Lt. Shree Chimanbhai Shukla

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BCA/BSCIT SEM-1 INTERNET

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UNIT-1

INTRODUCTION TO INTERNET

- ❖ COMPUTER NETWORK
- ❖ TYPES OF COMPUTER NETWORK
- ❖ NETWORK TOPPOLOGY
- ❖ OSI REFERENCE MODEL
- ❖ TCP/IP
- ❖ INTERNET TERMINOLOGY
- ❖ ISP
- ❖ INTRANET
- ❖ VSAT
- ❖ URL
- ❖ PROTAL
- ❖ DOMAIN NAME SERVER
- ❖ WORLD WIDE WEB
- ❖ SEARCH ENGINE
- ❖ REMOTE LOGIN
- ❖ TELNET
- ❖ FTP
- ❖ E-MAIL
- ❖ E-COMMERCE, E-BUSINESS & M-COMMERECE
- ❖ E-GOVERNANCE
- ❖ WEBSITE BASICS (WEBPAGES , HTTP, PROTOCOL ADDRESS, WEB BROWSER, WEB SERVER, WEB HOSTING)

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- ❖ TYPES OF WEBSITE

- ❖ NETWORK SECURITY CONCEPTS (CYBER LAW, FIREWALL,COOKIES, HACKERS & CRACKERS)

- ❖ TYPES OF PAYMENT SYSTEM

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> ## WHAT IS COMPUTER NETWORK? (1 OR 2 M)

DETAIL

- Network is a group of computers.
- It connected to each other.
- Using network we can share resources and services.
- The shared resource can be data, a printer, a fax modem, or a service such as a database or an email system.
- The individual systems must be connected through a pathway (called the transmission medium) that is used to transmit the resource or service between the computers.
- All systems in the network must follow a set of common communication rules for data transmission.
- These set of common rules for data communication are known as protocols.
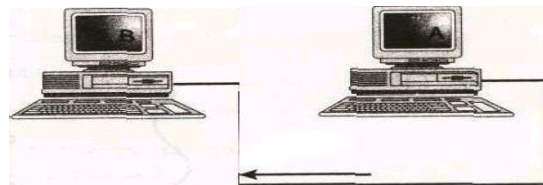
Advantages of Networking:

- The goal of computer networking is simply to exchange data..
- It reduces time and cost.
- Networking is to provide different services like… filing services, printing services etc…

SR. No	QUESTION	ANSWER
1	NETWORK IS A GROUP OF…	INTERCONECTED COMPUTER SYSTEM
2	USING NETWORK WE CAN SHARE…	RESOURCES & SEVICES
3	WHAT KIND OF RESOURCES CAN BE	DATA, PRINTER,

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	SHARE…	DATABASE
4	COMMON RULES FOR DATA COMMUNICATION IS KNOWN AS..	PROTOCOL
5	GOAL OF COMPUTER NETWORK IS NOT EXCHANGE DATA. (TRUE OR FALSE)	TRUE
6	NETWORK IS USED FOR CENTRALIZED ADMINISRATION? (TRUE OR FALSE)	TRUE

