

Q: [1] Explain Impact and non-impact printers with its sub types :-

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(1) Impact Printers :-

→ The impact printers print the characters by striking them on the ribbon which is then pressed on the paper.

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→ Characteristics of Impact Printers are following :-

→ Very low consumable costs

→ Very noisy

→ Used for bulk printing due to low.

Non-impact Printers :-

→ Non-impact printers print the characters without using ribbon. These printers print a complete page at a time so they are also called as page Printers.

→ Characteristics of Non-impact Printers

→ Faster than ~~imp~~ impact printer

→ Support many fonts and different character size

→ They are not noisy

→ High quality



Q.7

Explain impact and non-impact printers with its sub types.

⇒

Printers

(A) Impact Printers

(i) Character Printers

(ii) Line Printers

(B) Non-Impact Printers

- Laser Printers
- Inkjet Printers

- Dot matrix Printers
- Daisy wheel printers
- Drum Printers
- chain Printers

(A) Impact printers

(i) character Printers

(I) Dot Matrix Printer (DMP)

→ In the market one of the most popular printers is Dot Matrix Printer.

→ Each character printed is in form of pattern of dots and head consists of a Matrix of Pins of size (5*7, 7*9, 9*7 or 9*9) which come out to form a character that is why it is called Dot Matrix Printer.

→ This Printer is Advantages Inexpensive, Widely Used, other language characters can be printed.

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→ Dot Matrix printer is Disadvantages is slow speed, poor Quality.

(2) Daisy wheel :-

→ Head is lying on a wheel and pins corresponding to characters are like petals of Daisy (flower name) that is why it is called Daisy wheel Printer.

→ Daisy wheel is Advantages more reliable than DMP, Better quality, The fonts of character can be easily changed.

→ Daisy wheel is Disadvantages slower than DMP, Noisy, more expensive than DMP.

(i) Line printers

(1) Drum Printers :-

→ This printer is like a drum in shape so it is called drum printers. The surface of drum is divided into numbers of tracks. Total tracks are equal to size of paper i.e. for a paper width of 132 characters, drum will have 132 tracks.

→ Drum printers is Advantage is very high speed and disadvantage very expensive, characters' fonts cannot be changed.

(2) chain Printer :-

- In this printer, chain of character sets are used so it is called chain printer. A standard set may have 48, 64 or 96 characters.
- chain Printer is Advantages is character fonts can easily be changed, different language can be used with the same printer.
- chain Printer is Disadvantages is Noisy.

(B) Non-impact printers

(i) Laser Printers

- These are non-impact page printers. They use laser to produce the dots needed to form the characters to be printed on a page.
- Laser Printer Advantages very high speed, very high quality output.
- Disadvantages is Expensive and cannot be used to produce multiple copies of a document in a single printing.

(2) Inkjet Printers :-

- Inkjet printers are non-impact character printers based on a relatively new technology. They print characters by spraying small drops of ink onto paper. Inkjet printers produce high quality output with presentable features.
- Advantages is High quality printing and more reliable.
- Disadvantages is Expensive as cost per page is high and slow as compared to laser printer.

Q.2 Write a note on Google Glass:-

- 1) ⇒ Google Glass is a wearable, voice- and motion controlled Android device that resembles a pair of eyeglasses and display information directly in the user's field of vision.
- Google Glass offers an augmented reality experience by using visual, audio and location-based inputs to provide relevant information. For example, upon entering an airport, a user could automatically receive flight status information.

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- The Google Glass operating system (OS) is based on a version of Android. The OS can run application virtualization tools called Glassware that are optimized for the device.
- Glassware allows the device to deliver an app to the user instead of a full desktop. The glasses have built-in Wi-Fi and Bluetooth connectivity and a camera for taking photographs and videos.
- The smart eyewear uses motion and voice recognition to process commands from the wearer. A touchpad is also available on the glasses' rim.
- Google Glass then uses a field sequential color (FSC) liquid crystal on silicon (LCOS) system to display images on the lens, allowing wearers to view the image in true colors.

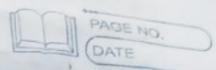
Features:-

- The ability to take photos and video and then share exactly what the user is seeing through Google Hangouts.

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- The option to use the Google search engine through the glasses, using Wi-Fi or a smartphone's data connection.
- The ability to have translations streamed straight to the wearer through the screen.
- Reminders to complete certain chores or tasks with an added visual aspect that will prompt a notification to appear on the user's screen every time they look at a particular object.
- The ability to sync the glasses to calendars stored on phones or computers in order to receive reminders of events and meetings.
- Support of both voice and video calls. In the video calls, wearers can show the other person exactly what they're looking at instead of talking face-to-face.
- The ability to respond to facial and head movements, such as allowing the user to tilt their head to scroll through a page or operate the device with eye movements.

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Q.3 Explain : Fax (Facsimile):

- Short for facsimile machine, a device that can send or receive pictures and text over a telephone line.
- Fax machines work by digitizing an image -- dividing it into a grid of dots.
- Each dot is either on or off, depending on whether it is black or white.
- Electronically, each dot is represented by a bit that has a value of either 0 (off) or 1 (on).
- In this way, the fax machine translates a picture into a series of zeros and ones (called a bit map) that can be transmitted like normal computer data.
- On the receiving side, a fax machine reads the incoming data, translates the zeros and ones back into dots, and reprints the picture.
- The idea of fax machines has been around since 1842, when Alexander Bain invented a machine capable →

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→ of receiving signals from a telegraph wire and translating them into image on paper.

