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# Computer Science Grade 9 — Chapter 1

Computer Systems

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*Independent practice MCQs from the supplied Class 9 Computer Science notes pack. Total: 50 questions. Each item has four options, the correct letter, and a short explanation.*

## A. Important / Main Topics

**1. Which technology was the core component of first-generation computers?**

(A) Vacuum tubes
(B) Transistors
(C) Integrated Circuits
(D) Microprocessors

**Correct Answer: A**

*Explanation: First-generation computers (1940–1956) relied on vacuum tubes as their core technology.*

**2. What is the smallest unit of memory in a computer?**

(A) Byte
(B) Bit
(C) Kilobyte
(D) Megabyte

**Correct Answer: B**

*Explanation: A bit (0 or 1) is the smallest unit of memory.*

**3. What does HTML stand for?**

(A) High-Level Machine Language
(B) Hyperlink Text Management Language
(C) Hypertext Markup Language
(D) Home Tool Markup Language

**Correct Answer: C**

*Explanation: HTML stands for Hypertext Markup Language.*

**4. Which device broadcasts data to all connected devices in a network?**

(A) Switch
(B) Router
(C) Gateway
(D) Hub

**Correct Answer: D**

*Explanation: Hub — this correctly answers the question.*

**5. Which type of memory loses its data when the computer is turned off?**

(A) RAM
(B) ROM
(C) Hard Disk
(D) Flash Memory

**Correct Answer: A**

*Explanation: RAM is volatile memory; data is lost when power is off.*

**6. What is the primary function of the Arithmetic Logic Unit (ALU)?**

(A) Managing system activities
(B) Performing mathematical and logical operations
(C) Storing data temporarily
(D) Controlling input/output devices

**Correct Answer: B**

*Explanation: Performing mathematical and logical operations — this correctly answers the question.*

**7. Which of the following is an example of system software?**

(A) Microsoft Word
(B) Minecraft
(C) Microsoft Windows
(D) Spotify

**Correct Answer: C**

*Explanation: Microsoft Windows is an operating system (system software).*

**8. In which network topology are all devices connected to a single central cable?**

(A) Star Topology
(B) Ring Topology
(C) Mesh Topology
(D) Bus Topology

**Correct Answer: D**

*Explanation: Bus topology uses a single central cable for all devices.*

**9. Which generation of computers introduced microprocessors?**

(A) Fourth Generation
(B) First Generation
(C) Second Generation
(D) Third Generation

**Correct Answer: A**

*Explanation: Fourth Generation — this correctly answers the question.*

**10. What is the function of the Control Unit (CU)?**

(A) Performs arithmetic operations
(B) Manages and directs system activities
(C) Stores data permanently
(D) Displays output on screen

**Correct Answer: B**

*Explanation: Manages and directs system activities — this correctly answers the question.*

**11. Which of the following is an example of an input device?**

(A) Monitor
(B) Printer
(C) Keyboard
(D) Speaker

**Correct Answer: C**

*Explanation: Keyboard — this correctly answers the question.*

**12. Which storage device uses laser technology to read and write data?**

(A) Hard Disk
(B) SSD
(C) USB Flash Drive
(D) CD

**Correct Answer: D**

*Explanation: CD — this correctly answers the question.*

**13. What is a protocol in data communication?**

(A) A set of rules that governs data communications
(B) A hardware device
(C) A type of cable
(D) A network topology

**Correct Answer: A**

*Explanation: A protocol is a set of rules governing data communications.*

**14. Which of the following is a high-level programming language?**

(A) Machine Language
(B) Python
(C) Assembly Language
(D) Binary Code

**Correct Answer: B**

*Explanation: Python is a high-level programming language.*

**15. Which network type covers a city-wide area of 5–50 km?**

(A) LAN
(B) WAN
(C) MAN
(D) PAN

**Correct Answer: C**

*Explanation: MAN — this correctly answers the question.*

**16. Which of the following best describes why transistors replaced vacuum tubes?**

(A) They were cheaper to manufacture
(B) They used less electricity
(C) They were easier to program
(D) They were smaller, faster, and more reliable

**Correct Answer: D**

*Explanation: They were smaller, faster, and more reliable — this correctly answers the question.*

**17. A student is building a computer and needs to install the component that serves as the "brain." Which component should they install?**

