
 - Used for operating systems and desktop applications.

82. Title Bar

- **Definition:** Horizontal bar at the top of a window.
- **Function:** Displays the title of the software or current document.

83. Embedded Program in GIF Images

- **Term:** Web Bug or Web Beacon.
- **Key Points:**
 - Tracks user behavior.
 - Cannot be accepted or rejected by users.

84. Parasitic Virus

- **Definition:** A virus that attaches itself to other programs.
- **Key Points:**
 - Runs with the infected program.
 - Can make changes, install itself in memory, or replicate.

85. HTTP

- **Full Form:** HyperText Transfer Protocol.
- **Purpose:** Used for retrieving HTML and other documents on the Internet.

86. Error Messages in Web Browsers

- **404 Error:** Resource not found (e.g., broken link, mistyped URL).
- **Other Errors:**

- **400:** Bad request.
- **401:** Unauthorized access.
- **403:** Forbidden access.

87. Fourth Generation Computers

- **Examples:** PUP 11, IBM 4341, DEC 10.
- **Key Points:**
 - Period: 1971–1980.
 - Used Very Large Scale Integrated (VLSI) circuits.
 - Compact, reliable, and affordable.

88. ROM

- **Full Form:** Read-Only Memory.
- **Key Points:**
 - Non-volatile memory (cannot write).
 - Stores instructions for starting a computer (bootstrap).

89. Disadvantages of Batch Operating System

- **Key Points:**
 - Lack of interaction between user and job.
 - Slow processing speed.
 - CPU idle during job preparation.

90. VPN

- **Full Form:** Virtual Private Network.
- **Purpose:** Provides secure, private connections over public networks.

91. Patch

- **Definition:** Software update that modifies code in an executable program.
- **Purpose:** Temporary fixes between full software releases.

92. Tab Movement in MS Excel

- **Command:** Press **Tab** key to move one column to the right.
- **Other Commands:**

- Shift + Tab: Move one column left.
- Ctrl + Home: Go to the first cell.
- Ctrl + End: Go to the last cell.

93. Data Storage Device

- **Term:** Hard Disk Drive (HDD).
- **Key Points:**
 - Non-volatile memory.
 - Data is accessed randomly (not sequentially).

94. Network Interface Card (NIC)

- **Definition:** Hardware component for network connection.
- **Function:** Provides a dedicated connection to a LAN or network.

95. PNG

- **Full Form:** Portable Network Graphics.
- **Key Points:**
 - Introduced in 1996.
 - Lossless compression.
 - Replaced GIF.

96. MS Word Field Insertion

- **Shortcut Key:** Ctrl + F9.
- **Function:** Inserts a blank field containing curly brackets.

97. Components of Data Transmission

- **Not a Component:** Cube Chart.
- **Components:**
 - Data, Sender, Receiver, Transmission Medium, Protocol.

98. Communication in Motherboards

- **Term:** Bus.
- **Definition:** Set of parallel electrical conducting lines linking components.

99. Enterprise Application Software

- **Definition:** Software designed to address an organization's needs.
- **Key Points:** Supports mission-critical solutions in distributed environments.

100. 'Windows Key + V'

- **Function:** Opens the Clipboard bin.
- **Other Shortcuts:**
 - Windows Key + L: Locks the device.
 - Windows Key + D: Displays/hides the desktop.
 - Windows Key + E: Opens File Explorer.

101. Communication Between Computers

- **Term:** Communication Protocols.
- **Key Points:**
 - Formal descriptions of message formats and rules for telecommunications.
 - Cover authentication, error detection, correction, and signaling.
 - Essential for digital and analog communications in computer networks.
 - Implemented in hardware and software.

102. Alternate Text for Images

- **HTML Attribute:** <alt>.
- **Function:** Provides text when an image cannot be displayed (e.g., due to slow connection, errors).
- **Use Case:** Screen readers for accessibility.

103. Screen Resolution

- **Definition:** Number of horizontal and vertical pixels on a screen.
- **Key Points:**
 - Higher resolution = more visible information without scrolling.
 - Determines the clarity and sharpness of the display.

104. Quick Save in MS Word

- **Shortcut Key:** Ctrl + S.
- **Purpose:** Saves the document instantly to prevent data loss.

105. Domain Name

- **Definition:** A human-readable address to access websites on the Internet.
- **Key Points:**
 - Easier alternative to IP addresses.
 - Comprises letters, numbers, and extensions like .com, .org, .net.

106. Malicious Program

- **Correct Option: C. Trojan Horse.**
- **Definition:** A malicious program disguised as legitimate software.
- **Other Types:**
 - Worm: Self-replicating malware.
 - Spyware: Collects user information.
 - Keylogger: Records keystrokes.

107. SmartArt Feature

- **Introduced In:** MS Office 2007.
- **Purpose:** Creates professional diagrams, including organization charts and flowcharts.

108. Accessing Email Anywhere

- **Tool:** Webmail Interface.
- **Examples:** Gmail, Yahoo Mail, AOL Mail, Outlook.com.
- **Definition:** Web-based email accessible via browsers.

109. IMAP

- **Full Form:** Internet Message Access Protocol.
- **Purpose:** Access emails on remote servers.
- **Key Points:**
 - Allows synchronization between devices.
 - Default port: 143.

110. Linux and Unix

- **Type:** Multitasking Operating Systems.
- **Purpose:** Execute multiple tasks simultaneously.
- **Examples:** Linux, Unix.

111. Active Slide in PowerPoint

- **Displayed In:** Slide Area.
- **Additional Pane:** Slide Thumbnails (to view multiple slides).

112. Read Mode in MS Word

- **Function:** Adjusts document layout to fit screen size for easier reading.
- **Key Points:** Optimizes text, images, tables, and videos for readability.

113. FORTRAN

- **Full Form:** Formula Translation.
- **Purpose:** Used for scientific, numerical, and engineering computations.
- **Applications:** Bridge design, factory automation, weather analysis.

114. Shortcut Keys in MS Word

- **Key Combinations:**
 - Ctrl + C: Copy.
 - Ctrl + V: Paste.
 - Ctrl + X: Cut.
 - Ctrl + L: Left Alignment.

115. MS Office View Tab

- **Groups:**
 - **Views:** Print Layout, Web Layout, Outline.
 - **Show:** Ruler, Gridlines, Navigation Pane.
 - **Zoom:** Adjust document view size (10%–500%).

116. Non-Object-Oriented Programming Languages

- **Examples:**
 - Object-Oriented: Java, Python, MATLAB.
 - Non-Object-Oriented: **FORTTRAN, Assembly Language, C** (not fully OOP).

117. Computer Generations

- **Examples:**
 - 1st Gen: EDSAC, UNIVAC.
 - 2nd Gen: IBM-1620, CDC-1604.
 - 3rd Gen: IBM-360 series.
 - 4th Gen: IBM 4341, PUP 11.
 - 5th Gen: Robots, AI-based systems.

118. BMP

- **Full Form:** BitMaP.
- **Definition:** Raster graphics format storing digital images.
- **Key Point:** Uses spatially mapped bits to define image pixels.

119. Types of ROM

- **Examples:**
 - PROM: Programmable once.
 - EPROM: Erasable using UV light.
 - EEPROM: Erased and programmed electrically.

120. Computer Versatility

- **Definition:** Capability to perform multiple tasks simultaneously.
- **Key Characteristics:**
 - Speed: Millions of calculations per second.
 - Accuracy: Minimal errors.
 - Diligence: Consistent performance without fatigue.
 - Versatility: Handles various operations concurrently.
 - Storage: Retains vast amounts of data for easy retrieval.

121. Flash Memory

- **Devices Without Flash Memory:** Car Radio.
- **Reason:** Traditional car radios function to receive and play AM/FM signals and do not require data storage.

122. UNIVAC

- **Full Form:** Universal Automatic Computer.

- **Key Points:**
 - First general-purpose electronic digital computer for business applications.
 - Developed by Eckert-Mauchly Computer Corporation.
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123. PHP

- **Full Form: Hypertext Pre-Processor.**
 - **Key Points:**
 - General-purpose scripting language suited for web development.
 - Used for managing dynamic content, databases, and session tracking.
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124. Storage Without Mechanical Components

- **Device: Solid-State Drive (SSD).**
 - **Key Points:**
 - Uses integrated circuits for storage.
 - Advantages: Resistant to shock, silent, lower latency, faster access time.
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125. Font Properties in MS Word

- **Menu: Format Menu.**
 - **Subitem: Font.**
 - **Function:** Allows changes to size, color, style, etc., of the text.
-

126. Minimize Workbook in MS Excel

- **Shortcut Key: Ctrl + F9.**
 - **Other Shortcuts:**
 - Ctrl + F5: Maximize window.
 - Ctrl + F4: Close workbook.
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127. Device for Hard Copies of Large Designs

- **Device: Plotter.**
 - **Use Case:** Construction drawings, architectural plans, and business charts.
 - **Types:** Drum Plotters and Flatbed Plotters.
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128. Merging Cells in MS Excel

- **Feature: Merge Cells.**

- **Function:** Combines two or more cells into one unified cell.

129. Smallest High-Speed Storage in CPU

- **Storage: Register.**
- **Function:** Directly accessible memory locations for quick data processing.

130. Memory Erased by UV Light

- **Type: EPROM (Erasable Programmable Read-Only Memory).**
- **Key Points:**
 - Erased using ultraviolet light.
 - Used in earlier BIOS chips.

131. Permanent Deletion of Files

- **Feature: Recycle Bin.**
- **Key Point:** Files are not permanently deleted until removed from the Recycle Bin.

132. Debugging Utility

- **Software Utility: Debugger.**
- **Other Tools:**
 - **Linker:** Combines object modules into executable programs.
 - **Loader:** Loads program objects into memory.

133. Gmail Labels

- **Maximum Labels: 500 (including sub-labels).**
- **Key Points:**
 - Used for organizing emails.
 - Deleting labels does not delete the associated messages.

134. Shapes Key in MS PowerPoint

- **Location: Drawing Group in Home Tab.**
- **Other Groups in Home Tab:**
 - Clipboard, Slides, Font, Paragraph, Editing.

135. DSL

- **Full Form: Digital Subscriber Line.**
 - **Key Points:**
 - Transfers internet over copper telecommunication lines.
 - High-speed internet connectivity.
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136. Network Device with CAM Table

- **Device: Switch.**
 - **Key Points:**
 - Maintains a **Content Addressable Memory (CAM)** table.
 - Has its own system configuration.
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137. Web Design

- **Definition:** Planning, conceptualizing, and arranging online content.
 - **Key Components:**
 - Appearance: Colors, fonts, images.
 - Layout: Information structure and categorization.
-

138. Excel Chart Types

- **Available Charts:** Bar, Column, Line, Pie, Scatter, Stock.
 - **Unavailable Chart: Cube Chart.**
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139. High Data Rate Connection

- **Term: Broadband.**
 - **Key Points:**
 - Uses wide bandwidth for data transmission.
 - Examples: Cable Internet, ADSL, Fiber Optics.
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140. Assembly Language

- **Definition:** Low-level programming language.
 - **Key Points:**
 - Closely tied to machine code instructions.
 - Specific to a particular computer architecture.
-

141. IP Address Classes

- **Class C IP Address:** 192 to 223 with default mask 255.255.255.0.
- **Other Classes:**
 - **Class A:** 0 to 127, Mask: 255.0.0.0.
 - **Class B:** 128 to 191, Mask: 255.255.0.0.
 - **Class D:** 224 to 247 (Not used).
 - **Class E:** 248 to 255 (Not used).

142. Default Tab in Microsoft Office

- **Tab: Home Tab.**
- **Control Groups:**
 - **Clipboard:** Copy, Paste, Cut, Format Painter.
 - **Font:** Style, Color, Size, Bold, Underline.
 - **Paragraph:** Bullets, Numbering, Alignment, Borders.
 - **Styles:** Listed Styles.
 - **Editing:** Find, Replace.

143. First Calculating Device

- **Device:** Pascaline.
- **Inventor:** Blaise Pascal.
- **Features:** Added and subtracted whole numbers using interlocked cogwheels.

144. VPN

- **Full Form:** Virtual Private Network.
- **Function:** Scrambles data sent over the Internet by creating encrypted tunnels for secure communication.

145. First-Generation Computers

- **Electronic Component:** Vacuum Tubes.
- **Examples:** EDSAC, EDVAC, UNIVAC, IBM-701, IBM-650.

