

**GRADE- 8**  
**WORKSHEET-Computer**  
**MEMORY AND DATA STORAGE**

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1. What are the types of memory and storage devices?

Memory and storage devices can be split up into three distinct groups: 1) primary memory 2) secondary storage 3) off-line storage.

2. What are the two different types of primary memory?

The primary memory is divided into two- RAM (Random Access Memory) and ROM (Read Only Memory).

3. Explain in detail RAM and ROM.

i. RAM (Random Access Memory)

RAM is held on a chip. The data in RAM are held only temporarily, which means that the data disappear when the power is switched off. For this reason, RAM is often called volatile memory. RAM is used to hold data and programs during processing.

ii. ROM (Read-Only Memory)

ROM is held on a chip inside the processor and is used to hold data which cannot be changed by the user. Programs are stored on ROM chips when a computer is manufactured. It is non-volatile/permanent memory. Data are permanently stored even if power is switched off. The ROM contains the program that is used to start up the computer.

4. What is secondary storage **devices**?

Secondary storage is the memory where the information is stored permanently, till it is explicitly deleted. These devices are not directly accessed by the CPU and they are non-volatile storage devices.

5. Name two different types of secondary storage devices.

Hard disk and solid state devices are two types of secondary storage devices

6. What are the types of hard drives?

The two different types of hard drives are fixed hard disk and portable (removable) hard disk.

7. Explain fixed hard disk.

Fixed hard disk consists of a series of disks (platters) coated with a magnetic material. The series of read/write heads which record data onto the surface. It is used to store operating systems, working data and application software like word processing software.

8. What is portable hard disk?

Portable hard disk is external hard disk for backup purposes. It is used to store very large files which need to be transported from one computer to another.

9. What is solid state devices?

The term solid state means 'no moving parts'. These devices are based on electronic circuits with no moving parts (no spinning disks or laser lights).

10. What are off line storage devices?

Any device which can hold data that is not permanently connected to a computer is called off line storage devices. These devices can be removed from the computer and carried wherever required.

11. What is optical disks?

Optical disks are flat circular disk which holds large files and are ideal for holding music, movies and animation files. Laser light is used to read and write data on the surface of the disk. 12. Explain in detail the following optical storage devices.

- i) CD- ROM: stands for Compact Disk - Read Only Memory and data is written on these disks at the time of manufacture. Thereafter this data cannot be changed. It stores songs, movies, games, educational software etc.
- ii) CD-R: stands for Compact Disk- Recordable. Data can be recorded on these disks only once, but after that the disk cannot be erased /modified.
- iii) CD-RW: stands for Compact Disk-Rewritable. This allows data to be stored on the disk over and over again; it may be used to make backups of data on a regular basis.
- iv) DVD -RAM: It stands for DVD-Random access memory. This allows read and write operations to be carried out at the same time. It is faster and easier to overwrite data.
- v) Blue ray disk: Blue Ray Disk is the latest optical storage media to store high definition audio and video. It has a much higher storage capacity than DVD. CDs or DVDs use red laser light, but the blue ray disk uses a blue laser light to read/write data on a disk.

13. Describe briefly USB flash memory.

USB flash memory is also called pen drive or memory stick. They are very popular storage media which offer cheap and large storage capacities. They consists of printed circuit boards enclosed in a plastic case.

14. What are the advantages and disadvantages of Memory stick/USB flash memory?

Advantages:-

- 1) Flash memory is very small, easier to carry, lightweight device.
- 2) It is used for transferring files between computers.

- 3) It is more robust and difficult to damage.
- 4) It has large storage capacity (Up to 256 GB)
- 5) It can directly connect through USB port and not requires separate drive.

Disadvantages:-

- 1) Their small size means they can easily be stolen.
- 2) It has low access speed as compared to magnetic hard disk.
- 3) They are often left in the computer by mistake and lost.

15. What is HD card?

HD cards often referred to as flash memory cards, are small thin, rectangular or square removable cards that are used for storage of digital images by digital camera.

### **Fill in the blanks**

a) The two different types of primary memory are \_\_\_\_\_ and \_\_\_\_\_.

Answer: RAM and ROM

b) The \_\_\_\_\_ is the device in which current working data is lost when the computer is switched off.

Answer: RAM

c) Data are permanently stored even if power is switched off is called \_\_\_\_\_

Answer: ROM

d) The \_\_\_\_\_ and \_\_\_\_\_ are two different types of hard drives.

Answer : Fixed hard disk and portable hard disk

e) \_\_\_\_\_ consists of a series of disks (platters) coated with a magnetic material.

Answer: Fixed hard disk

f) \_\_\_\_\_ is used to read data and to write data in the surface of the optical disk.

Answer: Laser light

g) \_\_\_\_\_ and \_\_\_\_\_ disks are two examples of optical storage devices.

Answer: CD-ROM and Blue-ray

h) \_\_\_\_\_ light is used to read and write data in the surface of the CD's and DVD's.

Answer: Red laser

i) \_\_\_\_\_ optical storage device uses blue laser light to read and write data on the media surface.

Answer: Blue ray disk.

### **Match the following:**

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1. Used to store operating system
2. Volatile memory
3. Non- volatile memory
4. Used for storage of digital images by digital camera
5. Allows read and write operations to be carried out at the same time.
6. Saving work and transferring it to other computers.
- a) ROM
- b) USB flash memory
- c) Fixed hard disk
- d) DVD-RAM
- e) RAM
- f) HD card