

9. INTRODUCTION TO INTERNET AND EMAIL

Answer to the following questions

1. List any four types of available networks?

- ❖ Local Area Network (LAN)
- ❖ Metropolitan Area Network (MAN)
- ❖ Wide Area Network (WAN)
- ❖ Personal Area Network(PAN)
- ❖ Campus Area Network (CAN)
- ❖ Wireless Local Area Network (W-LAN)

2. Name the two important protocols for internet?

- ❖ TCP
- ❖ IP

3. What is a network?

The internet is a globally connected network system that uses TCP/IP (Transmission Control Protocol / Internet Protocol) to transmit data via various types of media

4. What is the role of ICANN ?

- ❖ The internet as a whole does not have a single controller.
- ❖ But the internet society, which is a voluntary membership organization, takes the responsibility to promote global information exchange through the internet technology.
- ❖ Internet Corporation for Assigned Names and Numbers(ICANN) administers the domain name registration.
- ❖ It helps to avoid a name which is already registered.

5. What is a search engine?

- ❖ Search engine is a software system that is designed to search for information on the World Wide Web.

Examples of popular search engines are Yahoo & Google.

6. What is a browser?

A browser is used to access websites and web pages whereas a search engine is used to search for particular information.

- ❖ Internet Explorer
- ❖ Chrome

7. What are the components of url addressing ?

- ❖ If the URL of the website is known, enter it on the address bar.
- ❖ If the URL is not known, then "Search Engines" will help us to get the information.

8. What is a website?

- ❖ A website is a collection of WebPages.
- ❖ For example if there is a company that owns pugal.com then this website will have several WebPages like Home, About Us, Contact Us, Testimonials, Products, Services, FAQ's, and others. The first page of the website is called a Home Page.
- ❖ All of these pages together make up a Website.

9. What is CC and BCC in an email?

The CC (Carbon Copy):

- ❖ Field allows you to specify recipients who are not direct addressees (listed in the "To" field).
- ❖ This field is optional.

The BCC (Blind Carbon Copy)

- ❖ Field is similar to **CC**, except the recipients are secret.
- ❖ Each **BCC** recipient will receive the e-mail, but will not see who else received a copy.
- ❖ The addressees (anyone listed in the "To" field) remain visible to all recipients.

❖ This field is optional.

10. What is a Static web Page?

Web pages are called Static websites as they remain the same whenever it is visited. Examples of static Websites are website owned by Small business organizations, School websites etc.

11. What is a Dynamic web page?

Websites that displays marks of Public Examinations and Entrance Examinations changes when different register numbers are given. Such websites are called as Dynamic Websites. Eg Websites of Government and Entrance Exams.

12. What are the benefits of e-governance?

- ❖ Reduced corruption
- ❖ High transparency
- ❖ Increased convenience
- ❖ Reduction in overall cost.
- ❖ Expanded reach of government

13. What is Phishing?

Phishing scams are fraudulent attempts by cybercriminals to obtain private information.

Phishing scams often appear in the guise of email messages designed to appear as though they are from legitimate sources

Answer to the following questions

1. Differentiate PAN and CAN network.

PAN	CAN
Range Up to 100 meters	Range Up to 5 Kms.
Location Used for shorter distance, controlled by a single person within a single building	Location Larger than LAN, but smaller than MAN. University, school or small business enterprise.
Speed up to 250 Kbps	Speed : 40 KB/s TO 1 MB/s
	Advantages:

Advantages: Efficient, Cost effective and convenient. Controlled by a single person Hotspot may connect up to 8 devices	Cost effective, Wired or Wireless Network, High Bandwidth Multi-departmental Network access.
Disadvantages : Shorter distance up to 10 meters only. Data rate is low compared to other network	Disadvantages : Difficult to manage

2. What is TCP/IP?

- ❖ The internet uses TCP/IP (Transmission Control Protocol/ Internet Protocol) to transmit data via various types of media.
- ❖ TCP/IP is not a single networking protocol it is a suite of protocols named after the two most important protocols or layers within it TCP and IP.
- ❖ As with any form of communication, two things are needed: a message to transmit and the means to reliably transmit the message.