→ A fax machine consists of an optical scanner for digitizing images on paper, a printer for printing incoming fax messages, and a telephone for making the connection.

→ The optical scanner generally does not offer the same quality of resolution as stand-alone scanners. Some printers on fax machines are thermal, which means they require a special kind of paper.

Advantages :-

(1) Reliability :-

→ Emails require your recipient to have the right software or technical knowledge to open any document you send.

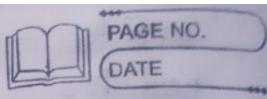
(2) Security :-

→ Computer and emails can be hacked, with document you send intercepted. If you'd like your office be secure, a fax machine is the safest form of communication you can have.

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(3) Convenient method:-

- As mentioned, when you send a fax, your recipient gets it immediately. While emails do move quickly they can take time if the file is large.

(4) Ease of Use:-

- Since fax machines have been used in offices for decades now, most people know how to use them.

Disadvantages:-

(1) Technology Failure:-

- If you depend too much on your fax machine and it fails for some reason, you'll have some problems. finding a new way to operate.

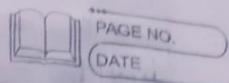
(2) Security Questions:-

- Fax you depend too much on your fax machine. Fax machines are very secure, since they cannot be hacked like emails can.

(3) Less Convenient:-

- faxes are convenient in terms of speed, but they also cannot be reached easily.

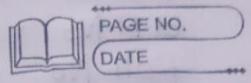
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Q. 4 Explain SGD :-

- Speech-generating devices (SGDs), also known as voice output communication aids, are electronic augmentative communication (AAC) systems used to supplement or replace speech or writing for individuals with severe speech impairments, enabling them to verbally communicate.
- SGD's are important for people who have limited means of interacting verbally, as they allow individuals to become active participants in communication interactions.
- They are particularly helpful for patients suffering from amyotrophic lateral sclerosis (ALS) but recently have been used for children with predicted speech deficiencies.
- speech-generating device can produce electronic voice output by using digitized recordings of natural speech or through speech synthesis - which may carry less emotional information but can permit the user to speak novel messages.
- The first known SGD was prototyped in the mid-1970s.

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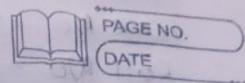


- The content, organization and updating of the vocabulary on an SGD is influenced by a number of factors, such as the user's needs and the contexts that device will be used in.
- There are multiple methods of accessing messages on devices: directly or indirectly, or using specialized access devices.
- Fixed display devices refer to those in which the symbols and items are 'fixed' in a particular format. Some sources refer to these as "static" display. Such display devices have a simpler learning curve than some other devices.
- Fixed display devices replicate the typical arrangement of low-tech AAC devices (low-tech is defined as those devices that do not need batteries, electricity or electronics), like communication boards. They share some of disadvantages; for example they are typically restricted to a limited number of symbols and hence message. It is important to note that with technological advances made in the twenty-first century, fixed-display SGD's are not commonly used anymore.

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- There are several input and display methods for users of varying abilities to make use of SGD's.
- Some SGD's have multiple pages of symbols to accommodate a large number of utterances, and thus only a portion of the symbols available are visible at any one time, with the communicator navigating the various pages.
- Speech generating devices can produce electronic voice output by using digitized recordings of natural speech or through speech synthesis - which may carry less emotional information but can permit the user to speak novel messages.
- The content, organization, and updating of the vocabulary on an SGD is influenced by a number of factors, such as the user's needs and the context that devices will be used in.
- Vocabulary items should be of high interest to the user, be frequently applicable, have a range of meaning, and be pragmatic in functionality.

Q.15 Explain non-CRT display units.

→ Flat-Panel ~~display~~ display:-

→ Flat-Panel devices are the devices that have less volume, weight, and power consumption compared to cathode Ray Tube (CRT).

→ Due to the advantages of the Flat-Panel display, use of CRT decreased. As Flat Panel devices are light in weights that's why they can be hang on walls and wear them on our wrist as a watch. Flat panel display (FPD) allow users to view data, graphics, text and images.

Types of ~~display~~ flat Panel display:-

Flat Panel display

Emissive display

Non-Emissive display

1. Emissive display:-

→ The Emissive display or Emitters are the devices that convert electrical energy into light energy.

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→ Examples :-

Plasma panel, LED (Light Emitting Diode),
Flat CRT.

2. Non-Emissive display :-

→ Non-Emissive display or Non-Emitting devices are the devices that use optical effects to convert sunlight or some other source into graphic patterns.

→ Examples:

LCD (Liquid crystal display)

Advantages :-

→ Flat panel devices like LCD produces high quality digital images.

→ Flat Panel monitor are stylish and have space saving design.

→ Flat Panel Devices consumes less power give maximum image size in minimum space.

→ Flat Panel devices use its full color display capability.

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- Full motion video can be viewed on Flat Panel Devices without artifacts or contrast loss.

disadvantages :-

- Dead Pixels:-

At times, flat monitors also display dead pixels when the electrical current to one or more pixels does not operate properly, or if one or more cells are permanently aligned.

- Viewing angles:-

LCDs have flat panel monitor screen which eventually causes the image to look dimmer or even die out completely.

- Screen care and fragility:-

- Durability:-

Many of us prefer keeping our LCD monitors on even when not using them. Flat panel monitor have less durability if kept on for long time slowly losing their brightness and eventually will need to be replaced in two years.