

ISC COACHING CENTRE



**EXPERT TUITION FROM
EXPERIENCED TEACHERS**

Class IV-X *English, Maths,
Science & Social Science*
Class XI-XII

**English, Maths, Accountancy, Economics,
I.p, C.S, Business Studies, History,
Pol. Science, History, Geography**

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|-----------------------|-------------------|-----------------|
| - Class Notes | - Pre-Board Paper | - Board Papers |
| - Important Questions | - Assignmenta | - Mcq Questions |
| - Test papers | - Sample papers | - Short Notes |

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Chowk, Adarsh Nagar**

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Computer System

(Part-2) The Memory

Introduction :

- The memory of a computer is a predefined working place where the data is stored temporarily to facilitate its performance.
- The memory of computer is also known as Primary or Main memory.
- It is the most important unit of computer Organisation.

Memory Unit :

- ⇒ Main Memory / Primary memory is composed of cells
- ⇒ Each cells is further broken down in to smaller components called - Bits
- ⇒ A group of 8 bits is called a Byte

Types of Primary Memory :

- i) RAM (Random Access Memory)
- ii) ROM (Read Only Memory)

⇒ RAM :

- ⇒ Random Access Memory (RAM) is a read / write memory.

⇒ RAM is used for primary storage in computer to hold active information of data & instructions.

⇒ RAM is volatile memory which means it loses its content as the power is switched off or interrupted.

ROM :

⇒ ROM is a Read-only Memory

⇒ The data & instructions are permanently stored in the ROM at the time of manufacturing & can't be changed.

⇒ ROM is non-volatile & slower than RAM.

Cache Memory :

⇒ Cache Memory is placed between CPU & main memory. It makes this data available to the CPU very quickly by sending the data to CPU instead of main memory & thus reduces access time.

⇒ Cache memory is a small memory that works much faster than the primary memory or RAM.

Various Storage Devices

i) Hard Disc

- ii) Pen Drive
- iii) CD
- iv) DVD
- v) Blu-ray Disc

→ Hard Disc :

A hard disc is a set of stacked disks & each disc has data recorded electromagnetically in concentric circle or tracks on the disc.

It can store data upto giga byte (GB)

→ CD (Compact Disk):

- It is an optical media for storing upto 700mb data. CDs are mainly of three types:
- CD-ROM (Compact Disk - Read Only Memory)
- CD-R (Compact Disk - Recordable)
- CD-RW (Compact Disk - Rewritable)

→ DVD

- It is an optical media for storing data of 15 CDs together, upto 17 gb data. DVDs are mainly of three types:
- DVD-ROM (Read Only Memory)
- DVD-R (Recordable)
- DVD-R (Rewritable)

Flash Memory (Pen drive):

- It is a small, ultra-portable storage device, with a solid state memory that can hold upto 100 GB.
- It is inexpensive & works in a similar way to RAM.

The System Bus :

- It is an electronic pathway composed of connecting cables with major components of a computer system.

It has four parts :

- Data bus that carry bus
- Control bus that control instructions.
- Address bus that holds memory address.
- I/O bus that connects the input, output & other external devices.

Ch-1 Computer Science

★ Data

→ Data are raw numbers or other findings which by themselves are of limited value. Information is data that has been converted into a meaningful & useful context. Computers are being used extensively ~~now~~ nowadays in every life field in the form of laptop, desktop etc.

a) Data Capturing:

→ It means inputting data to convert it into digital form so that it is usable to computer. Data capturing is performed by input devices like keyboard for textual data etc.

b) Data Storage:

It means storing data digital device for future use
Issue related to data storage:

i) Data is generated at very high rates, therefore high speed digital storage device are used.

ii) Data keeps on increasing therefore storage device are device & making it available to the CPU.

★ Software

→ Software is an organized set of instruction written by programme using any of various special computer language for specific purpose.

Types of software : Software are basically of two types:

- i) System Software : It controls the basic function of a computer & hides complexity of computer system from user & application software.
- ii) Application software : It handles specialized common task a user want to perform, such as banking etc.

1) System software :

It controls computer operation.

They are further classified into four categories:

- a) Operating System : An Operating (OS) is a system programme that controls and manages the computer resources so that application software can run to it.
Ex - Solaris, linux etc.

If any computer or mobile device, the operating system can be termed as the back bone when it comes to software.

- It means manages the hardware resources of a

computer system. These resources include such thing as the processor, memory etc.

- It provides a stable, consistent way for application to deal with the hardware without having to know all the details of the hardware.

★ Function of operating System :

- Processor management loads, schedules & execute programme.
- Memory management Allocates / de-allocates of memory for program execution.
- Device management Communicate & control various I/O device.
- User interface : Structure for interaction between a user & the computer.

★ Type of operating System :

- Single - User , Single Task Operating System : Eg. DOS
- Single - User , Multi-Task Operating System : Eg. window 95 or later version of window.
- Multituser operating system : Eg. Unix, linux, window 7
- Embedded Operating System :

b) language processor

As the computer understand machine language where as humans understand High level / human lang. language Processor does the conversion. It is also known as language translator.

★ There are 3 type of language processor:

1. **Compilers**: It converts high-level language code to machine code in one session.
2. **Interpreters**: It translate code like compiler but reads the code & immediately executes that code.
3. **Assemblers**: It translates an assembly language programme into machine language.

★ Difference between Compiler & Interpreters:

S.No	Compiler	Interpreters
1.	Scans the whole program in one go.	Translates programme one statement at a time.
2.	The errors are shown at the end together.	Errors are shown line by line.
3	E.g. C, C++, C# etc.	Eg: Python, Ruby, Perl etc.

★ System Utilities:

They are helpful programme, that assist OS in carrying out certain specialized task therefore also known as utility programme.

i) **Antivirus** : An antivirus scans the system for any virus & if detected, get rid of it by deleting or isolating it.

ii) **Disk cleanup** → Disk cleanup tools assist users in freeing up disk space.

iii) **Backup** → Backup utility enables backing up files, folders, databases or complete disk.

iv) **Restore** → This utility restores the backup earlier taken.

v) **Text Editor** → This utility programme is used for creating, editing text files.

★ **Application software** :

It is the set of programme necessary to carry out operations for a specified applications.

- Application software consist of programme designed to make users more productive & assist them persnl tasks.
- Application user has a variety of users:
 1. To make bussiness activities more efficient.
 2. To facilitate communications.

★ **Hardware** :

→ It refers to the physical & tangible electronic components of a computer that can be seen, touched & occupy space.

Eg: Keyboard, mouse, monitor etc.

★ Role of Hardware

Hardware plays an imp. role in the working of computer system as computer works diligently & efficiently due to the wonderful combination of hardware & software.