146. Open-Source Operating Systems

- **Examples:**
 - **Linux Kernel, Linux Mint, Fedora, Chrome OS, React OS.**
- **Key Feature:** Freely available source code for modifications and distribution.

147. ISDN

- **Full Form: Integrated Services Digital Network.**
 - **Function:** Simultaneous digital transmission of voice, video, and data over telephone lines.
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148. First Successful Email Virus

- **Virus: ILOVEYOU.**
 - **Spread:** Via email attachments with enticing subject lines like "Love Letter for You."
 - **Year:** 2000.
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149. End Slideshow in PowerPoint

- **Shortcut Key: Esc (Escape).**
 - **Other Keys:**
 - **Tab:** Select next object.
 - **End:** Go to end of slide.
 - **Home:** Go to beginning of slide.
-

150. Close Active Window

- **Shortcut Key: Ctrl + W.**
 - **Other Commands:**
 - Ctrl + F: Select search box.
 - Ctrl + Shift + N: Create new folder.
 - Ctrl + N: Open new window.
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151. Open Find and Replace in MS Word

- **Shortcut Key: Ctrl + G.**
 - **Other Keys:**
 - Ctrl + F: Open Find Box.
 - Ctrl + K: Insert hyperlink.
 - Ctrl + M: Indent text.
-

152. Check Object Properties

- **Shortcut Key: Alt + Enter.**
- **Other Commands:**
 - Alt + Spacebar: Opens active window menu.

153. Application Software

- **Definition:** Software designed for specific user tasks like word processing, email communication, and gaming.
- **Examples:** MS Word, Excel, Gmail.

154. Windows 7

- **Launch Year:** 2009.
- **Predecessor:** Windows Vista (2006).

155. Hybrid Computers

- **Definition:** Combines features of analog and digital computers.
- **Function:** Digital for logical operations, Analog for solving complex equations.

156. Adware

- **Definition:** Freeware requiring users to view advertisements for usage.
- **Purpose:** Revenue generation for developers.

157. Data

- **Definition:** Unprocessed collection of raw facts suitable for communication, interpretation, and processing.

158. Interpreter

- **Function:** Executes programs step by step and identifies errors line by line.
- **Difference:** Unlike a compiler, it does not generate machine code in advance.

159. ISDN

- **Full Form:** Integrated Services Digital Network.
 - **Function:** Allows transmission of data, voice, and video over digital telephone lines.
-

160. DuckDuckGo

- **Definition:** A privacy-focused search engine.
- **Features:**
 - Avoids user profiling.
 - Shows identical results for the same query to all users.
- **Founder:** Gabriel Weinberg.

161. Secondary Memory

- **Definition:** Memory not directly accessible by the CPU, used for long-term storage.
- **Examples:**
 - **Hard Disk Drives (HDDs):** Magnetic storage with large capacity.
 - **Solid-State Drives (SSDs):** Flash memory, faster than HDDs.
 - **Optical Discs:** CDs, DVDs, Blu-ray discs.
 - **USB Flash Drives:** Portable and connect via USB.
 - **External Hard Drives:** HDDs or SSDs in an external enclosure.
 - **Memory Cards:** SD, microSD, CompactFlash cards.
 - **Magnetic Tapes:** For backup and archival purposes.
 - **Network Attached Storage (NAS):** File storage over a network.
 - **Cloud Storage:** Online storage services (e.g., Google Drive, Dropbox).

162. IoT

- **Full Form:** Internet of Things.
- **Definition:** Network of interconnected physical devices embedded with sensors and software to exchange data.

163. First Printer for Engineering Drawings

- **Device:** Plotters.
- **Key Points:**
 - Can print full-size engineering drawings.
 - Frequently used in CAD and CAM applications.

164. Primary Key in Databases

- **Purpose:**
 - **Uniqueness:** Ensures each record is uniquely identifiable.
 - **Data Integrity:** Prevents duplicate records.
 - **Relationships:** Links tables using foreign keys.

165. Alignment Group in MS Excel

- **Buttons in Alignment Group:**
 - **Top, Middle, Bottom Alignment.**
 - **Left, Right, Center Alignment.**
 - **Orientation, Wrap Text, Merge & Center.**
 - **Indent Decrease & Increase.**
- **Not Included: Comma Style (part of Number Group).**

166. Correct Abbreviations

- **Correct Pairs:**
 - **GPRS:** General Packet Radio Service.
 - **MICR:** Magnetic Ink Character Recognition.
 - **PNG:** Portable Network Graphics.
 - **SIM:** Subscriber Identity Module.

167. SDRAM

- **Full Form: Synchronous Dynamic Random Access Memory.**
- **Feature:** Synchronizes with the system clock for higher speeds.

168. Memory Units

- **Hierarchy:**
 - **1 Zettabyte (ZB):** 1024 Exabytes (EB).
 - **1 Yottabyte (YB):** 1024 Zettabytes (ZB).

169. High-Speed Broadband Transmission

- **Included Technologies:**
 - DSL, Cable Modem, Fiber, Satellite, Wireless, BPL.
- **Not Included:** Traditional Dial-Up.

170. Excel Formulas

- **Formula Syntax:** Begins with "=".
- **Example:** =SUM(A1:A5).

171. Functions of MS Word

- **Functions:**
 - Composition, Editing, Formatting, Printing.
 - **Not a Function:** Complex data processing (handled by Excel).
-

172. MBR

- **Full Form: Master Boot Record.**
 - **Location:** Beginning of the hard drive, contains partition table.
-

173. Microsoft Email Program

- **Program: Outlook.**
 - **Key Features:** Email, calendar management, contact storage, task tracking.
-

174. Open Task Manager

- **Shortcut Key: Ctrl + Shift + ESC.**
 - **Function:** Monitor processes, applications, and system status.
-

175. MICR

- **Full Form: Magnetic Ink Character Recognition.**
 - **Purpose:** Processes cheques quickly using machine-readable codes.
-

176. Glitch

- **Definition:** Small, fleeting error in a system due to unknown causes.
 - **Impact:** Can cause power failure, data loss, or service interruption.
-

177. PowerPoint Shortcuts

- **Close PowerPoint: Ctrl + Q.**
 - **Start Slideshow: F5.**
 - **Insert Tab: Alt + N.**
-

178. Utility Software

- **Examples:**
 - Antivirus Software.
 - Backup Software, Disk Tools.
 - **Function:** Manage and maintain computer resources.
-

179. Semiconductor Memory

- **Definition:** Memory made of semiconducting materials.
 - **Examples:** RAM, ROM.
-

180. Compiler

- **Definition:** Converts high-level language into machine code.
 - **Function:** Reports all errors with line numbers.
 - **Interpreter:** Converts and executes line by line.
-

181. Wireless Personal Area Network (WPAN)

- **Definition:** Uses wireless communication to transfer data between connected devices.
 - **Devices:** PDAs, smartphones, tablet PCs.
 - **Feature:** Known as a short wireless distance network.
-

182. Shortcut Creation in MS Excel

- **Function:** HYPERLINK.
 - **Description:** Creates a shortcut to open documents stored on a network server, intranet, or the Internet.
-

183. Java Programming Language

- **Creators:** James Gosling and Mike Sheridan.
 - **Company:** Sun Microsystems.
 - **Year:** 1990s.
 - **Key Feature:** "Write Once, Run Anywhere" (WORA) principle.
-

184. Object-Oriented Databases

- **Definition:** Stores data in the form of objects containing data and methods.
 - **Languages Supported:** Delphi, Ruby, C++, Java, Python.
 - **Examples:** TORNADO, Gemstone, ObjectStore, GBase, InterSystems Cache.
-

185. Saving a Document in MS Word

- **Ways to Save:**
 1. **File > Save.**
 2. **Ctrl + S.**
 3. **Save button.**
-

186. Dynamic Host Configuration Protocol (DHCP)

- **Definition:** Client/server protocol for automatic assignment of IP addresses.
 - **Additional Configurations:** Subnet mask, default gateway.
-

187. Foreign Key in Databases

- **Definition:** Acts as a reference between tables by pointing to a primary key in another table.
 - **Key Points:**
 - Allows null and duplicate values.
 - Identifies relationships between tables.
-

188. Word in Computing

- **Definition:** Fixed-sized piece of data handled by a processor.
 - **Key Points:**
 - **Word Size:** 8 bits to 96 bits.
 - **Nibble:** 4 bits.
 - **Bit:** 0 or 1.
 - **Crumb:** Two binary digits (rarely used).
-

189. Default Location for Installed Programs

- **Directory:** C:\Program Files or C:\Program Files (x86).
 - **Purpose:** Stores 64-bit and 32-bit applications respectively.
-

190. Shift Key

- **Function:** Capitalizes letters and enters symbols.
- **Other Keys:**
 - **Ctrl:** For shortcuts (e.g., Ctrl + S).
 - **Alt:** Used with numeric keys for shortcuts.
 - **Fn:** Controls brightness and volume.

191. Expansion Bay

- **Definition:** Open section in a computer for add-ons (e.g., hard drives, CD-ROM drives).
- **Sizes:** 3.5-inch and 5.25-inch.

192. RAID Technology

- **Full Form: Redundant Array of Independent Disks.**
- **Types:**
 - **RAID 0:** Striping (no redundancy).
 - **RAID 1:** Mirroring (redundancy).
 - **RAID 5:** Striping with parity (balance of performance and redundancy).
 - **RAID 6:** Double parity (high redundancy).
 - **RAID 10:** Combination of RAID 1 and RAID 0.

193. Print Preview in MS Word

- **Shortcut Key: Ctrl + F2.**

194. Caps Lock

- **Function:** Enables typing in uppercase without using the Shift key.

195. System Software

- **Definition:** Software that manages hardware and provides a platform for application software.
- **Examples:** Operating system, database manager, interpreter.

196. Apple Web Browser

- **Browser: Safari.**

- **Function:** Accesses and renders HTML for websites.

197. Web Hosting

- **Definition:** Service that allows organizations to make websites accessible via the WWW.

198. Resource Identification on the Web

- **Identifier:** URL (Uniform Resource Locator).

199. Private Network Communication Protocol

- **Protocol:** TCP/IP (Transmission Control Protocol/Internet Protocol).
- **Function:** Enables communication in private networks and on the Internet.

200. Shortcut Keys in MS Word

- **Keys:**
 - **Ctrl + Del:** Deletes word to the right of the cursor.
 - **Ctrl + Backspace:** Deletes word to the left of the cursor.
 - **Ctrl + End:** Moves cursor to the document's end.
 - **Ctrl + Home:** Moves cursor to the document's beginning.
 - **Ctrl + Spacebar:** Resets text to default font.

201. Parallel Port

- **Definition:** Sends or receives **8 bits (1 byte)** at a time in parallel.
- **Connector:** 25-pin female connector.
- **Uses:** Connects printers, scanners, and external hard drives.

202. Minicomputer

- **Definition:** Smaller in physical size but retains features of large computers.
 - **Uses:** Small to mid-range servers for business and scientific applications.
 - **Alternate Name:** Mid-range computer.
-

203. First Intel Microprocessor

- **Processor:** Intel 4004.
 - **Year:** 1971.
 - **Feature:** First commercially available microprocessor.
-

204. Kernel

- **Definition:** Core program of an operating system.
 - **Function:** Manages memory, CPU operations, and hardware interaction.
-

205. Impact Printers

- **Examples:** Dot Matrix, Daisy-Wheel, Ball Printers.
 - **Definition:** Use mechanical impact to transfer ink to paper.
 - **Modern Use:** Rare, replaced by non-impact printers.
-

206. Router

- **Function:** Manages traffic by forwarding data packets to their IP addresses.
 - **Secondary Use:** Allows multiple devices to share an internet connection.
-

207. IMAP

- **Full Form:** Internet Message Access Protocol.
 - **Function:** Access emails on a remote server.
 - **Port:** 143.
-

208. Deleted Emails Location

- **Folder:** Trash.
 - **Retention:** Typically retained for up to 30 days for recovery.
-

209. Protocols in Application Layer

- **Layer:** Application Layer of TCP/IP.
 - **Protocols:** HTTP, TELNET, FTP, SMTP, DNS.
-

210. Characteristics of ROM

- **Full Form: Read Only Memory.**
- **Key Features:**
 - Non-volatile, retains data permanently.
 - Used for storing software instructions.
 - Semiconductor memory type.