(A) Microprocessor
(B) Hard Disk
(C) RAM
(D) Motherboard

**Correct Answer: A**

*Explanation: The microprocessor (CPU) is the brain of the computer.*

**18. Which memory type is the fastest but smallest in the memory hierarchy?**

(A) RAM
(B) Registers
(C) Cache
(D) HDD

**Correct Answer: B**

*Explanation: Registers are the fastest and smallest memory units.*

**19. In a network, which device inspects incoming data packets and sends them only to the intended device?**

(A) Hub
(B) Router
(C) Switch
(D) Gateway

**Correct Answer: C**

*Explanation: Switch — this correctly answers the question.*

**20. What type of software is an operating system?**

(A) Application Software
(B) Utility Software

(C) Productivity Software
(D) System Software

**Correct Answer: D**

*Explanation: An operating system is system software.*

**21. In the OSI model, which layer is responsible for routing and logical addressing?**

(A) Network Layer
(B) Application Layer
(C) Transport Layer
(D) Data Link Layer

**Correct Answer: A**

*Explanation: Network Layer — this correctly answers the question.*

**22. Which mode of data communication allows both devices to send and receive data simultaneously?**

(A) Simplex
(B) Full-duplex
(C) Half-duplex
(D) Asynchronous

**Correct Answer: B**

*Explanation: Full-duplex — this correctly answers the question.*

**23. What is the primary purpose of CSS in web development?**

(A) To structure webpage content
(B) To add interactivity to webpages
(C) To control the presentation and layout of webpages
(D) To manage databases

**Correct Answer: C**

*Explanation: To control the presentation and layout of webpages — this correctly answers the question.*

**24. Which memory type uses magnetized materials to store data?**

(A) RAM
(B) ROM
(C) Cache
(D) Hard Disk

**Correct Answer: D**

*Explanation: Magnetic memory uses magnetized materials (HDD).*

**25. What is the function of the Address Bus?**

(A) Carries the addresses of data between the processor and memory
(B) Carries data between the processor and memory
(C) Carries control signals from the CPU
(D) Manages input/output operations

**Correct Answer: A**

*Explanation: Carries the addresses of data between the processor and memory — this correctly answers the question.*

## B. Less Important / Secondary Topics

**26. Which of the following is a characteristic of volatile memory?**

(A) Loses data when power is off
(B) Retains data without power
(C) Stores data permanently
(D) Used for long-term storage

**Correct Answer: A**

*Explanation: Volatile memory loses data when power is off.*

**27. What is the primary difference between a hub and a switch?**

(A) Hub sends data only to the intended device; switch broadcasts to all
(B) Hub broadcasts data to all devices; switch sends only to the intended device
(C) Hub operates at the network layer; switch operates at the physical layer
(D) Hub is more intelligent than a switch

**Correct Answer: B**

*Explanation: Hub broadcasts data to all devices; switch sends only to the intended device — this correctly answers the question.*

**28. Which of the following correctly describes ROM?**

(A) Volatile memory used for temporary storage
(B) Read/write memory used for active programs
(C) Non-volatile memory that stores BIOS
(D) Magnetic storage device

**Correct Answer: C**

*Explanation: ROM is non-volatile and stores the BIOS.*

**29. Which of the following is a characteristic of the fifth generation of computers?**

(A) Use of vacuum tubes
(B) Use of transistors
(C) Use of integrated circuits
(D) Focus on Artificial Intelligence and Natural Language Processing

**Correct Answer: D**

*Explanation: Focus on Artificial Intelligence and Natural Language Processing — this correctly answers the question.*

**30. What is the difference between asynchronous and synchronous transmission?**

(A) Asynchronous has variable timing with start/stop bits; synchronous has fixed timing without start/stop bits
(B) Asynchronous has fixed timing; synchronous has variable timing
(C) Both use start and stop bits
(D) Both have fixed timing

**Correct Answer: A**

*Explanation: Async uses start/stop bits; sync uses fixed timing.*

**31. Which of the following is an example of an output device?**

(A) Keyboard
(B) Monitor
(C) Mouse
(D) Scanner

**Correct Answer: B**

*Explanation: Monitor — this correctly answers the question.*

**32. What is the purpose of the `target="_blank"` attribute in an HTML link?**

(A) Opens the link in the same tab
(B) Opens the link in a new browser
(C) Opens the link in a new tab or window
(D) Downloads the linked file

**Correct Answer: C**

*Explanation: Opens the link in a new tab or window — this correctly answers the question.*

**33. Which type of network architecture requires each computer to act as either a server or a client, but not both simultaneously?**

(A) Peer-to-Peer Network
(B) Metropolitan Area Network
(C) Wide Area Network

(D) Client/Server Network

**Correct Answer: D**

*Explanation: In client/server, each computer is either a server or a client.*

**34. What is the function of the Program Counter (PC) register?**

(A) Contains the memory address of the next instruction to be executed
(B) Holds the memory location of data to be accessed
(C) Holds data being transferred to or from memory
(D) Contains the current instruction during processing

**Correct Answer: A**

*Explanation: Contains the memory address of the next instruction to be executed — this correctly answers the question.*