3. Write a note on Hotspot internet service.

- ❖ Hotspots are sites that offer Internet access over a wireless local area network (WLAN) by way of a router that then connects to an Internet service provider.
- ❖ Hotspots utilize Wi-Fi technology, which allows electronic devices to connect to the internet or exchange data wirelessly through radio waves.
- ❖ Hotspots can be phone-based or free-standing, commercial or free to the public.

4. Differentiate Data Card and Dongles.

Data Card	Dongles
It is a removable electronic card which is used for storing for data	Refers to any removable component used for enabling extra security.
Expansion Card, Memory Card or Flash Card	Wi-Fi Dongles, Bluetooth Dongle, Memory

, Identification Card.	Dongle.
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5. Write a note on two access methods of connecting to internet.

There are two access methods direct and Indirect and these can be either fixed or mobile.

Indirect Access:

- ❖ This is most common method used in home and office networks.
- ❖ The device e.g. computer connects to a network using Ethernet or WiFi and the network connects to the Internet using Asymmetric digital subscriber line ADSL(cable or fibre.)

Direct Access

- ❖ This is most common method used when travelling.
- ❖ The device e.g. smart phone connects directly to the Internet using 3G/4G mobile networks or public Wi-Fi.

6. Differentiate browser and a search engine with suitable examples.

Browser	Search engine

7. Differentiate Website and Webpage.

Website	Webpage
A collection of multiple documents displayable by a browser	Consists of a Single document displayed by a browser
Has its own unique domain name	Shares a unique domain name

Contains one or more webpages	Makes up a website
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8. What is the difference between Static and dynamic web page.

Static Webpage	Dynamic web page
The content and layout of a web page is fixed	The content and layout may change during run time
Static Web pages never use databases	Databases is used to generate dynamic content through queries
Static web pages directly run on the browser and do not require any server side application program	Dynamic web pages runs on the server side application programs and displays the results
Static Web pages are easy to develop	Dynamic web page development requires programming skills

9. Write a note on W3C?

- ❖ W3C stands for "World Wide Web Consortium."
- ❖ The W3C is an international community that includes a full-time staff, industry experts, and several member organizations.
- ❖ These groups work together to develop standards for the World Wide Web.
- ❖ W3C is an international organization committed to improving the web.
- ❖ It is made up of several hundred member organizations from a variety of related IT industries.

10. What are Advantages of email?

Free delivery - Sending an e-mail is virtually free, outside the cost of Internet service. There is no need to buy a postage stamp to send a letter.

Global delivery - E-mail can be sent to nearly anywhere around the world, to any country.

Instant delivery - An e-mail can be instantly sent and received by the recipient over the Internet.

File attachment - An e-mail can include one or more file attachments, allowing a person to send documents, pictures, or other files with an e-mail.

Long-term storage - E-mails are stored electronically, which allows for storage and archival over long periods of time.

Environmentally friendly - Sending an e-mail does not require paper (Paperless)), cardboard, or packing tape, conserving paper resources.

Answer to the following questions

1. Compare the different geographical types of Network.

Depending upon geographical area covered by a network, it is classified as:

1. Local Area Network (LAN)

2. Metropolitan Area Network (MAN)

3. Wide Area Network (WAN)**4. Personal Area Network(PAN)****5. Campus Area Network (CAN)****6. Wireless Local Area Network (W-LAN)****1. LAN – LOCAL AREA NETWORK**

Range : Upto 10 Km

Location : Refers to same office, same building, same company and in same schools

Speed : Upto 10-100 Mbps

Advantages : Low Cost, Resource Sharing, Security

Disadvantages : Area Covered Limited When number of nodes increases, performance Decreases

