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ANS(1) Image Scanner:-

A device that optically

Scans images, printed text, hand writing, or
an object and convert it to a digital
image

Input device that translates paper documents
into an electronic format for storage in a
computer.

⇒ Limitations of image Scanner:

There are different limitations of image scanner few are under below.

- 1) Scanned documents is stored as an image { not as text. So it is not possible to do any word processing of the document.
- 2) Storage space required is more for an image than text.
- 3) Scanner does not support share names of more than 200 characters.
- 4) Scanner modifies the access time of direction while ~~trav~~ traversing the filesystem.
- 5) Only full scans are supported.

(3)

⇒ Optical Character Recognition (OCR) device overcome

The limitations-

- 1) OCR Convert Characters with every large or very small font size to overcome the image Scanner limitation.
- 2) Enable word processing of input text and also requires less storage for storing the documents as text rather than image.
- 3) It can easily read the image. we edit the image easily also.
- 4) with the help (OCR) Software the quality of document will not reduced.
- 5) When we get a document in a word file the (OCR) Software decrease the storage place.

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USES OF MICR:-

- 1) MICR is a character-recognition technology used mainly by the banking industry to ease the processing and clearance of cheques and other documents.
- 2) The MICR Code is presented in the bottom of the cheque.
- 3) The first 3 digits in the MICR code represents the city code that is the city in which the bank branch is located. In most cases it is in line with the pin code of the postal address of any country such as Pakistan.
- 4) The next 3 digits stands for bank code.
- 5) The last three digits represents the bank branch code.

6) MICR reader-sorter reads data on cheques and sort them for distribution to other banks or for further processing. provide high-speed method.

⇒ Fonts for MICR
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There are two major MICR fonts is

used. E

- 1) E-138 has 14 characters
- 2) E-13C-7 has 15-16 numeric characters.

ANS(2) Differentiate b/w printer and plotter

⇒ Printer:-
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Printer is a Pexip

- 1) A device that brings images and texts on the page with the help of commands given through a network.

(6)

- 2) Output file data in case of a printer usually get stored as bitmap or pixels.
- 3) work at fast speeds
- 4) Do not draw continuous lines
- 5) Needle or Laser.
- 6) It accepts the text and graphic output from the computer and takes all the information and print it out on the paper.

⇒ Plotters

- 1) A device that draws pictures on the page with the help of commands given through a computer.
- 2) It is used to produce hard copies of a large graphs and design on paper. Construction on map, drawing and plans business charts etc.

- 3) Gives the output in a format that is similar to a vector graphic.
- 4) Draw continuous lines.
- 5) Work slower than others.
- 6) Pen
- 7) There is also advanced technology and variety is the 3D Plotter that does not use a pen.
- 8) Plotter has a huge capacity of drawing several hundred copies of the same drawing over and over without new commands needing.

(b) Printing Process of a Laser printer:-

The process of a laser printer is completed by various steps.

1) Cleaning:-

Before a new page is printed, any remaining from the previous page are cleared away. The drum is swept free with a rubber blade.

2) Conditioning:-

The entire drum is uniformly charged by the primary corona wire. The charge condition is the drum for next step.

3) Writing :-
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The laser printer controller uses a laser beam and a series of mirrors to create the image of the page on the drum.

The laser beam is turned on and off accordance with the image.

4) Developing :-
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A magnet inside the developing roller

attracts the iron particles in the toner. The roller rotate near the drum and the toner is attracted to the area of the drum that have been exposed by the laser creating the print image on the drum.

5) ~~Transferring~~ Fusing :-
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The fusing rollers apply heat and pressure to the toner, which melt and presses it into the paper to create a permanent bond. The roller are covered with Teflon and treated with light Silicon oil to keep the paper from sticking to them.

AIUS(3a) Explain Metropolitan area network (MAN) with suitable example

MAN stands for metropolitan area network. This type of network covers an area of city. (MAN) is larger than (LAN) but smaller than (WAN). It is usually used to

To connect two or more LANs in a city or town. It is also used to mean the interconnection of several area networks by bringing them with backbone lines.

⇒ Advantages:-

- Man covers a larger area than LAN
- It provide Higher speed than LAN

⇒ DisAdvantages:-

- More expensive than LAN.
- Difficult to maintain as compared to LAN.

⇒ Example:-

- Cable TV network in a city.

(b) Topology:-

The arrangement of the various links, nodes, etc of a computer.

The interconnected pattern of network elements.

A Network topology may be physical, mapping hardware configuration.

=> Star Topology:-

A star topology is a topology for a local area network (LAN) in which all nodes are individually connected to the central connection points, like a hub or switch. It requires more cable and big benefit is that if a cable fails then only one node will be brought down.

I would chose to star topology to ~~st~~ setup a local area network. Because star topology is best suited for small network and efficiently when there is a limited number of nodes. one has to ensure that the central device or the central node is always working and extra security feature should be added to the central device to gain more power and protection. The best benefits of star topology is that if a one node (cable) fails then only one node will be down and it is a best choice to compared with other topology for a local network. it cannot disturb the whole network when one node failed.

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This is a best part of Star topology.

Ans(4) Common Media Storage devices:-
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There are distinct types of storage devices are used for storage some are under below

1) Magnetic Disks:-
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A storage device that uses a magnetization process to write rewrite and access data. It is covered with a magnetic coating and store data in the form of tracks, spots and sectors. tracks form circles on the surface magnetic disk. Each can store upto 512 bytes of data.

2) Zip Disk:-

The zip drive is a medium to high Capacity removable floppy disk storage system for its period of contemporary use. Zip disk launched with the capacity of 100 MB. But later versions increased this first to 250 MB and then 750 MB.

3) Super disk:-

Super disk supports very high density diskettes. its capacity is 120 MB to 250 MB it can also read the standard 1.44 MB floppy disk.

4) FLOPPY DISKS:-

Floppy disks are also known as Diskette.

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- Portable magnetic device.
- it can store up to 1.44 MB data which is equivalent upto 300 pages of A1 text.
- Small and lightweight, inexpensive
- useful for transferring small files
- Can be used many times.
- Easy to damage
- Small storage capacity.

5) Optical Disk:-

- A form of removable storage
- includes CD, DVDs and blue ray discs.
- use laser data to read and write data on optical disk.
- Storage Capacity is ~~form~~ from 700 MB to several GB.
- Main categories of optical disk are CD, and DVD.

All the old methods of storage which I have mentioned in my notes. it was used in past but due to the advancement and latest invention in technology these etc now a part of old era. Now in this modern we used different new devices to store data. Some etc as follow.

1) Random Access Memory:

~~Direct~~ A hardware in a computer device where the operating system (OS) application programs, it is also known as short term memory. it is temporarily stores everything that run on your PC. like all the services in windows, web browser etc.

2) Solid State Drive (SSD):

- PC storage that uses solid state memory to store information
- SSD uses non volatile NAND Flash memory, which enable it to retain data when the power is removed.

⇒ SSD Elements:-

SSD consists of three elements

- SSD Controller
- SSD Flash
- SSD interface.

3) Hard Disk:-

It is a storage device that used magnetically

Platters to store data, instruction and information

The desktop and notebook computer contains

1 or more hard disk.

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It have storage capacity from 40 GB to 1.5 TB
and more.

A hard disk that is mounted inside the system
unit sometimes is called fixed-disk.

So, there is many more devices for storage
and transmission data. We have variety of
products for storage and transmission of data
and we can easily transfer, store data from
computer to the other system many other
storage devices such as Rom, Dropbox, Chrome,
One drive, etc, and other so many devices are
available for transmission data and for
storage.

The End