211. Blue Wavy Lines in MS Word

- **Indication:** Format Consistency Checker detects inconsistencies in text formatting.

212. OLE in MS Access

- **Full Form: Object Linking & Embedding.**
- **Use:** Stores audio, video, and binary large objects (up to 2GB).

213. Distributed Operating System

- **Definition:** Allows multiple users on different terminals to access a single OS.
- **Advantages:**
 - Reduces load on the host.
 - Improves operational efficiency.

214. Cell Identification in Excel

- **Definition:** Identified by **Column Letter + Row Number.**
- **Example:** Cell in Column "C" and Row "3" is C3.

215. Characteristics of Secondary Memory

- **True Characteristics:**
 - Non-volatile.
 - Larger storage capacity.
 - Slower and cheaper than primary memory.
 - Cannot be directly accessed by the CPU.

216. Email Features

- **Definition:** Exchange of messages encoded in ASCII text.
 - **Key Point:** Email is one of the earliest and most popular internet activities.
-

217. Left Panel in PowerPoint

- **Components:**
 - **Slides Panel.**
 - **Outline Panel.**
 - **Notes Panel:** Located at the bottom of the presentation.
-

218. First General-Purpose Electronic Computer

- **Name:** ENIAC (Electronic Numerical Integrator and Calculator).
 - **Inventors:** J. Presper Eckert and John Mauchly.
 - **Purpose:** Solving numerical problems.
-

219. Theme Tab in PowerPoint

- **Location:** Design Tab.
 - **Function:** Allows customization of fonts, colors, and backgrounds.
-

220. Interrupt

- **Definition:** Signal emitted by hardware or software requiring immediate attention.
 - **Function:** Temporarily stops a process to handle a higher-priority task.
-

221. SDRAM

- **Full Form:** Synchronous Dynamic Random-Access Memory.
 - **Key Features:**
 - Synchronizes with the system clock.
 - Supports up to 133 MHz system bus cycling.
 - Faster than asynchronous DRAM.
-

222. PHP

- **Full Form:** Hypertext Preprocessor.

- **Use:** Develops static websites, dynamic websites, or web applications.
- **File Extension:** .php.

223. *Shortcut Key to Close Programs*

- **Key:** Ctrl + W.
- **Other Shortcuts:**
 - Ctrl + Shift + Esc: Open Task Manager.
 - Ctrl + R: Refresh window.
 - Ctrl + Z: Undo action.

224. *Second-Generation Computers*

- **Period:** 1959-1965.
- **Component:** Transistors.
- **Features:** Cheaper, smaller, more reliable, and faster than vacuum tubes.
- **Programming Languages:** FORTRAN, COBOL.
- **Storage:** Magnetic cores (primary), magnetic tape/disks (secondary).

225. *Switching Tabs*

- **Key Combination:** Alt + Tab for applications, Ctrl + Tab for browser tabs.

226. *Fourth-Generation Computers*

- **Period:** 1971-1980.
- **Components:** VLSI circuits.
- **Examples:** STAR 1000, DEC 10, PDP 11.

227. *Operating System Examples*

- **Examples:** Windows, Linux, Android.
- **Not OS:** MS Office, Notepad, games.

228. *Worm Virus*

- **Definition:** Malicious software that replicates and spreads without a host.
- **Key Feature:** Exploits security vulnerabilities.

229. Flash Memory

- **Examples:** Pen drives, memory cards.
 - **Type:** Non-volatile electronic data storage.
-

230. High-Level and Object-Oriented Languages

- **Examples:** Java, C++, Python.
 - **Not Both:** C (not object-oriented).
-

231. First-Generation Computers

- **Component:** Vacuum Tubes.
 - **Examples:** ENIAC.
-

232. CPU Core

- **Definition:** Basic computational unit of the CPU.
 - **Types:** Dual-core, quad-core, octa-core.
-

233. PowerPoint Shortcuts

- **New Slide:** Ctrl + M.
 - **New Presentation:** Ctrl + N.
 - **Close PowerPoint:** Ctrl + Q.
-

234. Software Patch

- **Definition:** Code to fix issues in a program after installation.
 - **Availability:** Developer's website.
-

235. Point-to-Point Network

- **Definition:** Connects exactly two hosts in a dedicated manner.
 - **Key Point:** Direct connection or logical connection through intermediate devices.
-

236. Network Database Model

- **Definition:** Links multiple records to a single owner file.
 - **Structure:** Upside-down tree with branches for member information.
-

237. Ports in Computers

- **Definition:** Slots for connecting external devices.
 - **Examples:** Mouse, keyboard, monitor, microphone.
-

238. Logic Bomb

- **Definition:** Malicious code triggered by specific conditions.
 - **Other Name:** Time bomb (triggered on specific dates).
-

239. Computer Bus

- **Definition:** Physical wires transferring data, addresses, and control signals.
 - **Types:**
 - **Data Bus:** Transfers data.
 - **Address Bus:** Transfers memory addresses.
 - **Control Bus:** Transfers control signals.
-

240. Device Driver

- **Definition:** Software enabling hardware components to function.
 - **Examples:** Drivers for printers, displays, CD-ROM readers.
-

241. VGA (Video Graphics Array)

- **Full Form:** Video Graphics Array.
 - **Developer:** IBM.
 - **Features:**
 - Resolution: **640 x 480** (16 colors, 60 Hz refresh rate).
 - Lower resolution: **320 x 200** (256 colors).
 - Uses **analog signals**, limiting quality and resolution.
-

242. Port Numbers

- **Definition:** Logical channel for sending/receiving data to/from applications.
 - **Bit Size:** 16-bit integer.
 - **Function:** Identifies specific applications on a host with multiple applications running.
-

243. MICR

- **Full Form:** Magnetic Ink Character Recognition.
 - **Use:** Processes cheques rapidly using machine-readable codes.
 - **Code Structure:** Nine-digit code with transaction and bank details.
-

244. URL Components

- **Example URL:** <http://in.oliveboard.com/news/index.html>
 - **Server Type:** http (denotes protocol).
 - **Hostname:** in.oliveboard.com.
 - **Directory Name:** news.
 - **File Name:** index.html.
-

245. Vulnerability Scanner

- **Definition:** Program that identifies weaknesses in computers, networks, or applications.
 - **Features:** Can perform authenticated or unauthenticated scans.
-

246. Toggle Split Screen in MS Word

- **Shortcut Key:** Alt + Ctrl + S.
 - **Other Shortcuts:**
 - Ctrl + W: Close current document.
 - Ctrl + S: Save current document.
 - Ctrl + K: Add hyperlink.
-

247. Shortcut Menu in MS Word

- **Key Combination:** Shift + F10.
- **Other Useful Shortcuts:**
 - Shift + F7: Opens Thesaurus.
 - Ctrl + F2: Print Preview.
 - F1: Help.

248. Save Document Shortcut

- **Key Combination:** Shift + F12.
- **Other Shortcuts:**
 - Shift + F3: Change text case.
 - Ctrl + Shift + F6: Switch between open Word documents.
 - Ctrl + Shift + F12: Print document.

249. Absolute Cell Reference in Excel

- **Definition:** Cell reference that does not change unless moved or copied.
- **Format:** Includes dollar sign (\$), e.g., \$A\$1.

250. IEEE 802.3 (Ethernet Standards)

- **Definition:** Standards for Ethernet-based networks.
- **Key Points:**
 - Developed by **Institute of Electrical and Electronics Engineers (IEEE)**.
 - Defines physical layer and MAC (Media Access Control) of the data link layer.
 - Used in Local Area Network (LAN) technologies.

Study Notes for Competitive Exams

(Important information highlighted in bold)

251. MS Office Tab Features

- **Insert Tab:** Used to insert various features into a document.
- **Groups under Insert Tab:**
 - **Pages Group:** Cover Page, Blank Page, Page Break.
 - **Tables Group:** Tables.
 - **Illustrations Group:** Pictures, Shapes, Smart Art, etc.
 - **Media and Links Group:** Hyperlink, Bookmark, etc.
 - **Header and Footer Group:** Page Number, Header, Footer.
 - **Text Group:** Text Box, Word Art, etc.
 - **Symbol Group:** Equation, Symbol.

252. Decimal Number System

- **Base:** Decimal number system is a **base-10 system** with digits from **0 to 9**.
- **Radix/Base:** Number of digits in a system.

- **Positional Value System:** Value depends on digit's position.

253. Least Vulnerable Operating Systems

- **Linux** and **Mac** are less vulnerable to virus attacks.
- Require **privileged access** for malware to run.
- **Windows**: Most recommended for desktops but more prone to malware compared to Linux.

254. Features of Application Software

- Developed using **C++, Java, Visual Basic, etc.**
- **Always depends on operating systems.**
- Runs when a user initiates.
- Examples: **Photoshop, VLC Player.**

255. File Extensions for Applications

- **MS Word:** .doc, .docx
- **MS Excel:** .xls, .xlsx
- **MS PowerPoint:** .ppt, .pptx
- **MS Access:** .accdb

256. Levels of Data Abstraction

- **Highest Level:** View Level (External Level).
- Simplifies complexity for users by hiding logical details.

257. Botnet

- A network of internet-connected devices running one or more **bots**.
- Used for:
 - **Distributed Denial-of-Service (DDoS) attacks.**
 - Spamming.
 - Data theft.

258. MIME

- **Multipurpose Internet Mail Extension (MIME):** Allows non-text email attachments like spreadsheets, audio, and video to be sent over the internet.

259. Father of Modern Digital Computer

- **Charles Babbage**: Inventor of the **Analytical Engine**.

260. MS Excel Shortcut Keys

- **Ctrl + Shift + @**: Apply time format.
- **Ctrl + Shift + #**: Apply date format.
- **Ctrl + Shift + %**: Apply percentage format.
- **Ctrl + Shift + \$**: Apply currency format.

261. TCP in Networking

- **T** in TCP: **Transmission Control Protocol**.
- Part of the **Internet Protocol Suite** for data transmission.

262. Charts in MS Excel

- **Line Graph**: Tracks changes over time.
- **Bubble Chart**: Displays three variables using bubble size.
- **Pie Chart**: Shows percentage or proportional data.
- **Bar Chart**: Compares data points across subgroups.

263. Embedding

- **Embedding**: Adding social media content to a webpage using **HTML code**.

264. Tree Topology

- **Tree Topology**: Requires at least **three levels** in a hierarchy.
- Combines star and bus topologies.

265. Memory Units in Order

- **Order**: KB < MB < GB < TB.
- **1 Byte** = 8 Bits.
- **1 Kilobyte (KB)** = 1024 Bytes.

- 1 Megabyte (MB) = 1024 Kilobytes.
- 1 Gigabyte (GB) = 1024 Megabytes.
- 1 Terabyte (TB) = 1024 Gigabytes.

266. Host in Networking

- A **Host**: Any device connected to a network, assigned a unique **network address**.

267. Modular Programming

- **Modular Programming**: Divides functionality into independent modules for flexibility and reusability.

268. Memory Types and Examples

- **Optical Memory**: CD-ROM, DVD, Blu-ray.
- **Magnetic Memory**: Hard Disk Drive, Floppy Disk.
- **Flash Memory**: Pen Drives, Memory Cards.

269. Catfish

- **Catfish**: A person creating a fake online profile to deceive others for various motives like financial gain or emotional manipulation.

270. Monitor Examples

- Types: **LED, TFT, LCD**.
- Modern monitors are **flat-screen LCDs**, lighter and energy-efficient compared to older **CRT monitors**.

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తల్లిదండ్రులకు మరియు విద్యార్థులకు ముఖ్య గమనిక

ఇటీవల కొందరు విద్యార్థులు సరైన విచారణ చెయ్యకుండా ఏదో ఒక కోచింగ్ ఇన్స్టిట్యూట్లో జాయిన్ అయి అక్కడ కూర్చోవడానికి కనీసం టెంచెస్ కూడా లేవని ఏ ఒక్క సబ్జెక్టు కూడా సరిగ్గా ఎక్స్ప్లైన్ చెయ్యరని టీచర్స్ వారి వద్దనున్న ఆన్సర్స్క్రీన్ పై చూపించి చదువుతున్నారని ఏదైనా ఒక సందేహం వస్తే క్లాసులో అడిగే అవకాశం లేదని టీచర్ ఒక షెడ్ లో ఉండి విద్యార్థులు మరొక షెడ్ లో కూర్చుని ఒక రేడియోలో ఆన్సర్లు విన్నట్లుగా ఉంటుందని టీచర్స్ కనీసం విద్యార్థుల ముఖం కూడా చూడకుండా ఆన్సర్ చదువుతున్నారని అక్కడ కోచింగ్ సరిగ్గా లేదని వేరే ఏదైనా మంచి కోచింగ్ సెంటర్లో జాయిన్ అవుదామని నంద్యాల బ్యాంక్ కోచింగ్ సెంటర్ వద్దకు వచ్చి ఫీజులో రాయితీ ఇవ్వమని మనవి చేస్తున్నారు ఇది మాకు చాలా భారంగా మారింది.