MAN – Metropolitan Area Network

Range : 10 to 15 Miles

Location : MAN is a network designed to extend over an entire city

Speed : Upto 5 – 10 Mbps

Advantages : Wider than LAN

Disadvantages : Data rate is slow compared to LAN Cost higher than LAN

WAN – WideArea Network

Range : Above 1000 Kms

Location : It Span entire countries and continents

Speed : Upto 256 Kbps to 2 Mbps

Advantages : Large geographical Area

Disadvantages : Complicated and Complex. High Cost. Requires high Performance. Devices. Low security. Cost higher than LAN

PAN – Personal Area Network

Range : Upto 100 meters

Location : Used for shorter distance, controlled by a single person within a single building

Speed : up to 250 Kbps

Advantages : Efficient, Cost effective and convenient. Controlled by a single person Hotspot may connect upto 8 devices

Disadvantages : Shorter distance upto 10 meters only. Data rate is low compared to other network

CAN – Campus Area Network

Range : Upto 5 Kms

Location : Larger than LAN, but smaller than MAN. University, school or small business, enterprise

Speed : 40 KB/s TO 1 MB/s

Advantages : Cost effective, Wired or Wireless Network, High Bandwidth Multi-departmental Network access

Disadvantages : Difficult to manage

WLAN – Wireless Local Area Network

Range : Upto 50 Kms

Location : Ranges from a single room to an entire campus Uses Wifi or Bluetooth, Radio waves

Speed : 1 Mbps to 54 Mbps

Advantages : Portable Installation is quick and easy

Disadvantages : Low Bandwidth due to interference.

2. Explain any five types of internet services.

Wireless

- ❖ Radio frequency bands are used in place of telephone or cable networks.
- ❖ One of the greatest advantages of wireless Internet connections is the "always-on" connection that can be accessed from any location that falls within network coverage.
- ❖ Wireless connections are made possible through the use of a modem, which picks up Internet signals and sends them to other devices.

Mobile

- ❖ Many cell phone and Smartphone providers offer voice plans with Internet access.
- ❖ Mobile Internet connections provide good speeds and allow you to access the Internet.

Hotspots

- ❖ Hotspots are sites that offer Internet access over a wireless local area network (WLAN) by way of a router that then connects to an Internet service provider.
- ❖ Hotspots utilize Wi-Fi technology, which allows electronic devices to connect to the Internet or exchange data wirelessly through radio waves.
- ❖ Hotspots can be phone-based or free-standing, commercial or free to the public.

Broadband

- ❖ This high-speed Internet connection is provided through either cable or telephone companies.
- ❖ One of the fastest options available, broadband Internet uses multiple data channels to send large quantities of information.

- ❖ The term broadband is shorthand for broad bandwidth.
- ❖ Broadband Internet connections such as DSL and cable are considered high-bandwidth connections. Although many DSL connections can be considered broadband, not all broadband connections are DSL.

DSL

- ❖ DSL, which stands for Digital Subscriber Line, uses existing 2-wire copper telephone line connected to one's home so service is delivered at the same time as landline telephone service. Customers can still place calls while surfing the Internet.

Cable

- ❖ Cable Internet connection is a form of broadband access.
- ❖ Through use of a cable modem, users can access the Internet over cable TV lines.
- ❖ Cable modems can provide extremely fast access to the Internet.

Satellite

- ❖ In certain areas where broadband connection is not yet offered, a satellite Internet option may be available.
- ❖ Similar to wireless access, satellite connection utilizes a modem.

ISDN

- ❖ ISDN (Integrated Services Digital Network) allows users to send data, voice and video content over digital telephone lines or standard telephone wires.
- ❖ The installation of an ISDN adapter is required at both ends of the transmission on the part of the user as well as the Internet access provider.

Dongles / Data Card

- ❖ Today, many dongles provide wireless capabilities.

