What is called **Central Processing Unit (CPU)?**

The **Central Processing Unit (CPU)** is called the *brain of the computer*. It's the part responsible for interpreting and executing instructions from both hardware and software.

🧠 What Is RAM?

RAM (Random Access Memory) is computer's short-term memory. RAM is **volatile and hence** it loses all stored data when the computer is turned off.

What are the types of RAM?

Type	Description
DRAM	Dynamic RAM; common in PCs, needs constant refresh
SRAM	Static RAM; faster, used in CPU cache
DDR	Double Data Rate RAM; modern standard (DDR4, DDR5)

What are the differences between **RAM** and **ROM?**

🧠 RAM vs. ROM: Key Differences

Feature	RAM (Random Access Memory)	ROM (Read-Only Memory)
Volatility	Volatile – loses data when power is off	Non-volatile – retains data even without power
Cost	More expensive per GB	Cheaper per MB

Fill in the blanks. Page 06

1. **Primary memory** is an alternative name for the main memory.
2. The **control unit** is that part of the CPU which controls and coordinates the activities taking place in the computer system.
3. The data stored in **RAM** is erased when we switch off the computer.
4. The RAM is called **volatile** memory.
5. The **ROM** stored permanent instructions for the computer system.
6. The **ALU** is that part of the CPU where all arithmetic calculations take place.
7. When the CPU of a computer is on a single chip, it is called a **microprocessor**.
8. The speed of the CPU is controlled by the **clock** and is measured in **gigahertz(GHz).**
9. The major operations of the ALU are **addition, subtraction, multiplication, division and comparison.**
10. Data which has been processed is called **processed data.**

Write true or false.

1 The CPU is known as the brain of the computer. True
2 RAM and ROM are the parts of the primary memory. True
3 When we switch off the computer, all the data stored in ROM disappears. False
4 The ALU carries out logical processing. True
5 The main memory is a part of the CPU. True

Give full forms of the following.

1. CPU→**Central Processing unit**
2. ALU→**Arithmetic logic unit**
3. MMU→**Main Memory Unit**
4. CU →**Control unit**
5. RAM→Random Access Memory
6. ROM→Read only Memory

What are the functions of control unit?

The control unit acts like a supervisor.

1. It controls the flow of data.
2. It controls the order in which computer programs are executed.
3. It coordinates with the input and output units.

COMPUTER FUNDAMENTALS

🧠 Computer Overview MCQs

1. **Which of the following is considered the brain of the computer?**
   a. RAM
   b. Hard Disk
   c. CPU
   d. Monitor
   Answer: c) CPU
2. **What does RAM stand for?**
   a. Read Access Memory
   b. Random Access Memory
   c. Rapid Application Memory
   d. Remote Access Memory
   Answer: b) Random Access Memory
3. **Which unit performs arithmetic and logical operations in a computer?**
   a. Control Unit
   b. Memory Unit
   c. ALU
   d. Input Unit
   Answer: c) ALU

4. **Which of the following is NOT an input device?**
    a. Keyboard
    b. Mouse
    c. Monitor
    d. Scanner
    Answer: c) Monitor
5. **Which type of memory is non-volatile and stores data permanently?**
    a. RAM
    b. ROM
    c. Cache
    d. Register
    Answer: b) ROM
6. **Which of the following is a secondary storage device?**
    a. CPU
    b. RAM
    c. Hard Disk
    d. ALU
    Answer: c) Hard Disk
7. **Which component manages and coordinates all activities of the computer?**
    a. ALU
    b. Control Unit
    c. RAM
    d. ROM
    Answer: b) Control Unit
8. **Which language is directly understood by the computer?**
    a. Assembly Language
    b. Machine Language
    c. C++
    d. Java
    Answer: b) Machine Language
9. **Which of the following is used to connect a computer to a network?**
    a. CPU
    b. RAM
    c. NIC
    d. ROM
    Answer: c) NIC (Network Interface Card)
10. **Which of the following is the smallest unit of data in a computer?**
    a. Byte
    b. Bit
    c. Nibble
    d. Word
    Answer: b) Bit

11. **Which generation of computers used vacuum tubes?**
    a. First
    b. Second
    c. Third
    d. Fourth
    Answer: a) First
12. **Which of the following is a high-level programming language?**
    a. Machine Language
    b. Assembly Language
    c. C++
    d. Binary Code
    Answer: c) C++

13. **What does GUI stand for?**
    a. General User Interface
    b. Graphical User Interface
    c. Global Unified Interface
    d. Guided User Interaction
    Answer: b) Graphical User Interface
14. **Which of the following is NOT a type of computer memory?**
    a. RAM
    b. ROM
    c. CPU
    d. Cache
    Answer: c) CPU
15. **Which device converts digital signals to analog and vice versa?**
    a. Router
    b. Modem
    c. Switch
    d. NIC
    Answer: b) Modem
16. **Which of the following is a permanent storage device?**
    a. RAM
    b. ROM
    c. Hard Disk
    d. Cache
    Answer: c) Hard Disk

17. **Which of the following is used to boot a computer?**
    a. RAM
    b. BIOS
    c. CPU
    d. Monitor **Answer:** b) BIOS
18. **Which of the following is NOT an operating system?**
    a. Windows
    b. Linux
    c. MacOS
    d. Microsoft Word
    Answer: d) Microsoft Word
19. **Which of the following is a volatile memory?**
    a. ROM
    b. Hard Disk
    c. RAM
    d. SSD
    Answer: c) RAM
20. **Which of the following is used to connect computers in a network?**
    a. Printer
    b. Router
    c. Monitor
    d. Keyboard
    Answer: b) Router