కనుక తల్లిదండ్రుల విద్యార్థులను ఏ కోచింగ్ ఇన్స్టిట్యూట్ లో నైన చేర్పించే ముందు అన్ని విషయాలు (Digital Class, Benches, Faculty Qualification, Classలో డాట్ అడిగే అవకాశం...) విచారించి సరియైన కోచింగ్ ఇన్స్టిట్యూట్స్ అయిన నంద్యాల బ్యాంక్ కోచింగ్ సెంటర్ లో చేర్పించవలసిందిగా కోరుచున్నాము.

ఇట్లు

జి. వి. సతీష్ (SBI PO, Interview Panel Member)
N.B.C.C. Director

285. Memory Units in Order

- **Order:** KB < MB < GB < TB.
- **1 Byte** = 8 Bits.
- **1 Kilobyte (KB)** = 1024 Bytes.
- **1 Megabyte (MB)** = 1024 Kilobytes.
- **1 Gigabyte (GB)** = 1024 Megabytes.
- **1 Terabyte (TB)** = 1024 Gigabytes.

286. Host in Networking

- **A Host:** Any device connected to a network, assigned a unique **network address**.

287. Modular Programming

- **Modular Programming:** Divides functionality into independent modules for flexibility and reusability.

288. Memory Types and Examples

- **Optical Memory:** CD-ROM, DVD, Blu-ray.
- **Magnetic Memory:** Hard Disk Drive, Floppy Disk.
- **Flash Memory:** Pen Drives, Memory Cards.

289. Catfish

- **Catfish:** A person creating a fake online profile to deceive others for various motives like financial gain or emotional manipulation.

290. Monitor Examples

- Types: **LED, TFT, LCD.**
- Modern monitors are **flat-screen LCDs**, lighter and energy-efficient compared to older **CRT monitors**.

ತಂದೆ - ತಾಯಿ ಮತ್ತು ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಮುಖ್ಯ ಸೂಚನೆ

ಇತ್ತೀಚೆಗೆ ಕೆಲವು ವಿದ್ಯಾರ್ಥಿಗಳು ಸರಿಯಾದ ವಿಚಾರಣೆ ಮಾಡದೆ ಯಾವದೋ ಒಂದು Coaching Institute ನಲ್ಲಿ join ಆಗಿ, ಅಲ್ಲಿ ಕುಳಿತುಕೊಳ್ಳುವುದಕ್ಕೆ ಕನಿಷ್ಠ Bench ಗಳೂ ಇಲ್ಲದೆ, ಯಾವುದೇ ಒಂದು Subject ಅನ್ನು ಸರಿಯಾಗಿ explain ಮಾಡುವುದಿಲ್ಲವೆಂದು, ಅಲ್ಲಿ Teachers ಅವರ ಕಡೆ ಇರುವ Answers ಅನ್ನು screen ಮೇಲೆ ತೋರಿಸಿ ಸುಮ್ಮನೆ ಓದುತ್ತಾರೆ ಎಂದು, ಯಾವುದೇ ಒಂದು ಸಂದೇಹ ಬಂದರೆ class ನಲ್ಲಿ ಕೇಳುವುದಕ್ಕೆ ಅವಕಾಶವೇ ಇಲ್ಲ ಎಂದು, Teacher ಒಂದು shed ನಲ್ಲಿ ಇದ್ದು ವಿದ್ಯಾರ್ಥಿಗಳು ಇನ್ನೊಂದು shed ನಲ್ಲಿ ಕುಳಿತುಕೊಂಡು ಒಂದು Radio ದಲ್ಲಿ Answers ಕೇಳಿದ ಹಾಗೆ ಇರುತ್ತದೆ ಎಂದು, Teachers ಕನಿಷ್ಠ ವಿದ್ಯಾರ್ಥಿಗಳ ಮುಖವನ್ನೂ ನೋಡದೆ Answers ಓದುತ್ತಾರೆ ಎಂದು, ಅಲ್ಲಿ Coaching ಸರಿಯಾಗಿ ಇಲ್ಲವೆಂದು, ಬೇರೆ ಯಾವುದಾದರೂ ಒಳ್ಳೆಯ Coaching Institute ನಲ್ಲಿ join ಆಗಬೇಕೆಂದು NBCC ಕಡೆಗೆ ಬಂದು Fees ನಲ್ಲಿ ರಿಯಾಯಿತಿ ಕೊಡಬೇಕೆಂದು ಮನವಿ ಮಾಡುತ್ತಿದ್ದಾರೆ. ಇದು ನಮಗೆ ತುಂಬಾ ಭಾರವೆನಿಸುತ್ತಿದೆ.

ಅದಕ್ಕಾಗಿ ತಂದೆ-ತಾಯಿ ತಮ್ಮ ಮಕ್ಕಳನ್ನು ಯಾವುದೇ Coaching Institute ನಲ್ಲಿ ಸೇರಿಸುವ ಮುನ್ನ ಎಲ್ಲಾ ವಿಷಯಗಳನ್ನು (**Digital Class, Benches, Faculty Qualification, Class** ನಲ್ಲಿ **doubt** ಕೇಳುವ ಅವಕಾಶ...) ವಿಚಾರಿಸಿ ಸರಿಯಾದ Coaching Institute ನಲ್ಲಿ ಸೇರಿಸಬೇಕೆಂದು ಮನವಿ ಮಾಡುತ್ತಿದ್ದೇವೆ.

ಮುಖ್ಯ ಸೂಚನೆ

ವಿದ್ಯಾರ್ಥಿಗಳು **Nandyal Banking Coaching Center** ನಲ್ಲಿ join ಆಗಬೇಕೆಂದು ನಂದ್ಯಾಲಿಗೆ ಬಂದನಂತರ Railway Station/ Bustand ಕಡೆಯಿಂದ Auto ನಲ್ಲಿ **Nandyal Banking Coaching Center** ಗೆ ಬರಲು ಪ್ರಯತ್ನಿಸುತ್ತಿದ್ದರೆ ಸ್ವಲ್ಪ ಜನ Auto Driver ಗಳು ಬೇರೆ ಯಾವುದೋ ಒಂದು Coaching Institute ಗೆ ಕರೆದುಕೊಂಡು ಹೋಗುವುದರಿಂದ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಮತ್ತು ತಂದೆತಾಯಿಯರಿಗೆ ತುಂಬಾ ಅನಾನುಕೂಲವಾಗುತ್ತಿದೆ.

ಅದಕ್ಕಾಗಿ ವಿದ್ಯಾರ್ಥಿಗಳು ಮತ್ತು ತಂದೆತಾಯಿಯರು **Nandyal Banking Coaching Center** ಗೆ correct ಆಗಿ ಬಂದಿದ್ದೀವಾ? ಇಲ್ಲವಾ? ಅಂತ ಪರಿಶೀಲಿಸಿ **Nandyal Banking Coaching Center** ನಲ್ಲಿರುವ Digital Class Room with Benches ನೋಡಿದ ನಂತರ Auto Driver ಗೆ ದುಡ್ಡು ಕೊಡಬೇಕೆಂದು ಮನವಿ.

ಇಂತಿ,

NBCC Director
G V Satish (SBI PO, Interview Panel Member)

291. Examples of Batch Operating System

- **Batch Operating System:** Groups similar jobs with the same requirements into **batches** for processing.
 - Examples: **Payroll System, Bank Statements.**
-

292. Signature File in Emails

- **Signature File:** A short text file automatically appended at the end of emails.
 - Commonly includes: User's **name, phone number, company, and company URL.**
-

293. Daughterboard

- **Daughterboard:** A circuit board that plugs into and extends the circuitry of another circuit board.
 - It may extend:
 - **Motherboard.**
 - Another board, like a **sound card.**
 - Also known as: **Daughter Card, Piggyback Board, Riser Card, Mezzanine Board.**
-

294. MS Access Database Objects

- **Form:** Used to create a **user interface** for the database, displaying live data for easier data entry or editing.
 - Other objects:
 - **Macros:** Mini programming constructs for automating commands like searching or formulas.
 - **Modules:** Procedures written using VBA.
 - **Query:** Selects, sorts, and filters data based on search criteria.
-

295. OMR (Optical Mark Recognition)

- **M in OMR: Mark.**
 - Scans documents to read marked fields and transmit data into computers.
 - Applications: **Educational tests, surveys, assessments, and multiple-choice forms.**
-

296. Trackball Features

- **Trackball:** Always **stationary**, unlike a mouse.
- Functions:
 - Input device used in **notebooks or laptops.**
 - Requires less space than a mouse.
 - Shapes: Ball, Button, Square.

297. Windows Shake Feature

- **Shake:** Focuses on one open window by minimizing others.
 - Shake the title bar to minimize other windows.
 - Shake again to restore minimized windows.
- **Snap:** Organizes windows by dragging them to screen edges (both vertically and horizontally).

298. MICR (Magnetic Ink Character Recognition)

- **MICR:** An **input device**, not an output device.
- Usage: **Banking industry** for cheque processing.

299. Fourth Generation of Computers

- **Time Period:** 1971-1980.
- Features:
 - Used **VLSI (Very Large Scale Integrated)** circuits with about 5000 transistors on a single chip.
 - Enabled **time sharing**, **real-time networks**, and **distributed operating systems**.
 - Introduction of **microcomputers** and the **PC revolution**.
 - Supported high-level languages like **C**, **C++**, and **DBASE**.



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300. UTP Cables (Unshielded Twisted Pair)

- **UTP Cables:** Composed of **8 wires twisted into 4 pairs** to prevent malfunctions.
 - Connectors: **RJ45 plugs**.
 - Function: Transmit signals effectively by reducing interference.
-

301. First General-Purpose Computer for Commercial Use

- **UNIVAC (Universal Automatic Computer):** First commercially available computer.
 - Developed by **Eckert-Mauchly Computer Company**.
 - **ENIAC:** First electronic computer for general purposes, invented by **J. Presper Eckert** and **John Mauchly**.
-

302. Notes and Graphics in PowerPoint

- **Notes Pane:** Adds notes and graphics for the current slide and allows printing notes.
 - **Slides Pane:** Displays slide thumbnails for viewing and editing.
 - **Outline Pane:** Shows text from the slides.
 - **Task Pane:** Provides access to commands (e.g., new presentation, help).
 - **AutoContent Wizard:** Helps create presentations with a structured framework.
-

303. Drop Cap in MS Word

- **Drop Cap:** A decorative element used at the start of a paragraph or section in Word documents.
-

304. Indentation in MS Word

- Use the **Tab key** to indent the first paragraph of a document.
 - Adjust indentation via the **Paragraph dialog box** for more control.
-

305. Session Initiation Protocol (SIP)

- **SIP:** A signaling protocol for **Voice Over Internet Protocol (VoIP)**.
 - Supports **voice calls, video conferencing, instant messaging, and media distribution**.
 - Establishes a direct connection between private telephone systems and public telephone networks.
-

306. Web Hosting and Non-Web Hosting Services

- **Web Hosting:** Services like Bluehost, HostGator, GoDaddy, SiteGround, and DreamHost.

- **DuckDuckGo**: Not a web hosting service but a **search engine** prioritizing privacy.

307. EPROM (Erasable Programmable Read-Only Memory)

- **EPROM**: Retains data even when power is off.
- Data erased using **ultraviolet light**.
- Consists of **floating-gate transistors**.

308. Internet of Things (IoT)

- **IoT**: Concept of connecting any device with an **on/off switch** to the Internet and other devices.
- Forms a network of connected devices sharing data.

309. AGP Slot on Motherboard

- **A in AGP: Accelerated Graphics Port**.
- Provides a direct connection between the graphics card and system memory for better performance.

310. Components of Computer Speaker

- Made up of **cone, iron coil, magnet, and housing**.
- Converts electrical signals into sound waves.