- ❖ For example, USB Wi-Fi adapters are often called dongles.
- ❖ Since most computers now have built-in Wi-Fi chips, mobile data adapters, such as 3G and 4G dongles, are more prevalent.
- ❖ These types of dongles allow to connect to the Internet even when Wi-Fi is not available.

3. Explain any five internet applications with suitable examples.

Internet telephony

- ❖ Internet telephony (e.g. Skype) is another common communications service made possible by the creation of the Internet.
- ❖ VoIP stands for Voice-over-Internet Protocol, referring to the protocol that underlies all Internet communication.

Job search

- ❖ Nowadays, many people search for their jobs online as it is quicker and there is a larger variety of job vacancies present.
- ❖ People can publish resume online for prospective job.
- ❖ Some of the web sites providing this service are naukri.com, monster.com, summerjob.com, recruitmentindia.com etc.

Online Shopping

- ❖ The internet has also facilitated the introduction of a new market concept consisting of virtual shops.
- ❖ They provide information about products or services for sale through www servers.
- ❖ Using the internet services customers can submit specific product queries and request specific sales quotes.
- ❖ For example amazon.com is a www based bookshop on the internet where information on all types of international books can be found and books can be ordered online.

Stock market updates

- ❖ Selling or buying shares sitting on computer through internet.
- ❖ Several websites like ndtvprofit.com, moneypore.com, provide information regarding investment

Travel:

- ❖ One can use internet to gather information about various tourist place .it can be used for booking Holiday tours, hotels, train, bus, flights and cabs.
- ❖ Some of the web sites providing this service are goibibo.com, makemytrip.com, olacabs.com.

Research

- ❖ Research papers are present online which helps in the researcher doing a literature review

Video conferencing

- ❖ It enables direct face-to-face communication across networks via web cameras, microphones, and other communication tools.
- ❖ Video conferencing can enable individuals in distant locations to participate in meetings on short notice, with time and money savings.
- ❖ The technology is also used for telecommuting, in which employees work from home.
- ❖ When video Conferencing is used in education, it is easier to have interactive classes between teacher to teacher, teacher to classroom, or classroom to classroom with students in different places.

E-commerce

- ❖ E-commerce (electronic commerce or EC) is the buying and selling of goods and services, or the transmitting of funds or data, over an electronic network, primarily the Internet.
- ❖ These business transactions occur either business-to-business, business-to-consumer, consumer-to-consumer or consumer-to-business.
- ❖ Largest e-commerce companies in India are Flipkart, Snapdeal, Amazon India, Paytm.

4. Write a note on any five Internet browsers other than that given in the book.

Familiar Internet Browser

Google Chrome

- ❖ It is a freeware familiar web browser **developed by Google Inc.**
- ❖ It is best for its speed, simplicity, security, privacy and customization features.
- ❖ Google Chrome supports on Android 4.0 or higher, iOS 6.0 or higher, Mac OSX 10.6 or higher and Windows (XP sp2 or higher) and Linux system.

Mozilla Firefox :

- ❖ It is a free and open source web browser **developed by Mozilla Foundation and Mozilla Corporation.**
- ❖ FireFox is **default browser in Ubuntu .**
- ❖ It supports Windows, Mac OS X, Linux and Android system.

Internet Explorer:

- ❖ commonly known as Microsoft Internet Explorer or Windows Internet Explorer is the first or default browser for a Windows PC.
- ❖ It is **developed by Microsoft.**

Safari:

- ❖ It is a web browser **developed by Apple Inc,** and comes with OS X and iOS.
- ❖ Some version of safari browser also supports in Windows Operating System.
- ❖ **Exclusively used in Apple Mac system.**

5. Classify and explain any five e-commerce parties with suitable examples.

Business to consumer (B2C) :

- ❖ Transactions happen between businesses and consumers.
- ❖ In B2C ecommerce, businesses are the ones selling products or services to end-users (i.e.consumers).

Business to business (B2B) :

- ❖ As its name states, B2B ecommerce pertains to transactions conducted between two businesses. Any company whose customers are other businesses operate on a B2B model.