➢ **EXPLAIN client server network. (2 OR 3 M)**
Detail:-

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- A client-server network is a communications model in which multiple client programs share the services of a common server program.
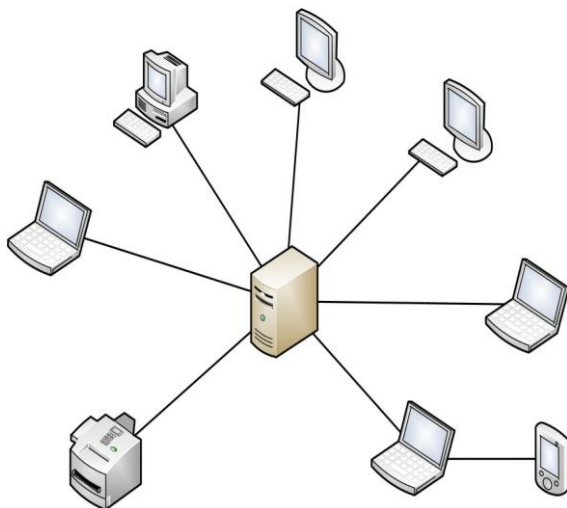
- Client means single computer or one user.
- Client every time give request.
- Server means computer but it handle many client computer.
- Server response to all the request by client.
- Client server means all computer connect to one central computer.
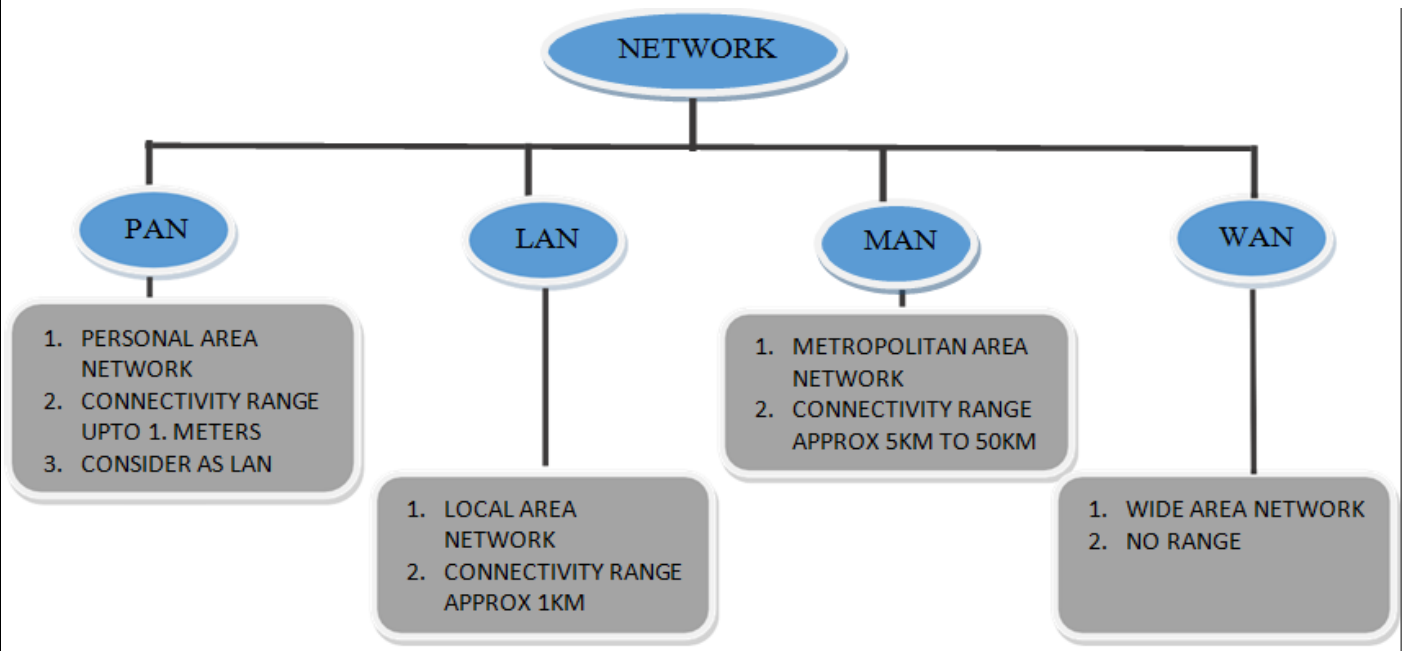
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- This central computer is called server.
- Server has more powerful then client.
- If server is slow or down then all client also work slow or may be fail.
- In network all computer use client and server model.

➢ **EXPLAIN TYPES OF COMPUTER NETWORK. (2 OR 3 M)**

DETAIL

- Networks come in different shapes and sizes. According to geographical size network

  ➔ basically classify in following three types.

  1) LAN – Local Area Networks
  2) MAN - Metropolitan Area Networks
  3) WAN – Wide Area Networks

a. Local Area Networks (LANs)

- A Local Area Network (LAN) is a group of computers and network

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communication devices.
- It interconnected within a geographically limited area, such as a building or a campus.
- They transfer data at high speeds (higher bandwidth).
- They exist in a limited geographical area.
- LANs are designed to allow resources to be shared between personal computers or workstations.

b. Metropolitan Area Networks (MANs)
- MAN is a connected network that spans the geographic boundaries of a city.
- By interconnecting smaller networks within a large geographic area, information is easily sent throughout the network.
- Local libraries and government agencies often use a MAN to connect to citizens and private industries.
- Examples of MAN are Cable TV network, Cable through Internet service.

c. Wide Area Networks (WANs)
- A Wide Area Network (WAN) provides long-distance transmission of data, voice, image and video information over large geographical areas that may comprise a country or whole world.
- They exist in an unlimited geographical area.
- They usually interconnect multiple LANs.
- They often transfer data at lower speeds (lower bandwidth).