311. MIMO (Multiple-Input Multiple-Output)

- **MIMO**: Wireless technology with multiple transmitters and receivers for higher data transfer speeds.
- Supported by devices using **802.11n** standards.

312. Merging Workbooks in MS Excel

- **Merging**: Combines copies of workbooks worked on independently.

313. Drop-Down Menu (Pull-Down Menu)

- A menu of commands or options appears when selected with a mouse.
- Located at the top of the screen; options appear below.

314. Primary Memory Examples

- Includes **Read-Only Memory (ROM)** and **Random-Access Memory (RAM)**.
- Located close to the CPU for faster data access.

315. Packets in Broadcast Network

- **Packets:** Short messages sent by any machine, received by all others in the network.
- Used in **broadcast networks** with a shared communication channel.

316. Flooding in Mesh Topology

- **Flooding:** Data is transmitted to all nodes without routing logic.
- Another technique: **Routing**, directs data using the shortest path.

317. Swapping in Computers

- **Swapping:** Enables execution of programs and manipulation of files larger than main memory.
- Exchanges data between **main memory** and **disk storage**.

318. Cloud Storage

- **Cloud Storage:** Stores data on the Internet via a **cloud provider**.
- Benefits: **Agility, global scale, durability, and anytime, anywhere** access.

319. Universal Gates

- **NAND and NOR gates:** Called **universal gates** as they can implement any Boolean expression.

320. Cookies in Browsers

- **Cookies:** Small text files stored by web browsers to track user activity.
- Functions: Resume activity, remember login credentials, and store user preferences.

321. Application to Convert HTML and XML

- **Web Browser:** A free software application used to view web pages, graphics, and online content.
 - Converts **HTML and XML** into readable documents.
 - Examples: **Internet Explorer, Firefox, Google Chrome, Netscape Navigator, Safari.**
-

322. Incorrectly Matched Pairs

- **Google Hangouts:** Cross-platform instant messaging by Google.
 - **Microsoft Access:** Database management system by Microsoft.
 - Incorrect Pair: **Option D.**
-

323. Shortcut to Close Application

- **Alt + F4:** Closes the currently active window.
 - Example: Closes the browser and all open tabs when pressed.
-

324. Binary to Decimal Conversion

- Binary Number: **1111.**
 - Decimal Equivalent: **15.**
-

Base Number System

- **Binary:** Base 2
 - **Octal:** Base 8
 - **Decimal:** Base 10
 - **Hexadecimal:** Base 16
-

325. Types of Networks

- **Local Area Network (LAN):** Connects devices in a single physical location (e.g., building or office).
 - **Wide Area Network (WAN):** Connects multiple LANs across large geographic areas.
 - **Metropolitan Area Network (MAN):** Connects computers within a metropolitan area.
-

326. Random-Access File

- Accessed directly without reading other files first.
 - Example: **Hard Drives** use direct access, while **tape drives** use sequential access.
-

327. Concatenate Function in Excel

- **Concatenate Function:** Combines data from two or more cells without merging them.
- Syntax: CONCATENATE(text1, [text2, ..., text_n]).
- Replaced by **Concat** in Excel 2016.

328. Uninterrupted Power Supply (UPS)

- Provides **battery backup** during power outages.
- Allows time to save work and shut down safely.

329. Hardware Interrupts

- **Maskable Interrupt:** Can be delayed if higher priority interrupts occur.
- **Non-Maskable Interrupt:** Cannot be delayed and is processed immediately.

330. Mobile Phishing (Smishing)

- Fraudulent **SMS or in-app message** with malicious links.
- Used to steal personal information or install malware.

331. Transport Layer in OSI Model

- Ensures **complete and reliable delivery** of data packets.
- Functions: **Error control, flow control, congestion control.**
- Handles **packet segmentation and reassembly.**

332. Copying Cells in Excel

- **Ctrl + R:** Copies the content from the left cell.
- **Ctrl + D:** Copies the content from the cell above.

333. Open-Source Software (OSS)

- Makes **source code available** to all users for free.
- Rights: Study, change, and distribute the software.

334. Human-Computer Interface (HCI)

- **H** stands for **Human**.
- Example: **Keyboard, mouse** are HCI devices.

335. Shortcut to Close Workbook in Excel

- **Ctrl + W**: Closes the workbook.
- **Ctrl + O**: Opens a workbook.

336. Masked ROMs (MROM)

- **ROM**: Non-volatile memory storing permanent instructions.
- **Masked ROMs**: Early ROMs with pre-programmed data.

337. Blue Screen of Death (BSoD)

- **S** stands for **Screen**.
- Indicates a **fatal system error** causing a system crash.

338. Non-Antivirus Software

- Examples of Antivirus Software: **McAfee, Norton, Avira**.
- **Keefsafe**: Not an antivirus software; a photo vault app.

339. Hotspot (Wi-Fi)

- Wireless access points providing **network/Internet access** to devices.
- True for all statements in the question.

340. Windows 10 Shortcuts

- **Windows + I**: Open Settings.
- **Windows + M**: Minimize all windows.
- **Windows + S**: Open search.
- **Windows + X**: Open Quick Link menu.
- **Windows + Tab**: Open Task View.

341. Rootkit

- A **rootkit** is a **malicious software bundle** providing unauthorized access to a computer.
 - Used for remote access, data theft, and system manipulation.
 - **Hard to detect** and conceals its presence.
-

342. Base of Octal Number System

- **Octal System Base:** 8.
 - Other systems:
 - **Decimal:** Base 10.
 - **Binary:** Base 2.
 - **Hexadecimal:** Base 16.
-

343. RJ-45 Connector

- Standard connector for **unshielded twisted pair cabling**.
 - **RJ** stands for **Registered Jack**.
 - Used in network connections, resembling a larger telephone connector.
-

344. Ping Command

- **Ping:** Verifies if an IP address exists and accepts requests.
 - Sends an **ICMP Echo Request** and waits for a reply.
 - Used for troubleshooting connectivity and response times.
-

345. HTML Headings

- **<h1>:** Defines the **most important heading** in HTML.
 - **<h6>:** Defines the **least important heading**.
-

346. RAM

- **Volatile memory:** Data is wiped when power is off.
 - Used to store data temporarily while the computer is running.
 - Faster than secondary storage.
-

347. Types of Firewalls

- **Network Firewall:** Monitors traffic between networks.
 - **Host-based Firewall:** Monitors traffic to and from a single computer.
-

348. Botnet

- **Botnet:** Group of devices connected for **malicious purposes**.
 - Controlled by a third party to transmit malware, spam, or launch attacks.
 - Also called a **zombie army**.
-

349. DSL in Broadband

- **Digital Subscriber Line (DSL):**
 - Internet provided through **2-wire copper telecommunication lines**.
 - Allows simultaneous **calls and internet access**.
 - Maintains high-speed internet.
-

350. Spider (Web Crawler)

- Program designed to browse the **World Wide Web** systematically.
 - Purpose: **Indexing websites**.
 - Also known as a **web bot, web crawler, or web robot**.
-

351. Master Boot Record (MBR)

- Found at the **beginning of a hard drive**.
 - Contains partition information and a **boot record**.
-

352. Video Conferencing Software

- **Webex:** Developed by **Cisco**.
 - Used for video conferencing, screen sharing, and webinars.
 - Other examples:
 - **Google Meet:** By Google.
 - **Microsoft Teams:** By Microsoft.
 - **Zoom:** By Zoom Video Communications.
 - **GoToMeeting:** By LogMeIn.
-

353. Switched-Mode Power Supply (SMPS)

- Provides **regulated voltage** to the motherboard.
- Uses a **switching regulator** for efficiency and reduced power loss.

354. Excel Preprogrammed Formula

- **Function:** Predefined formulas in Excel.
- Example: **SUM, AVERAGE**, etc.

355. MS Office Shortcuts

- **Ctrl + E:** Aligns text to the center.
- **Ctrl + J:** Justifies text.
- **Ctrl + B:** Bold.
- **Ctrl + I:** Italic.
- **Ctrl + K:** Insert hyperlink.

356. OLED Monitors

- **O** stands for **Organic** in **Organic Light Emitting Diode**.
- No need for backlight, saving power and space.

357. Alt + Tab

- Switches between open applications.

358. Erasing EPROM

- **EPROM:** Erased by intense **ultraviolet light**.
- Stands for **Erasable Programmable Read-Only Memory**.

359. Excel Sheet Tab

- Displays the **name of the worksheet**.
- Located at the bottom of the Excel window.

360. Compiler in C++

- Converts C++ instructions into **object code** or **machine code**.
 - Enables program execution by translating human-readable code.
-

361. Functions NOT Performed by MS Excel

- **MS Excel** is used to:
 - Organize and present data systematically.
 - Perform **arithmetic operations** and create graphs/charts.
 - Common Functions: **SUM, TEXT, VLOOKUP, AVERAGE, CONCATENATE.**
 - **AUTOGRAPH FUNCTION** is **NOT performed** by MS Excel.
 - File extension: **.xls**.
-

362. HTTP Error Codes

- **503 Service Unavailable:** Server not ready to handle the request (e.g., maintenance or overload).
 - Other HTTP Codes:
 - **400 Bad Request:** Incorrect URL or restricted page.
 - **403 Forbidden:** Access requires a username/password.
 - **404 Not Found:** Web page cannot be found on the server.
-

363. Database Schema

- **Database Schema:** Blueprint of the structure of a database.
 - Defines organization and relationships among data.
-

364. MS Word Spelling Error Indication

- **Red Wavy Line:** Indicates a misspelled word.
 - Automatically checks for spelling/grammar errors.
-

365. Ribbon in MS PowerPoint

- **Ribbon:** Strip of buttons (tabs) across the top of the window.
 - Organizes menus and toolbars into a single row.
-

366. Disk Performance Metrics

- **Seek Time**: Time for the read/write head to move between tracks.
 - **Lower seek time** = Better performance.
 - **Rotational Latency**: Time to rotate to the requested sector.
-

367. Reverse Proxy Server

- Sits behind a firewall and directs client requests to the **backend server**.
 - Provides abstraction and control for smooth network traffic.
-

368. Deadlock

- **Deadlock**: Two programs prevent each other from accessing a shared resource, halting both programs.
-

369. File Restrictions in Emails

- **Executable (.exe)** files cannot be attached to emails due to security risks.
 - Allowed file types: **.pdf, .xls, .ppt, .mp4**.
-

370. Hard vs. Soft Email Bounce

- **Hard Bounce**: Permanent rejection due to invalid or non-existent email addresses.
 - **Soft Bounce**: Temporary issue (e.g., full inbox, server down, large message).
-

371. Authentication

- **Authentication**: Verifying identity via username and password.
 - Distinct from **authorization** (granting access based on identity).
-

372. Macro Instruction

- **Macro**: Single line of code producing multiple machine language instructions.
 - Expands into actual instruction details when executed.
-

373. Third-Generation Computers

- Replaced transistors with **integrated circuits (ICs)**.
- Features: Nanosecond computation, time-sharing, multi-programming.
- Examples: **IBM-360 series, Honeywell-6000 series, PDP, IBM-370/168.**

374. Keyboard Bumps

- Bumps on '**F**' and '**J**' keys ensure optimal hand placement for typing.
- Helps identify keys without looking.

375. Address Register

- **Address Register:** 12-bit register storing memory location addresses for data or instructions.

376. VGA Connector

- **VGA:** Stands for **Video Graphic Array**.
- 15-pin connector used for video output on computers, projectors, etc.

377. Engrave in MS Word

- **Engrave:** Formatting text to appear sunken into the page.
- Opposite of embossed text.

378. Bridge Devices in LAN

- **Bridge:** Transmits frames between LANs.
- Operates at Layer 2 (Data Link Layer) of OSI.
- Types:
 - **Wireless Bridge:** Supports Wi-Fi access points.
 - **Wi-Fi Ethernet Bridge:** Connects Ethernet devices to Wi-Fi networks.

379. Excel Shortcut Keys

- **Alt + =:** AutoSum.
- **Ctrl + Shift + U:** Expand/collapse formula bar.
- **Ctrl + Home:** Go to the first cell.
- **Ctrl + End:** Go to the last cell.

- **Ctrl + ~**: Show/hide all formulas.

380. BCC in Email

- **Blind Carbon Copy (BCC)**:
 - Recipients cannot see who else received the email.

