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**Subject. Computer.**

**Date.. 27 June 2020.**

**Question no.1**

**Difference between printer and plotter…**

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| **BASIS OF COMPARISON** | **PRINTER** | **PLOTTER** |
| **Description** | A printer is an external (peripheral) hardware output device that takes the electronic data stored on a computer or any other storage device and generates a hard copy of the data.   | A plotter is an output device commonly used for computer-aided design applications, to output large vector designs such as architectural blueprints.   |
| **Nature Of The Device** | Printer is a peripheral device in nature and creates a solid copy of the digital data that is represented on the computer screen.   | The plotter is either a peripheral component that you add to computer system or a standalone device with its own internal processor.   |
| **File Reading** | Plotters can read files in the DWG, CDR, Al and other vector formats.   | Printers can read BMP, PDF and JPG TIFF formats.   |
| **Software** | Software for printers includes Photoshop and any other image-editing program.   | Plotter software includes Adobe Illustrator, Corel, Flexi and CAD.   |
| **Cost** | Printers are less costly when compared to plotters.   | Plotters are relatively expensive when compared to printers.   |
| **Output Data Format** | A printer provides the output file data in a format such as bitmap or pixels.   | A plotter provides the output in a format that is similar to a vector graphic/ image created with lines.   |
| **Output Data Production Rate** | Printer produces the data in hardcopy format at a faster speed when compared to a plotter.   | Plotter produces the data in hardcopy at a relatively slower rate when compared to a printer.   |
| **Line Drawing** | Printer can only print a single line at a time.   | Plotters can easily draw continuous lines from point-to-point at same time.   |
| **Application** | Printers are mainly used to produce graphics and text on a physical medium such as paper. They are also, mostly used by graphic artists for posters, signs and other professional quality display.     | Plotters are mainly used in specialized fields such as drawing, architecture and engineering.   |
| **Pen Like Instrument** | A printer uses a needle or a pen to draw lines and figure on a page.   | In plotters, there is more than one automated pen like instrument that can create designs such as diagrams, blueprints etc.   |
| **Resolution** | Printers are resolution dependent, an image produced by a printer (raster image) is enlarged, the size of the pixels simply gets bigger resulting in distortion of the image.   | Usually, plotters are resolution independent, an image produce by a plotter can be enlarged to any size without losing clarity.   |
| **Types** | There two main type of printers, they include impact and non impact printers. | There are four main types of plotters; they include Drum plotter, Flatbed plotter, Inkjet plotter and Cutting plotter.   |

**Part .b**

**Laser printer….**

A laser printer is a printer that uses a focused beam or light to transfer text and images onto paper. Though contrary to popular belief, the laser does not actually burn the images onto the paper. Instead, as paper passes through the printer, the laser beam fires at the surface of a cylindrical drum called a photoreceptor. This drum has an electrical charge (typically positive), that is reversed in areas where the laser beam hits it. By reversing the charge in certain areas of the drum, the laser beam can print patterns (such as text and pictures) onto the photoreceptor.

Once the pattern has been created on the drum, it is coated with toner from a toner cartridge. The toner is black in most cartridges, but may be cyan, magenta, and yellow in color laser printers. The positively charged toner clings to areas of the drum that have been negatively charged by the laser. When the paper passes through the printer, the drum is given a strong negative charge, which allows the toner to transfer and stick to the paper. The result is a clean copy of the image written on the paper.

Because laser printers do not use ink, they have less image smearing problems than inkjet printers and are able to print pages faster. While laser printers and toner cartridges typically cost more than inkjet printers and ink cartridges, most laser toner cartridges last several times longer than ink cartridges, which makes their cost per page about equal. For this reason, businesses tend to use laser printers, while consumers are more likely to use inkjet printers. Laser printers typically have a resolution of 600 dpi (dots per inch) or higher.