SR. NO	QUESTION	ANSWER
1	HOW MANY TYPES OF NETWORK ARE THARE?	3
2	LIST OUT TYPES OF NETWORK.	LAN,WAN,MAN
3	FULL FORM OF LAN_____	LOCAL AREA NETWORK
4	FULL FORM OF WAN_____	WIDE AREA NETWORK
5	FULL FORM OF MAN_____	METROPOLITAN AREA NETWORK
6	GEOGRAPHICAL AREA OF LAN IS___	BUILDING OR CAMPUS
7	GEOGRAPHICAL AREA OF MAN IS___	CITY TO CITY
8	GEOGRAPHICAL AREA OF WAN IS___	WORLD WIDE

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9	BEST EXAMPLE OF WAN IS_____	WORLD WIDE WEB (WWW)

> ### EXPLAIN NETWORK TOPOLOGY. (5M)(MIMP)
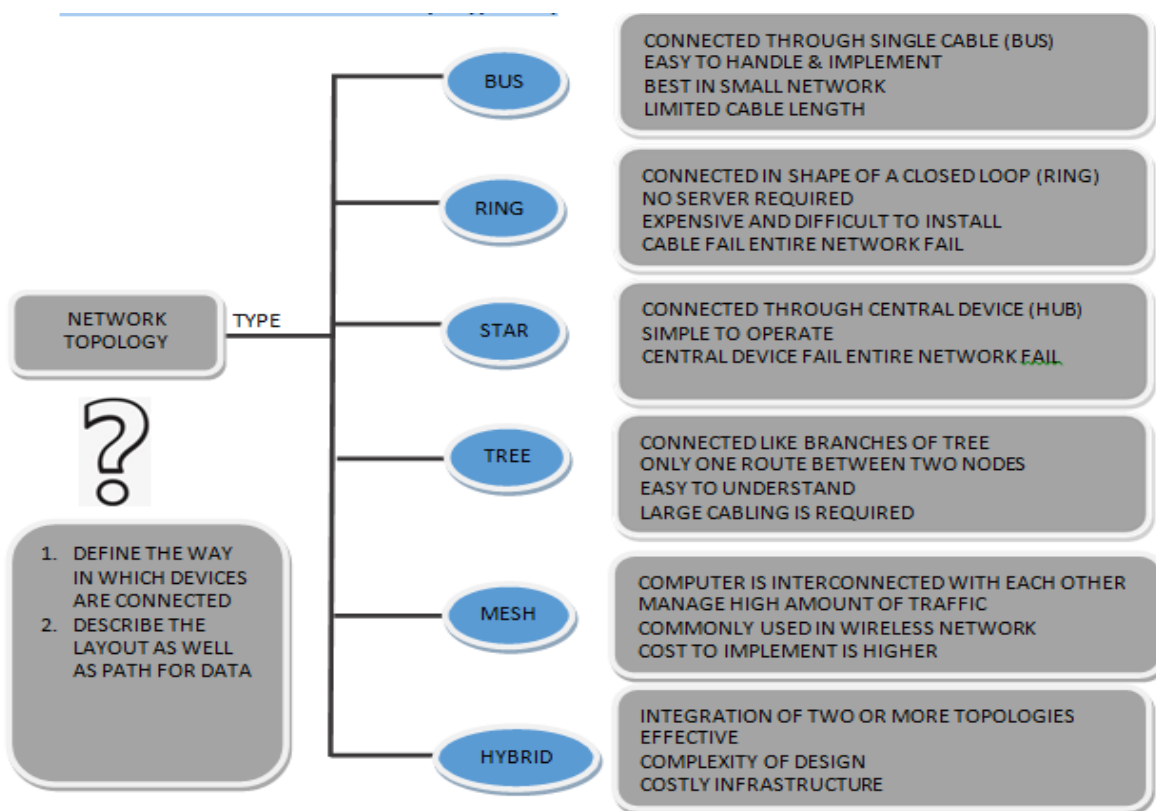
DETAIL

- The network topology defines the way in which computers, printers, and other devices are connected.

- A network topology describes the layout of the wire and devices as well as the paths used by data transmissions.

- Topology means design .