**35. Which of the following is an example of application software?**

(A) Microsoft Windows
(B) Microsoft Word
(C) macOS
(D) Linux

**Correct Answer: B**

*Explanation: Microsoft Word is application software.*

**36. A computer technician is upgrading a system. The user complains that the computer is slow when running multiple programs. Which component would most likely improve performance if upgraded?**

(A) Monitor
(B) Printer
(C) RAM
(D) Keyboard

**Correct Answer: C**

*Explanation: RAM — this correctly answers the question.*

**37. A network administrator needs to connect a local network to the internet. Which device should they use?**

(A) Hub
(B) Switch
(C) Gateway
(D) Router

**Correct Answer: D**

*Explanation: Router — this correctly answers the question.*

**38. A student writes a program in a language that closely resembles English and uses commands like `print` and `if`. What type of language is this?**

(A) High-Level Language
(B) Machine Language
(C) Assembly Language
(D) Low-Level Language

**Correct Answer: A**

*Explanation: High-Level Language — this correctly answers the question.*

**39. Which of the following best explains why the Von Neumann architecture is still used in most modern computers?**

(A) It is the only architecture that works
(B) It is based on the stored-program concept
(C) It uses the least amount of electricity
(D) It is the simplest to manufacture

**Correct Answer: B**

*Explanation: Von Neumann is based on the stored-program concept.*

**40. A company needs to ensure that its data is not lost if their server fails. What should they implement?**

(A) Increase RAM
(B) Use a larger monitor
(C) Backup data to external storage
(D) Install a faster CPU

**Correct Answer: C**

*Explanation: Backup data to external storage — this correctly answers the question.*

**41. In a peer-to-peer network with 8 computers, what is a major limitation compared to a client/server network?**

(A) It is more expensive
(B) It cannot share files
(C) It requires a dedicated server
(D) It has limited security and management

**Correct Answer: D**

*Explanation: It has limited security and management — this correctly answers the question.*

**42. A user wants to send a file to a printer. What type of data transmission is this?**

(A) Simplex
(B) Full-duplex
(C) Half-duplex
(D) Synchronous

**Correct Answer: A**

*Explanation: Sending to a printer is simplex (one-way).*

**43. Which of the following correctly lists the layers of the OSI model from top to bottom?**

(A) Physical, Data Link, Network, Transport, Session, Presentation, Application
(B) Application, Presentation, Session, Transport, Network, Data Link, Physical
(C) Application, Session, Presentation, Transport, Network, Data Link, Physical
(D) Transport, Network, Data Link, Physical, Application, Presentation, Session

**Correct Answer: B**

*Explanation: Application, Presentation, Session, Transport, Network, Data Link, Physical — this correctly answers the question.*

**44. A webpage displays content that changes based on user input. What type of website is this?**

(A) Static Website
(B) Informational Website
(C) Dynamic Website
(D) Personal Website

**Correct Answer: C**

*Explanation: Dynamic Website — this correctly answers the question.*

**45. Which of the following is NOT a function of an operating system?**

(A) Managing memory
(B) Providing a user interface
(C) Managing files and directories
(D) Creating spreadsheets

**Correct Answer: D**

*Explanation: Creating spreadsheets is application software, not the OS.*

**46. A user complains that their computer is running slowly. Which of the following is a possible memory-related reason?**

(A) Insufficient RAM

(B) The monitor is too small
(C) The printer is offline
(D) The keyboard is dusty

**Correct Answer: A**

*Explanation: Insufficient RAM — this correctly answers the question.*

**47. A small business wants to set up a network for 10 computers. They need to share files, printers, and an internet connection. Which network architecture is most suitable?**

(A) Peer-to-Peer
(B) Client/Server
(C) Standalone
(D) Mesh

**Correct Answer: B**

*Explanation: Client/Server — this correctly answers the question.*

**48. A student wants to add a border to a table using CSS. Which property should they use?**

(A) `table-border`
(B) `outline`
(C) `border`
(D) `edge`

**Correct Answer: C**

*Explanation: `border` — this correctly answers the question.*

**49. Which of the following best describes the difference between the Internet and the World Wide Web?**

(A) They are the same thing
(B) The WWW is the infrastructure; the Internet is a service on it
(C) The Internet is only for email; the WWW is for websites
(D) The Internet is the infrastructure; the WWW is a service on it

**Correct Answer: D**

*Explanation: The Internet is the infrastructure; the WWW is a service.*

**50. A company wants to ensure that its employees use software legally. What should they implement?**

(A) Use only authorized software and follow licensing terms
(B) Ignore software licenses
(C) Download cracked software
(D) Share software licenses

**Correct Answer: A**

*Explanation: Use only authorized software and follow licensing terms — this correctly answers the question.*