381. Function Keys in MS Word

- **F9**: Update selected fields.
- Other Keys:
 - **F7**: Spell Check.
 - **F8**: Extend selection.
 - **F10**: Show Key Tips.
 - **F11**: Go to the next field.

382. Non-Antivirus Software

- **MYSQL is NOT an antivirus.**
- Examples of Antivirus: Programs designed to detect, quarantine, and remove viruses.

383. Cache Memory

- Acts as a buffer between **RAM and CPU**.
- Holds frequently requested data for quick access.
- Extremely fast and synchronizes with high-speed CPUs.

384. NOS (Network Operating System)

- Used for:
 - Specialized devices like routers, switches, and firewalls.
 - Enabling shared access to files, printers, and other resources on a **LAN**.

385. Kernel

- **Kernel**: Core of an Operating System.
 - Manages operations of memory and CPU time.
-

386. Technology Used in Bitcoin

- **Blockchain:** Technology enabling the existence of cryptocurrency, including Bitcoin.

387. Apple's Presentation Software

- **Keynote:** Pre-installed on most Apple devices for creating presentations.

388. Third Generation Computers

- **Integrated Circuits (ICs)** introduced as processors.
- **Features:**
 - Smaller size, superior performance.
 - Higher storage and calculating speeds.
 - Developed by **T.S. Kilby**.

389. Gutter Margin

- **Gutter Margin:** Additional margin in page layout to compensate for binding.

390. Multicast Group IP Range

- **Class D IP Range:** Reserved for Multicast groups.

391. SEO (Search Engine Optimization)

- **O** stands for **Optimization**.
- Process to improve quality and quantity of traffic to websites via organic search results.

392. Placeholder in PowerPoint

- **Placeholder:** Pre-formatted container on a slide for text, graphics, or video.
- Found in Slide Master View for consistent formatting.

393. Trojan Horse

- Malware disguising itself as legitimate software.

- Can install harmful programs while appearing genuine.

394. DHCP

- **Dynamic Host Configuration Protocol:**
 - Provides IP addresses and configuration automatically.
 - Reduces manual configuration errors.

395. First Programmable Processor

- **Intel 4004:** Designed by Intel Corporation in 1969.
- First general-purpose programmable processor.

396. Relational Database Programming Language

- **FoxPro:** A relational database procedural programming language.
- Initially developed by Fox Software, later acquired by Microsoft.

397. Measuring Data Speed

- **Baud:** Unit for symbol rate or modulation rate in symbols per second.

398. Ipsilon Networks

- Parent Organization: **Nokia**.
- Developed **IP-Switching**, the first version of label-switching.

399. Pre-Boot Reboot Command

- **Ctrl+Alt+Delete:** Command to reboot a computer in the pre-boot environment.

400. Modifier Keys

- Modifier keys temporarily modify the normal action of another key.
- Examples: **Shift, Ctrl, Alt**.
- Alone, they do not trigger any action.

401. Maskable and Non-Maskable Interrupts

- **Maskable Interrupts:** Can be ignored by instructing the CPU.
 - **Non-Maskable Interrupts (NMI):**
 - Cannot be ignored.
 - Used for critical hardware errors.
-

402. Encryption in Networks

- **Secure Crypto-Processor:**
 - Encrypts every message sent over a network.
 - Ensures high-level security.
-

403. Non-Programming Language

- **Microsoft Bing:** A web search engine.
 - Examples of programming languages: **Python, C, C++, Java.**
-

404. Modes of Transmission

- **Simplex:** Unidirectional (e.g., Keyboard to Monitor).
 - **Half-Duplex:** Two-way but one at a time (e.g., Walkie-Talkie).
 - **Full-Duplex:** Two-way simultaneously (e.g., Telephone).
-

405. Real-Time Safety Monitoring Technology

- **Edge Computing:**
 - Brings computation closer to the data source.
 - Used in oil and gas industries for real-time monitoring.
 - Other technologies:
 - **Big Data Analytics:** Processes large, diverse datasets.
 - **Artificial Intelligence (AI):** Mimics human intelligence.
 - **Virtual Reality (VR):** Simulates interactive 3D environments.
-

406. MS Excel Shortcut to Select Entire Row

- **Shift + Spacebar:** Selects the entire row.
-

407. Line Matrix Printers

- Use **mechanical pressure** to print on multi-part forms (e.g., carbon paper).
- Prints **lines of dots** rapidly, achieving over 1000 lines per minute.

408. Bandwidth

- Amount of data transmitted in a fixed time.
- Measured in **bits per second (bps)** or **Hertz** for analog devices.

409. Fathers of Programming Languages

- **C++**: Invented by **Bjarne Stroustrup**.
- Others:
 - **C**: Dennis Ritchie.
 - **Python**: Guido van Rossum.
 - **Java**: James Gosling.

410. Digital Footprint

- Trail of data left when using the internet.
- Includes websites visited, emails sent, and online submissions.

411. Watermark

- **Watermark**: Ghost text or image behind main text on a page.
- Used in documents like stamps and currency to prevent counterfeiting.

412. Advantages of Local Area Network (LAN)

- High bandwidth, inexpensive transmission medium, easy maintenance.
- **Disadvantage**: Cannot cover large geographic areas.

413. Valid Email Address

- Components:
 - Recipient name.
 - @ symbol.
 - Domain name and top-level domain (e.g., **.com**, **.org**, **.net**).

- Example of Invalid Email: Domain name followed by @ instead of the top-level domain.

414. IEEE Ethernet Standard

- **802.3**: Standard for Ethernet.
- Other IEEE Standards:
 - **802.2**: Logical Link Control.
 - **802.5**: Token Ring.
 - **802.11**: Wireless networks.

415. Data Integrity

- Ensures overall **accuracy, completeness, and consistency** of data.
- Prevents data redundancy and inconsistency.

416. Table Relationships in MS Access

- Types:
 - **One-to-Many**.
 - **Many-to-Many**.
 - **One-to-One**.
- Any relationship other than these is **invalid**.

417. Supercomputers (Number Crunchers)

- Perform large mathematical calculations.
- Measured in **Floating-Point Operations Per Second (FLOPS)**.
- Example: Used in weather forecasting, scientific simulations.

418. Dynamic Web Pages

- **Dynamic Web Page**: Displays different content each time it is viewed.
- Examples:
 - Login pages.
 - Shopping carts.
 - Submission forms.

419. Database Management System (DBMS)

- Organizes tables into **normal forms** to reduce anomalies:

- **First Normal Form (1NF)**
- **Second Normal Form (2NF)**
- **Third Normal Form (3NF)**
- **Boyce-Codd Normal Form (BCNF).**

420. Nature of Computers

- **Versatile**: Perform multiple types of work simultaneously.
- **Diligence**: Operates continuously without errors or fatigue.

421. Headers and Footers

- Used to add information like:
 - **Page numbers, date/time, logos, document title, or author's name.**
- Appear in the top or bottom margins of a document.

422. Storage Capacity of 3.5" Floppy Disk

- **1.44 megabytes.**

423. Star Topology

- All devices connect to a **central hub** via cables.
- Hub types:
 - **Passive Hub**: Broadcasts data.
 - **Active Hub**: Intelligent.

424. Developer of PASCAL Language

- **Niklaus Wirth**: Developed Pascal to teach programming techniques.

425. IBM PC DOS

- IBM sold **PC DOS** between **1981–2000**.
 - Initially branded as **MS-DOS**, later became IBM's independent product.
-

426. DRAM

- **Dynamic Random Access Memory (DRAM):**
 - Requires frequent refreshing to maintain data.
 - Used for program code and data in PCs and servers.
-

427. Hard Disks vs. Diskettes

- **Hard Disks:**
 - More expensive.
 - Store and retrieve large amounts of digital data.
 - Use rapidly rotating magnetic platters.
-

428. Print Shortcut

- **Ctrl + P:** Keyboard shortcut to print documents in Windows.
-

429. Drag and Drop

- Action of **dragging** the mouse to move an object and **dropping** it at the desired location.
-

430. File Allocation Table (FAT)

- **T** stands for **Table**.
 - A simple file system architecture used for organizing and storing files.
-

431. Read-Only Memory (ROM)

- **Non-volatile memory.**
 - Used for storing firmware or application software.
-

432. First Commercial Modem

- **Dataphone:** Introduced by **AT&T** for converting digital data to analog signals.
-

433. Hype rlink

- A **reference to data** that a user can follow by clicking or hovering.
 - Points to documents or specific elements within a document.
-

434. Sheet-Fed Scanners

- Used for scanning **papers only**.
 - Not suitable for **books or 3D objects**.
-

435. Point-of-Sale (POS) Terminal

- Functions:
 - Acts as a cash register and computer terminal.
 - Tracks orders, manages inventory, and processes payments.
-

436. AVI Format

- **Audio Video Interleave (AVI):**
 - Introduced by **Microsoft** in **1992**.
-

437. SDRAM

- **Synchronous Dynamic Random-Access Memory:**
 - Synchronizes with the system clock for higher speeds (up to **133 MHz**).
-

438. Superscript

- **Superscript:** Text that appears smaller and higher than normal text.
 - Example: **10²**.
-

439. Spooling

- Temporarily stores data in memory for **bulk processing** by peripherals (e.g., printers).
-

440. Computer Virus

- Term first defined by **Fred Cohen** in **1983**.
 - A virus attaches to programs, triggering its action upon execution of the host program.
-

441. Widely Adopted Number System

- **Decimal Number System**: Most widely used (digits 0-9).
 - Other Systems:
 - **Binary**: Base 2 (digits 0,1).
 - **Octal**: Base 8 (digits 0-7).
 - **Hexadecimal**: Base 16 (digits 0-9, A-F).
-

442. Abacus

- **Abacus**: Early calculating tool using **beads** to represent data.
 - Origin: Used in **Europe, China, and Russia** before written numeral systems.
 - Modern Use: Teaching arithmetic.
-

443. Virtual Memory

- **Virtual Memory**: Allows RAM to appear larger by utilizing secondary storage.
 - Data flows between RAM and storage based on demand.
-

444. Macro

- **Macro**: A sequence of instructions automating repetitive keyboard and mouse actions.
 - Used in **MS Word** and **Excel** for efficiency and error reduction.
-

445. Emulator

- **Emulator**: Hardware or software that enables one system to imitate another.
 - Example: Running guest system applications on a host.
-

446. Google Camera

- Supported officially only on **Google Pixel** devices.
- Initially supported devices with **Android 4.4 KitKat** and higher.

447. Apple LISA

- **LISA**: First commercial computer with a **Graphical User Interface (GUI)**.
- Developed by **Apple**.
- Acronym: **Locally Integrated Software Architecture**.

448. Application Software

- Designed for specific needs of a particular environment.
- Examples:
 - **Microsoft Office Suite** (Word, Excel, PowerPoint).
 - **Payroll Software, Inventory Management, Railways Reservation.**

449. Share ware

- Proprietary software initially provided **free of charge** for evaluation.
- Users are encouraged to share copies.

450. Database Management System Hardware Requirements

- **High-speed processor** and **large storage** are essential for efficient DBMS operation.

451. URL (Uniform Resource Locator)

- Reference to a **web resource** specifying location and retrieval mechanism.
- Used for web pages (**http**), file transfer (**ftp**), email (**mailto**), etc.

452. Firefox OS

- **Firefox OS**: Mobile operating system by **Mozilla**.
- Discontinued, initially released in **2013** for smartphones and smart TVs.

453. Network Interface Card (NIC)

- A hardware component enabling computers to connect to a network.
- Allows **wired or wireless communication**.
- Also known as **network adapter** or **LAN adapter**.

454. Recycle Bin

- A special folder where deleted files are temporarily moved until permanently deleted.

455. KIPS Architecture

- **KIPS**: Knowledge-based Information Processing System.
- Used in **fifth-generation computers** focusing on **artificial intelligence** and natural language input.

456. Operating System Types

- **Types of Operating Systems:**
 - Batch OS.
 - Time-Sharing OS.
 - Network OS.
 - Distributed OS.
 - Real-Time OS.

457. Font Size Shortcut in MS Word

- **Ctrl + [**: Decreases font size by **1 point**.
- **Ctrl +]**: Increases font size by **1 point**.

458. Mini Toolbar

- **Mini Toolbar**: Appears when text is selected in Office applications like Word, Excel, or PowerPoint.
- Functions: Formatting text (font type, size, color, alignment).