Consumer to business (C2B) :

- ❖ Consumer to business ecommerce happens when a consumer sells or contributes monetary value to a business.
- ❖ Many crowdsourcing campaigns fall under C2B ecommerce.

Consumer to consumer (C2C) :

- ❖ As you might have guessed, C2C ecommerce happens when something is bought and sold between two consumers.
- ❖ C2C commonly takes place on online marketplaces such as eBay, in which one individual sells a product or service to another.

Government to business (G2B) :

- ❖ G2C transactions take place when a company pays for government goods, services, or fees online. Examples could be a business paying for taxes using the Internet.

Business to government (B2G) :

- ❖ When a government entity uses the Internet to purchases goods or services from a business, the transaction may fall under B2G ecommerce.
- ❖ Let's say a city or town hires a web design firm to update its website.
- ❖ This type of deal may be considered a form of B2G.

Consumer to government (G2C) :

- ❖ Consumers can also engage in B2C ecommerce.
- ❖ People paying for traffic tickets or paying for their car registration renewals online may fall under this category.

6. Explain the different types of interactions in e-governance.

G2G (Government to Government):

- ❖ When the exchange of information and services is within the periphery of the government, is termed as G2G interaction.
- ❖ This can be both horizontal, i.e. among various government entities and vertical, i.e. between national, state and local government entities and within different levels of the entity.

G2C (Government to Citizen):

- ❖ The interaction amidst the government and general public is G2C interaction.
- ❖ Here an interface is set up between government and citizens, which enables citizens to get access to wide variety of public services.
- ❖ The citizens has the freedom to share their views and grievances on government policies anytime, anywhere.

G2B (Government to Business):

- ❖ In this case, the e-governance helps the business class to interact with the government seamlessly.
- ❖ It aims at eliminating red-tapism, saving time, cost and establish transparency in the business environment, while interacting with government.

G2E (Government to Employees):

- ❖ The government of any country is the biggest employer and so it also deals with employees on a regular basis, as other employers do.
- ❖ ICT helps in making the interaction between government and employees fast and efficient, along with raising their level of satisfaction by providing perquisites and add-on benefits.

7. Explain do's and don't of safe Surfing on Internet ?**1. Don't give out your personal information**

- ❖ Don't put personal details such as your home address, telephone numbers or parent's work address online as cybercriminals can use this information to the create a fake profile with your details

2. What goes online, stays online

- ❖ Use privacy settings to make sure only your friends and family can see photos you post.
Avoid posting holiday plans as criminals have been known to track your movements

3. Check your security and privacy settings

- ❖ Make sure your social network privacy settings are secured so only your friends can see your personal information and use your privacy settings to restrict who can see your posts, videos and photos.

4. Password safety :

- ❖ Sharing your password with your parents is a sensible idea, but avoid sharing your password with your friends, even if they promise they won't tell anyone! Also, when setting your password, make sure it isn't something people may guess such as your pet's name.
- ❖ Use a mixture of letters, numbers and upper and lower case characters

5. Always protect your mobile device

- ❖ Make sure your mobile phone is pin-protected so all your personal information stored on it is safe.
- ❖ Download a security app which allows you to remotely wipe any personal data, should your mobile be lost or stolen

6. Don't talk to strangers online or offline

- ❖ Don't meet up with strangers and let your parents know if a stranger has tried to get in contact with you online.

7. Listen to the adults who know

- ❖ Adults will always be worried about you.
- ❖ Help set their mind at rest and avoid chatting online with strangers.

8. be wary of unsecured or unknown websites

- ❖ When shopping online, use reputable and known retailers.

9. be careful what links you click on

- ❖ Avoid clicking links in an email, Instant Message or on your social network unless you are sure the message is from someone you know.

8. What is Web Page?

A webpage is a page of a Website. A web page can be accessed by a URL in a browser and that page can be copied and or send to a friend for review whereas websites are collections of multiple page that must be navigated to view other content

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