 **Question no .2**

 **Part. A**

A metropolitan area network (MAN) is a network that interconnects users with computer resources in a geographic area or region larger than that covered by even a large local area network (LAN) but smaller than the area covered by a wide area network WAN The term is applied to the interconnection of networks in a city into a single larger network (which may then also offer efficient connection to a wide area network). It is also used to mean the interconnection of several local area networks by bridging them with backbone lines. The latter usage is also sometimes referred to as a campus network. MAN is used to combine into a network group located in different buildings into a single network. The diameter of such a network can range from 5 to 50 kilometers. As a rule, MAN does not belong to any particular organization, in most cases, a group of users or a provider who takes charge for the service own its connecting elements and other equipment

Example……

 Computer and Networks solution. Computer and Network examples

The MAN can be used to provide services including telecoms, Internet access, television and CCTV to businesses and citizens in these metropolitan areas.

The diagrams designed with ConceptDraw DIAGRAM are vector graphic documents and are available for reviewing, modifying, and converting to a variety of formats (image, HTML, PDF file, MS PowerPoint Presentation, Adobe Flash or MS Visio).

Part…. B

Topology….

Network topology is the arrangement of the elements of a communication network. Network topology can be used to define or describe the arrangement of various types of telecommunication networks, including command and control radio networks, industrial fieldbusses and computer networks.

 **Best topology for our area network………**

Star is one of the most and oldest common topology in the local area network. The design of star topology comes from telecommunication system. In telephone system all telephone calls are managed by the central switching station. Just like in star topology each workstation of the network is connected to a central node, which is known as a hub. Hub is a device where the whole linking mediums come together. It is responsible of running all activities of the network. It also acts as a repeater for the data flow. Generally when build a network using two or more computers, you need a hub. It is possible to connect two computers to each other directly without the need of a hub but when adding a third computer in the network, we need a hub to allow a proper data communication within the network. In a Star Network the whole network is reliant on the hub. it is easy to monitor and handle the network making it more advantageous. Since the whole network is reliant on the hub, if the whole network is not working then there could be a problem with the hub. The hub makes it easy to troubleshoot by offering a single point for error connection at the same time the reliance is also very high on that single point. The central function is cost effective and easier to maintain.

Star topology also has some draw backs. If the hub encounters a problem then the whole network falls short. In a Star Network Topology it is possible to have all the important data backups on the hub in a private folder and this way if the computer fails you can still use your data using the next computer in the network and accessing the backup files on the hub.

 Question no. 3.

**Magnetic ink character recognition device…..**

MICR (magnetic ink character recognition) is a technology used to verify the legitimacy or originality of paper documents, especially checks. Special ink, which is sensitive to magnetic fields, is used in the printing of certain characters on the original documents. Information can be encoded in the magnetic characters.

The use of MICR can enhance security and minimize the losses caused by some types of crime. If a document has been forged - for example, a counterfeit check produced using a color photocopying machine, the magnetic-ink line will either not respond to magnetic fields, or will produce an incorrect code when scanned using a device designed to recover the information in the magnetic characters. Even a legitimate check can be rejected if the MICR reader indicates that the owner of the account has a history of writing bad checks.

Retailers commonly use MICR readers to minimize their exposure to check fraud. Corporations and government agencies also use the technology to speed up the sorting of documents.

 **Part .b….**

Limitation of image scanner….

Input Device that translate paper document into an electronic formate for storage in computer.

High quality digital scanning revails the burden of finding paper form and simplifies the document sharing.

Scanning has also prove a point to photographs, which can retouch and repair old photos into new one digitally.

Scanners are good for saving photos and documents on computer.

Scanners can scans physical documents and images into digital files.

Optical character **recognition device….**

**Advantages and disadvantages…**

An OCR system consists of a normal scanner and some special software. The scanner is used to scan text on a document or piece of paper into the computer. The OCR software then examines the page and changes the letters into a form that can be edited or processed by a normal word processing package.

The ability to scan the characters accurately depends on how clear the writing is.

Scanners have been improved to be able to read different styles and sizes of text as well as neat handwriting.

Although they are often up to 95% accurate, any text scanned with OCR needs careful checking because some letters can be misread.