459. Word Processing Tools

- Word processing refers to creating, editing, and printing documents using word processors.
- Examples: **MS Word, Google Docs, LibreOffice Writer**.

460. Brave Browser

- **Brave**: A free, open-source, privacy-focused **web browser** developed by Brave Software, Inc.
- Features: Blocks ads and website trackers by default.

461. Largest WAN

- **Internet:** The largest **Wide Area Network (WAN)**, spanning the globe.
-

462. Optical Character Recognition (OCR)

- Recognizes text in **digital images** and converts it into editable formats.
 - Used for converting printed, handwritten, or typed text into machine-encoded text.
-

463. Star Topology

- Hub acts as a **repeater** for data flow.
 - All nodes are connected to a central hub via cables.
-

464. Father of Modern Computer Science

- **Alan Turing:** Known as the **Father of Modern Computer Science**.
 - Other Notables:
 - **Charles Babbage:** Father of Computing.
 - **Edgar Frank Codd:** Invented relational database model.
-

465. HTML

- **HTML:** Hyper Text Markup Language.
 - Standard language for creating web pages displayed on the Internet.
-

466. Column Width in MS Excel

- **Column width:** 255 characters.
 - **Row height:** 409 points.
 - Maximum rows: **1,048,576**.
 - Maximum columns: **16,384**.
-

467. PROLOG

- **PROLOG:** Programming language used for **artificial intelligence** applications, especially expert systems.
-

468. Trojan Horse Virus

- Enters systems via **emails or free downloads**.
- Damages devices by installing harmful software.

469. Sending an Email

- Similar to **exchanging digital messages** between computer networks.

470. First Web Browser

- **WorldWideWeb**: The first web browser (1990), later renamed **Nexus**.

471. Logic Gates

- **Logic Gates**: Basic building blocks of digital circuits.
- Examples: **AND, OR, NOT, NOR**.

472. Installation

- **Installation**: The process of preparing software for execution on a computer.
- May include copying files, modifying registry entries, or setting up dependencies.

473. Software Bug

- A **software bug** is an error in a program causing unintended behavior.
- Effects: Crashes, freezes, or security vulnerabilities.

474. SMTP

- **Simple Mail Transfer Protocol (SMTP)**: Internet standard for sending email messages.

475. USB

- **Universal Serial Bus (USB)**: A plug-and-play interface allowing communication with peripheral devices.
- Examples: **Keyboards, mice, flash drives**.

476. Nibble

- **Nibble:** A group of 4 bits.
- **Byte:** A group of 8 bits.

477. Fourth-Generation Computers

- Period: **1971-1980.**
- Features:
 - Used **Very Large Scale Integrated (VLSI)** circuits.
 - Examples: **IBM 4341, DEC 10, Apple Series I & II.**

478. Parental Control Software

- Protects children online by:
 - Monitoring activity.
 - Blocking harmful websites.
 - Filtering inappropriate content.
 - Limiting screen time.

479. Mydoom Virus

- **Mydoom:** One of the worst computer viruses in history, causing **\$38 billion damage** in 2004.
- Technically a **worm**, spread through mass emailing.
- At its peak, it was responsible for **25% of all emails sent.**

480. Name Box in MS Excel

- Displays the **current cell address.**
- Located to the **left of the formula bar.**

481. Limitations of Parental Control

- Creates a **false sense of security.**
- Limits children's ability to explore the internet for learning.
- Can cause **trust issues** between parents and children.
- Tech-savvy children may **bypass controls.**

482. Applications of Operating Systems

- Manages hardware, software, and user interactions.
 - Examples:
 - **Windows, Linux, Macintosh, Android, iOS, Ubuntu, Fedora.**
-

483. SSD (Solid-State Drive)

- Storage device with **no moving parts**.
 - Uses **flash memory** for high-speed data access.
 - Key components: **Flash controller and NAND flash memory chips.**
-

484. Lines in MS Word

- **Red Line:** Spelling errors.
 - **Green Line:** Grammatical errors.
 - **Blue Line:** Contextual errors (e.g., correct spelling but wrong usage).
-

485. CC in Email

- **CC:** Carbon Copy.
 - **BCC:** Blind Carbon Copy (recipients remain hidden).
-

486. Time-Sharing OS

- Allows **multiple users at various terminals** to use a computer simultaneously.
 - Example: **Unix.**
-

487. Toggle Keys

- Examples: **Caps Lock, Num Lock, Scroll Lock.**
 - Functions:
 - **Caps Lock:** Capitalizes all letters.
 - **Num Lock:** Enables numeric input.
 - **Scroll Lock:** Allows arrow keys to scroll through content.
-

488. First Web-Based Email Service

- **Hotmail:** Launched on **4th July 1996.**

489. Apple's Spreadsheet Application

- **Numbers**: Part of Apple's **iWork** productivity suite.
- Allows **import/export** of **Excel** and **CSV** files and supports advanced functionalities.

490. Dial-Up Communication Protocols

- **PPP (Point-to-Point Protocol)**: Enables dial-up connections to other network protocols like TCP/IP.
- Features: **Password protection, error correction.**

491. Flash Memory

- A type of **EEPROM** (Electrically Erasable Programmable Read-Only Memory).
- Examples:
 - **BIOS chip, USB drives, CompactFlash.**

492. IPv4 Address Scheme

- **IPv4**: 32-bit address scheme.
- Written in **decimal** and separated by **periods**.

493. Toggle Case

- Converts text into **mixed case** (e.g., "dIctIOnAry").
- Used to shift between different case views.

494. Number Systems

- Common Types:
 - **Decimal, Binary, Octal, Hexadecimal.**
- **Not a Number System**: Anything unrelated to these types.

495. Debugging

- Process of detecting and fixing **errors (bugs)** in software.

496. Non-Programming Language

- Examples of programming languages: **Python, C, C++, Java.**
 - **Microsoft Bing:** A web search engine, not a programming language.
-

497. Node in Data Communication

- A **node** is any device that sends, receives, or stores data in a network.
 - Examples: **Modem, hub, router, switch, server, digital telephone.**
-

498. Spooling

- Temporary holding of data for **execution by a device, program, or system.**
 - Example: **Print spooling.**
-

499. Guided Media

- Also known as **Wired Transmission Media.**
 - Signals are confined in physical links like:
 - **Twisted Pair Cable.**
 - **Coaxial Cable.**
 - **Optical Fibre Cable.**
-

500. Horizontal Market Software

- Software applicable across industries.
 - Examples:
 - **Word processing, spreadsheets, operating systems.**
 - **Vertical Market Software:** Designed for specific industries (e.g., banking, real estate).
-

501. Chromecast

- **Chromecast:** A dongle connecting to the TV's **HDMI port** to add smart functions.
 - Allows streaming content from a smartphone to the TV via the home network.
-

502. Surface Web

- **Surface Web:** Portion of the web accessible to the public and indexed by search engines.
- Opposite of the **Deep Web** (unindexed).

503. Open-Source Software

- Examples:
 - **LibreOffice**
 - **GNU Image Manipulation Program.**
- Source code can be **inspected, modified, and enhanced** by anyone.

504. Video Conferencing Applications

- Examples:
 - **Skype**
 - **Google Hangouts**
 - **WebEx**
 - **BlueJeans.**

505. Blu-Ray Disc

- **Blu-Ray**: An example of **Optical Memory**.
- Features:
 - High-capacity storage.
 - Designed for high-definition video and advanced audio formats.

506. Tree Topology

- **Tree Topology**:
 - Combines **star** and **bus** topologies.
 - Valued for **scalability** and **troubleshooting accessibility**.

507. Invention of the Web

- **Tim Berners-Lee**: Invented the Web in **1989** at CERN.
- Publishing Language: **HTML**.

508. Levels of Artificial Intelligence

- **Narrow AI**: Performs specific tasks better than humans (current state of AI).
- **General AI**: Performs intellectual tasks at the same level as humans.
- **Strong AI**: Surpasses human capabilities in many tasks.

509. Tactile Haptic Feedback

- Used in mobile devices for touch sensations.
- Responds to **pressure or vibrations** during interaction.

510. Non-Antivirus Software

- **CyberLink PowerDirector**: A video editing software, **not an antivirus**.
- Examples of Antivirus:
 - **Norton**
 - **Kaspersky**
 - **Bitdefender**.

511. Giphy

- **Giphy**: A public database of animated **GIFs**.
- Acquired by **Facebook** in **May 2020** for **\$400 million**.

512. File Extensions

- **.com**: Simple executable file.
- Common extensions:
 - **.exe**: Executable files.
 - **.bat**: Batch files.
 - **.txt**: Text files.

513. Apple Keynote

- **Keynote**: Presentation software by Apple.
- Features:
 - Create slideshows with **images, videos, text, and animations**.

514. Non-Application Server

- **IIS (Internet Information Services)**: A **Web Server**, not an application server.
- Examples of Application Servers:
 - **JBoss**
 - **WebLogic**
 - **WebSphere**.

515. PHP

- **PHP:** Hypertext Preprocessor.
 - A server-side scripting language for creating **dynamic websites** and **web applications**.
-

516. IPng

- **IPng (Internet Protocol: The Next Generation):**
 - Officially named **IPv6**.
 - Replaces **IPv4** due to the insufficiency of address space.
-

517. Arrow Keys

- Cursor control keys: **Up, Down, Left, Right**.
 - Functions:
 - Move the cursor within a document or interface.
 - **Home:** Moves cursor to the beginning of a line.
 - **End:** Moves cursor to the end of a line.
 - **PgUp:** Moves cursor up one page.
 - **PgDn:** Moves cursor down one page.
-

518. Judy Malware

- **Judy:** An ad-clicking malware affecting multiple operating systems.
 - Infected nearly **41 Android apps**, generating fraudulent clicks on advertisements.
-

519. Starting Element in HTML Document

- **HTML Document** starts with:
 - A "start tag" (e.g., <p>) and an "end tag" (e.g., </p>).
 - Nested tags may include attributes like identifiers or style information.
-

520. Text Alignment in Word Processing

- **Left Justify:** Aligns text to the left margin.
 - **Right Justify:** Aligns text to the right margin.
 - **Center:** Centers lines of text.
 - **Fully Justified:** Aligns text to both margins by adjusting spacing.
-

521. Punch Card System

- Invented by **Herman Hollerith**, an American Statistician.
- Used for **data storage and retrieval** via punched holes.

522. Bookmarklet

- A **bookmark** containing **JavaScript** commands.
- Adds **new features** to a browser, such as running search queries or extracting data.

523. MS Excel Function Keys

- **F9**: Calculates all worksheets in all open workbooks.
- **F1**: Opens the Help pane.
- **F7**: Opens the Spelling dialog box.

524. Cloud Computing

- Ensures **effective online backup** of data.
- Provides shared processing resources and data storage over the Internet.

525. URL (Uniform Resource Locator)

- **URL**: The address of a resource on the web.
- Can refer to HTML pages, images, CSS documents, etc.

526. MS Word Functions

- Examples:
 - **Background Removal Tool**: Makes parts of an image transparent.
 - **Integrated Translator**: Translates text or entire documents.
 - **Screenshot Tool**: Inserts screenshots into documents.

527. Petabyte

- **1 Petabyte** \approx **1024 Terabytes** or **10^{15} bytes**.

528. Non-Hacking Technique

- Examples of hacking techniques:
 - **Botnets, Ransomware, Trojans, Viruses, Worms.**
 - **Malvertising** and **social engineering** are also common.
-

529. RAID

- **RAID:** Redundant Array of Independent Disks.
 - Uses multiple disks for **fault tolerance, performance improvement, and increased storage capacity.**
-

530. Mesh Topology

- Each node carries traffic **only between two connected nodes.**
 - Techniques:
 - **Routing:** Uses shortest paths.
 - **Flooding:** Broadcasts data to all nodes.
-

531. File Extension

- Indicates file type (e.g., .txt for text files, .exe for executables).
 - Example: myfile.txt has a **.txt** extension.
-

532. Word Processor

- Performs tasks like **composing, editing, formatting, storing, and printing documents.**
 - Early examples combined text-entry and recording units.
-

533. FTP (File Transfer Protocol)

- Standard protocol for transferring files between a **client and server** on a network.
-

534. MS Word Shortcuts

- **Ctrl+Alt+S:** Splits the document window.
 - **Alt+Shift+C:** Removes the split.
-

535. BIOS

- **BIOS (Basic Input/Output System):**
 - Built-in software for basic hardware functions like keyboard and display control.

