

2. Memory and Storage Media Classwork

1. A supermarket uses both secondary storage and off-line storage to store data. Explain what is meant by each.

- a. **Secondary storage:** Types of secondary storage are Hard Drives or Solid State Drives - these storage systems hold onto data even after shutdown and usually come in sizes (128gb+). These can hold onto data for extended periods of time.
- b. **Off-line Storage:** Offline storage systems consist of CDs, USB flash drives and external storage. These are usually insertable and removable to a device, making them portable. They can hold from small amounts of data to even external 4TB ssds.

2. Identify three similarities between CDs and DVDs

- a. First similarity: Types of offline storage
- b. Second similarity: Forms of optical storage drives/media
- c. Third similarity: Data stored as 'pits' and 'bumps' on a spiral track

3. 5 storage devices/media

- a. External HDD - Offline Storage (removable)
- b. Ram - Primary Storage
- c. Internal SSD - Secondary storage
- d. ROM - Primary storage
- e. DVD - Offline storage

4. Explain how data is written in Optical Storage Media

- a. For optical storage devices, usually CDs or DVDs, they use a red laser light to read and write data to the layer of the disk. These are single spiral tracks that are wrapped in a circular motion around the disk. There are 'pits' or 'bumps' on the surface which represent the data.

5. What storage to use for cameras and drones

- a. The most sensible choice would be a Solid State (sd card in particular)

- b. An offline/external Solid State drives such as an SD card is small and compact, making it light and easy in a drone. These are also compatible with most modern camera/recording device and can be easily read through an USB adapter.

6. Comparison table

RAM	ROM
Yes	No
No	Yes
No	Yes

7. RAM and ROM are:

- a. Primary Storage

8. What is meant by Off-line storage?

- a. Offline storage are typically removable + insertable storage devices. They are non-volatile meaning that power is not required for them to save data.

9. Methods to store data electronically to avoid lost of data

- a. **External Hard Drives** - A large hard drive can serve as an externally backed device, meaning even if her normal hard drive fails, a separate backup can be used
- b. **External SSD** - With SSDs having r/w speeds of almost 500mbps+ , having a fast external drive can help transferring and backing up files at fast speeds.
- c. **Cloud backup** - With providers such as Apple, Amazon and Google providing a secure backup system, having a cloud storage can help Sarah hold files in which she can access anywhere as long as she is logged into the same account.

10. Two differences between RAM and ROM:

- a. RAM is temporary memory and clears itself when the device is turned off. On the contrary, ROM are permanent and remain despite power off.
- b. RAM has read and write capabilities whereas ROM can only be read from. (Exceptions to EEPROM)

11. Most suitable storage storage media

- a.** Backup of 150gb - (offline) Having a relatively large file size, an external SSD can serve as the solution. This is because modern SSDs has storage sizes up to 100TB and has fast read and write speeds making them beneficial for backing up large volumes of data quickly
- b.** Storing Application on tablet - (secondary/offline) for modern tablets, fast read write speeds are important especially for intensive games. A SSD built in can be beneficial for the tablet user
- c.** 1200MB Movie - (offline) as it needs to be distributed an offline solution must be used. A DVD can hold the file size sufficiently are are cheaper compared to sd cards or USB flash drives. Downside is that a DVD reader must to be used to view the file.