21. **Which of the following is system software?**
    a. MS Word
    b. Windows OS
    c. Photoshop
    d. Excel
    Answer: b) Windows OS

22. **Which part of the CPU coordinates all operations?**
    a. ALU
    b. Control Unit
    c. Register
    d. Cache
    Answer: b) Control Unit
23. **Which of the following is NOT a type of computer?**
    a. Supercomputer
    b. Minicomputer
    c. Megacomputer
    d. Microcomputer
    Answer: c) Megacomputer
24. **Which of the following is used to store BIOS settings?**
    a. RAM
    b. ROM
    c. CMOS
    d. Hard Disk
    Answer: c) CMOS
25. **Which of the following is a type of software license?**
    a. Open Source
    b. Closed Source
    c. Freeware
    d. All of the above
    Answer: d) All of the above
26. **Which of the following is a programming language?**
    a. HTML
    b. Python
    c. SQL
    d. All of the above
    Answer: d) All of the above
27. **Which of the following is NOT a function of an operating system?**
    a. Memory management
    b. File management
    c. Virus protection
    d. Process management
    Answer: c) Virus protection
28. **Which of the following is a type of computer virus?**
    a. Trojan
    b. Worm
    c. Spyware
    d. All of the above
    Answer: d) All of the above
29. **Which of the following is a markup language?**
    a. Java
    b. HTML
    c. Python
    d. C++
    Answer: b) HTML
30. **Which of the following is used to translate high-level language into machine code?**
    a. Compiler
    b. Interpreter
    c. Assembler
    d. All of the above
    Answer: d) All of the above

Classification of computers

Fill in the blanks.

1. **The smartphone is a micro computer while an ATM is a mainframe computer.**
2. **Microprocessor chips are embedded in machines such as cars and ATMs.**
3. **Weather – forecasting stations use super computers.**
4. **Laptops, notebook and smartphones are portable computers.**
5. **Workstations are used for computer animations.**
6. **A network server is usually a mainframe computer.**

Write T for true and F for false.

1. The smartphone is a microcomputer while the ATM is a mainframe. T
2. Workstations are powerful multi-user computers. F
3. A tablet is a type of mobile computer with a touchscreen. T
4. Notebook computers are portable computers. T
5. A PC is a type of microcomputer. T

Answer the following.

1. Which types of computers run on rechargeable batteries? **Laptops or Notebook computers.**
2. Expand ATM. Which type of computer is used here?
   Automated teller machine. Embedded computer is used here.
3. Write at least two main features of supercomputers.
   Main features:
   - **They are massive in size and can occupy a whole room.**
   - **They have several processors which make them very powerful and fast.**

Advanced Features in Windows

Fill in the blanks.

1. You can use Windows Media Player to play **music, videos** and **movie** files.
2. To start Windows Media Player, click **Start → All program → Windows Media Player.**
3. The Windows Media Player shows the media files in the **library** view and the currently playing song in the **Now playing** view.
4. Copying songs from audio CDs to your computer is called ripping.
5. Copying files from your computer to your CD is called burning.

6. The three main sections of the taskbar are the start button, the middle section and the notification area.
7. A minimised button can be restored by clicking its preview in the taskbar.
8. Eight different ways of viewing the multiple open files on your computer.
9. Sleep is a power-saving state that lets computers quickly resume operation.
10. Hibernate is a power-saving state primarily for **laptops.**
11. The easiest way to shut down a laptop is to close the lid.

List **four** things you could do with Windows Media Player.

Windows Media Player is used to **play music, videos and movie files**. It also **burns CDs and rips music from CDs.**

What do you understand by the terms 'ripping a CD' and 'burning a CD'?

Ripping is copying songs from audio CDs to the computer.

Burning is copying data from the computer to a CD.

For this, we can use a blank CD-R or CD-RW disk.

Explain the ways the taskbar helps you organise your work.

We can use the taskbar to open and work with multiple windows at the same time.

What is the difference between Shut down, Sleep and Hibernate options?

Shut down: The **Shutdown button** shuts down the computer completely.

Sleep**: Sleep** is a power-saving state that lets a computer quickly resume full-power operation in a few seconds.

Hibernation: Hibernation is a power-saving state designed primarily for laptops.

Describe how to merge three adjacent cells into one.

To merge three adjacent cells into one in a Microsoft Word table, follow these steps:

📄 Steps to Merge Cells in MS Word

1. **Select the cells**:
   - Click and drag across the three adjacent cells you want to merge (they can be in a row or column).
2. **Open the context menu**:
   - Right-click on the selected cells.
3. **Choose "Merge Cells"**:
   - From the menu, click **Merge Cells**. Alternatively, go to the **Layout** tab under **Table Tools** and click **Merge Cells** in the ribbon.
4. **Result**:
   - The selected cells will combine into a single cell.

Describe two useful features of the layout tab.

Some key features of the **Layout** tab:

🧰 1. Merge and Split Cells

- **Merge Cells**: Combines selected cells into one.
- **Split Cells**: Divides a cell into multiple rows or columns.

🧭 3. Alignment and Text Direction

- **Text Alignment**: Align text top, middle, bottom; left, center, or right.
- **Text Direction**: Rotate text vertically or diagonally—great for headers.