OCR is used to automatically recognise postcodes on letters at sorting offices.

|  **of OCR** | **Disadvantages of OCR** |
| --- | --- |
| Cheaper than paying someone to manually enter large amounts of text | Not 100% accurate, there are likely to be some mistakes made during the process |
| Much faster than someone manually entering large amounts of text | All documents need to be checked over carefully and then manually corrected |
| The latest software can recreate tables and the original layout | If the original document is of poor quality or the handwriting difficult to read, more mistakes will occur |
|   | Not worth doing for small amounts of text |

Question no…4

# What Are the Different Types of Media?

**Media is the term we use to refer to different types of media that provide us with important information and knowledge. Media has always been part of our society, even when people used paintings and writings to share information. As time passed, people came up with different modes to provide news to the public. Based on the type of medium, their role may be different, but they all exist to communicate to the audience and affect their perceptions. Today, we don’t have to travel oceans or wait for a pigeon to get the latest news. Here, you’ll learn a lot about today’s media falling under three main categories.**

## Different Types of Media

The goal of media is to convey an advertising message to the audience through the most appropriate media channel for their product.

In general, you can classify media in three main categories.

### Print Media

This type of news media used to be the only way of delivering information to the public. For the generations of the 80s and 90s, print media was the only media of entertain. People relied on newspapers and magazines to learn everything, from recipes and entertainment news to important information about the country or the world. Print media includes:

* **Newspapers** – printed and distributed on a daily or weekly basis. They include news related to sports, politics, technology, science, local news, national news, international news, birth notices, as well as entertainment news related to fashion, celebrities, and movies. Today’s parents grew up with this type of printed media.
* **Magazines** – printed on a weekly, monthly, quarterly, or annual basis. It contains information about finance, food, lifestyle, fashion, sports, etc.
* **Books** – focused on a particular topic or subject, giving the reader a chance to spread their knowledge about their favorite topic.
* **Banners** – used to advertise a company’s services and products, hung on easily-noticed sights to attract people’s attention.
* **Billboards** – huge advertisements created with the help of computers. Their goal is to attract people passing by.
* **Brochures** – a types of booklets that includes everything about one company – its products, services, terms and conditions, contact details, address, etc. They are either distributed with the newspapers, or hand over to people.
* **Flyers** – used mostly by small companies due to the low cost of advertising. They contain the basic information about a company, their name, logo, service or product, and contact information, and they are distributed in public areas.

### Broadcasting Media

Broadcasting media includes videos, audios, or written content that provides important or entertaining information shared by different methods:

* **Television** – in the past, there were a few channels sharing various types of content, whereas now we have hundreds of TV channels to choose from. Each channel delivers a different type of content, so you have a separate channel for news, drama, movies, sports, animation, nature, travel, politics, cartoon, and religion. It’s the number one broadcasting media due to its reach to the audience.
* **Radio** – uses radio waves to transmit entertaining, informative, and educative content to the public. Due to its high reach to the audience, radio is widely used for advertising products and services. Radio is one of the oldest means of entertainment, and today people often hear it to find out the weather and traffic while commuting.
* **Movies** – film, motion picture, screenplay, moving picture, or movie has world-wide reachability. It’s the best type of mass media to promote cultures and spread social awareness. Movies have always played a huge part in the entertainment world.

### Internet Media

Nowadays, we are relying on the Internet to get the news a lot more often than the traditional news sources. Websites provide information in the form of video, text, and audio. We can even choose the way we want to receive the news. Types of Internet media include:

* **Social networks or websites** – including Facebook, Instagram, Twitter, YouTube, Tumblr, LinkedIn, Snapchat, Quora, Reddit, Pinterest, etc. They are user-friendly and widely used by people around the world. Although we can find any news here, they may be misleading because of the lack of regulations on the content shared.
* **Online forums -**  an online place where we can comment, message, or discuss a particular topic. Forums allow us to share knowledge with other people with the same interest. That’s why it’s regarded as the best platform to seek support and assistance.
* **Podcast** – a series of audios focused on a particular topic or theme. We can listen to them on a computer or a mobile phone. It’s a platform that allows anyone to share their knowledge and communicate with the world.

## Conclusion

We use different types of media to find out news, learn new things, and entertain ourselves. With the advance in technology, we can choose the type of media we want to use, no matter the time or place. So, we can hear the radio while driving to work, we can watch our favorite show on our phone, and we can find out any information and news on our laptop or mobile device, thanks to the Internet. Who knows where technology can lead us in the future.