536. First Commercial Microprocessor

- **Intel 4004:** Introduced in **1971** by Intel.
- Developed by **Federico Faggin, Marcian E. Hoff, and Stan Mazor.**

537. Spoofing

- **Spoofing:** Fraudulent practice where communication is sent from an unknown source disguised as a known source.
- Common in:
 - **Emails requesting personal information.**
 - Used for **identity theft.**

538. Fourth-Generation Computers (1971–1980)

- Used **VLSI circuits** for processing.
- Features:
 - **Semiconductor memory** for primary storage.
 - **Magnetic disks** for secondary storage.
 - Supported **multiprocessing** and **multitasking.**
- Examples:
 - **IBM 4341**
 - **DEC 10**
 - **Apple I & II**

539. Pratyush Supercomputer

- Purpose:
 - **Weather forecasting and climate monitoring.**
 - Used for **monsoon prediction, air quality, and extreme events like cyclones.**
- Established at:
 - **IITM Pune.**
 - **NCMRWF Noida.**

540. Full Duplex Data Transmission

- **Full Duplex:** Data flows in **both directions simultaneously**.
- Example: **Telephone networks**.
- Other modes:
 - **Simplex:** One-way (e.g., Keyboard to Monitor).
 - **Half Duplex:** Two-way but one direction at a time (e.g., Walkie-talkie).

541. TCP/IP Layers

- **Application Layer:** Contains high-level protocols (e.g., **TELNET, FTP, SMTP, DNS, HTTP**).
- Other layers:
 - **Host-to-Network:** Connects host to network.
 - **Internet:** Handles IP packets.
 - **Transport:** Uses TCP and UDP for end-to-end communication.

542. Relational Database Management Systems

- Represents data as **tables (relations)**.
- Examples:
 - **DB2, Informix** (IBM).
 - **Oracle, RDB** (Oracle).
 - **SQL Server, Access** (Microsoft).

543. Biometrics

- Identifies individuals using **unique physical or behavioral characteristics**.
- Examples:
 - **Fingerprints**
 - **Facial patterns**
 - **Voice recognition**

544. Apache OpenOffice Components

- Includes:
 - **Writer** (Word Processor).
 - **Calc** (Spreadsheet).
 - **Impress** (Presentation).
 - **Base** (Database).
 - **Math** (Formula Editor).

545. Touchpad

- Works by sensing **finger movements** and **downward pressure**.
 - Commonly used in **laptops** as an alternative to a mouse.
-

546. Computer Resolution

- Number of **pixels** on a display, expressed as:
 - Horizontal × Vertical pixels.
 - Higher resolution = **Sharper image**.
-

547. Bandwidth

- Measured in **bits per second** (bps), **kilobits**, or **megabits**.
 - Represents the maximum **data transfer rate** of a communication link.
-

548. Registers in CPU

- **Program Counter**: Holds the address of the instruction to be executed.
 - Other registers:
 - **Data Register**: Temporarily stores data.
 - **Instruction Register**: Stores the instruction code.
-

549. Output Devices

- Examples:
 - **Monitor**
 - **Printers**
 - **Braille Reader**
 - Not an output device: **Microphone** (input device).
-

550. MS Excel Function Keys

- **F2**: Edit the selected cell.
 - **F5**: Go to a specific cell.
 - **F7**: Check spellings.
 - **F11**: Create a chart.
-

551. Booting

- **Cold Boot:** Turning on the computer from an off position.
 - **Warm Boot:** Restarting without turning off the power.
-

552. Auxiliary Port

- Used for:
 - **MP3 players, Headphones, Speakers.**
 - Not used for: **Microphone.**
-

553. SQL (Structured Query Language)

- A standardized language for **database management.**
 - Functions:
 - **Store, retrieve, update, and manage data.**
-

554. Spooling

- Temporarily holds data for execution.
 - Example: **Print spooling** to queue print jobs.
-

555. Recycle Bin

- Temporary storage for **deleted files.**
 - Functions:
 - Allows recovery of files before permanent deletion.
 - Files can be **browsed or permanently deleted.**
-

556. Disk Operations and Performance

- **Disk Tracks:** A disk is divided into circular tracks, further divided into blocks called **sectors.**
 - **Seek Time:** Time for the read/write head to move between tracks. **Lower seek time = Better performance.**
 - **Rotational Latency:** Time required for the disk to rotate to the requested sector.
-

557. Dynamic Host Configuration Protocol (DHCP)

- **RFC 2131**: DHCP dynamically assigns **IP addresses** to devices on a network, automating network configurations.
 - Eliminates the need for manual IP assignment.
-

558. Big Iron (Mainframe Computers)

- **Big Iron**: Refers to **mainframe computers**, known for high performance, reliability, and security.
 - Examples: **IBM z Series**, System z9, System z10 servers.
 - Used for **bulk data processing** like census and transaction processing.
-

559. Shortcut for Redo Action

- **CTRL + Y**: Redoes the most recent action.
 - Press repeatedly to redo multiple actions.
-

560. GNU

- GNU is an example of an **assembler**, converting **assembly code** into binary machine code recognizable by processors.
-

561. Name Server

- A fundamental part of **DNS**, connecting URLs to **IP addresses**.
 - Works like a **contact list**, linking domain names to IPs.
-

562. Third Generation Computers

- Key innovation: **Integrated Circuits (ICs)**.
 - Improved **speed and efficiency**.
 - Generations:
 - **1st**: Vacuum Tubes.
 - **2nd**: Transistors.
 - **4th**: VLSI.
 - **5th**: ULSI and quantum computing.
-

563. Ransomware

- A form of **malware** that encrypts data and demands a **ransom** for decryption.
- Often paired with deadlines for payments.

564. Fifth Generation Computers

- Based on **ULSI microprocessors** (Ultra Large Scale Integration).
- Period: **1980-onwards**.

565. Open-Source Operating Systems

- Example: **Linux**.
- **Modifiable and distributable** by anyone.

566. CDMA

- Stands for **Code Division Multiple Access**.
- A channel access method using **spread spectrum technology** for multiple users.

567. Integrated Development Environments (IDE)

- Combines text editing, building, and debugging tools.
- Examples: **NetBeans, Eclipse, Python IDLE, Atom**.

568. Firmware

- Stored in **non-volatile memory** like ROM, EPROM, or flash memory.
- Found in devices like **BIOS chips, smartphones, digital cameras, and IoT devices**.

569. Invention of the Computer Mouse

- Invented by **Douglas Engelbart** in **1964**.
- Initially made with a wooden shell and metal wheels.

570. Microsoft Edge

- A web browser developed by **Microsoft**, formerly known as **Internet Explorer**.

571. Candidate Key

- A **minimal superkey** without redundant attributes, uniquely identifying rows in a table.

572. First Commercial Computer

- **UNIVAC**: Delivered to the **U.S. Census Bureau** in 1951.
- Designed for **business applications**.

573. MS Word Shortcuts

- **Alt + G**: Opens the **Design Tab**.
- Other shortcuts:
 - **Alt + H**: Home Tab.
 - **Alt + N**: Insert Tab.

574. Repeaters

- Operate at the **physical layer**.
- **Do not amplify signals**; instead, regenerate them at original strength.

575. Hard Copy

- Refers to a **physical printout** on paper, e.g., computer printouts or teleprinter pages.

576. Layers in the Internet Model

- **Link Layer**: **Lowest layer**, handles sending and receiving actual data.
- **Application Layer**: **Uppermost layer**, defines protocols for user interaction (e.g., **FTP**, **HTTP**).

577. Batch Processing

- **Definition**: Processes multiple requests together, reducing user wait times.

- Example: Mail delivery systems processing all orders at once.

578. LAN Data Rates

- LAN offers high-speed communication with data rates up to **1000 Mbps**.
- Uses twisted pair and coaxial cables.

579. External Level in Database Architecture

- **External Level:** The highest level of data abstraction, viewed as rows and columns.
- **Known as the View Level:** Users see full/partial data based on access rights.

580. IPv4 Addressing

- **IPv4:** 32-bit address written in **decimal and separated by periods**.
- First deployed in **ARPANET (1983)** for identifying network devices.

581. Monitor Types

- **LCD:** Uses **compact fluorescent tubes** for illumination.
- **CRT:** Creates images using electron beams.
- **LED:** Utilizes improved backlighting for better picture quality.
- **OLED:** Made of organic materials, converting electric current to light.

582. Maximize Button

- Enlarges a window to cover the entire desktop.
- Changes to a **Restore button** when maximized.

583. Hybrid Topology

- **Definition:** Combines two or more topologies (e.g., ring and star).
- **Advantages:** Reliable, scalable, flexible.
- **Disadvantages:** Complex design, costly.

584. Adding Charts in MS PowerPoint

- **Insert > Chart:** Choose chart type and enter data to create a chart.

585. Toolbar in Web Browsers

- Contains navigational buttons like **Home**, **Print**, and **Search**.
- **Functions:**
 - **Home:** Opens starting page.
 - **Print:** Prints the current page.
 - **Reload:** Refreshes the page.

586. Java Programming

- **Purpose:** For applet creation, cross-platform development.
- Used in embedded devices, mobile phones, and enterprise servers.

587. Server Software

- **Back-End Applications:** Support client computers by managing resources and services.

588. Spooling

- Overlaps low-speed operations with normal processing.
- Common in **printer operations**.

589. Trojan Horse

- Malicious program disguised as legitimate software.
- Can steal personal information, spread across networks, and deliver ransomware.

590. Encoder

- Converts **digital signals** into a transmittable format.
- Common in motion control systems.

591. IP Header

- Contains information such as:
 - **Source/Destination IP Address**
 - **Packet Length**
 - **Time to Live (TTL).**

- Does not include payload data.

592. Folder

- A named area on a disk used to store related files and subfolders.

593. Excel Editing Key

- **F2**: Activates Edit mode to modify cell content.

594. Infrared Transmission Devices

- Used in **TV remote controls, short-range communication.**

595. Computer-Aided Design (CAD)

- Used for designing and analyzing structures like **bridges and buildings.**
- Improves productivity and communication in design documentation.

596. Quora - Question-and-Answer Website

- **Quora**: A question-and-answer website launched on **June 21, 2010.**
- Allows users to **ask, answer, edit, and organize questions.**
- Users can **collaborate by editing questions and commenting on answers.**

597. Lowest Layer in OSI Model

- **Physical Layer**: The lowest layer in the **OSI model.**
- **Functions**:
 - Handles the physical connection between devices.
 - Transmits data in the form of **bits.**
 - Converts signals into **0s and 1s** for data transfer to the **Data Link Layer.**

598. Features of WhatsApp

- **End-to-End Encryption**: Secures chat backups.
- **WhatsApp Payments**: Facilitates money transfers.
- **Desktop Compatibility**: Can be used on a desktop computer.

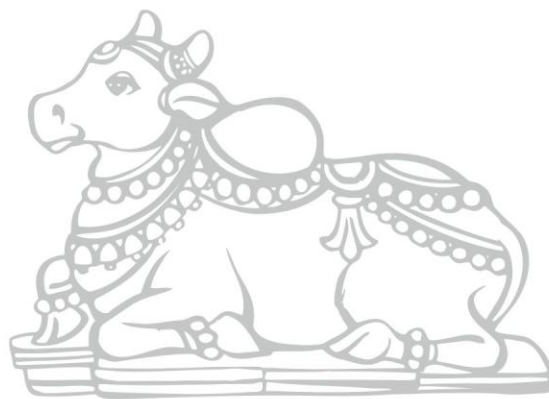
- **Launch Platform:** Initially launched on **iOS**.
- **Contact Syncing:** Allows managing synchronization for multiple accounts.

599. Internet Protocol (IP)

- **IP:** The main protocol for relaying data across networks.
- Part of the **Internet Protocol Suite**, which includes:
 - **TCP/IP:** Transmission Control Protocol.
 - **UDP/IP:** User Datagram Protocol.
 - **HTTP:** Hypertext Transfer Protocol.
 - **FTP:** File Transfer Protocol.

600. Chart Option in MS Excel

- Found under the **Insert Tab** in the **Illustrations Group**.
- **Steps to Insert Chart:**
 1. Go to **Insert Tab**.
 2. Select **Chart** from the Illustrations group.
 3. Choose the desired chart type from the **Insert Chart Dialog Box**.
 4. Click **OK** to create the chart.

**NBCC**