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2. Bus Topology:

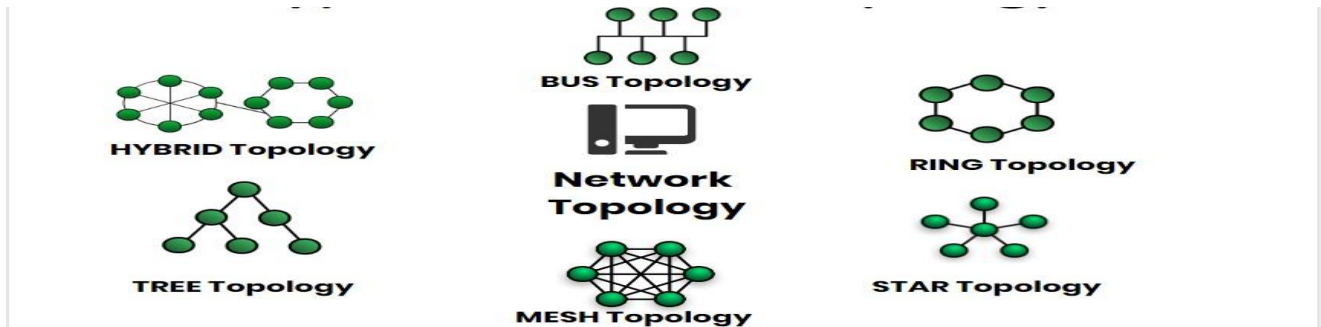- All devices are connected to a central cable, called the bus or backbone.
- Bus networks are relatively inexpensive and easy to install for small networks.
- In Simple way we can say us (All devices share a common wire to transmit and receive data.)

Advantages:

- It is easy to handle and implement.
- It is best suited for small networks

Disadvantages:

- The cable length is limited. This limits the number of stations that can be connected.
- This network topology can perform well only for a limited number of nodes.

3. Ring topology:

- All devices are connected to one another in the shape of a closed loop.
- Here each device is connected directly to two other devices, one on either side of it.
- Ring topologies are expensive and difficult to install, but they offer high bandwidth and can span large distances.

Advantages:

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- The data being transmitted between two nodes passes through all the intermediate nodes.
- A central server is not required for the management of this topology.

Disadvantages:

- The failure of a single node of the network can cause the entire network to fail.

4. Star topology:

- In star topology each device in the network is connected to a central device called hub.
- Unlike Mesh topology, star topology doesn't allow direct communication between devices, a device must have to communicate through hub.
- If one device wants to send data to other device, it has to first send the data to hub andthen the hub transmit that data to the designated device.

Advantages:

- Less expensive because each device only need one I/O port and needs to be connected withhub with one link.
- Easier to install.
- Less amount of cables required

Disadvantages:

- If hub goes down everything goes down, none of the devices can work without hub.

5. Tree topology:

- Tree topologies have a root node, and all other nodes are connected which form ahierarchy. So it is also known as hierarchical topology.
- Used in Wide Area Network.
- A tree topology includes multiple star topologies.

Advantages:

- Failure of one node never affects the rest of the network.
- Detection of error is an easy process

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Disadvantages:

- It is heavily cabled topology
- If more nodes are added, then its maintenance is difficult

6. Mesh Topology :
- The mesh topology connects all devices (nodes) to each other.
- It is used in WANs to interconnect LANs and for mission critical networks like those used by banks and financial institutions.
- Implementing the mesh topology is expensive and difficult.

Advantage:

- The arrangement of the network nodes is such that it is possible to transmit data from one node to many other nodes at the same time.

Disadvantage:

- The arrangement wherein every network node is connected to every other node of the network, many of the connections serve no major purpose.

7. Hybrid Topology :
- Hybrid topology connect two or more topology that's why it is called hybrid.

- This combination of topologies is done according to the requirements of the organization.

1.WORD QUESTION - ANSWER

SR. NO	QUESTION	ANSWER
1	WHAT IS NETWORK TOPOLOGY?	ARANGEMENT OF NETORK
2	LIST OUT TYPES OF TOPOLOGY.	BUS, RING, STAR, TREE, MESH, HYBRID
3	BUS TOPOLOGY IS ALSO CALLED	LINEAR BUS TOPOLOGY

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4	IS BUS TOPLOGY TRANSFER DATA IN ONE DIRECTION? (YES OR NO)	YES
5	IN RIING TOPOLOGY LAST NODE IS CONNECTED TO…	FIRST NODE
6	TROUBLESHOOTING IS DIFICULT IN RING TOPOLOGY.(TRUE OR FALSE)	TRUE
7	FALURE OF ONE COMPUTER DISTURB THE NETWORK IN RING TOPOLOGY. (TRUE OR FALSE)	TRUE
8	IN STAR TOPOLOGY EVERY NODE IS CONNECT TO….	CENTRAL DEVICE (HUB)
9	IS BUS TOPOLOGY USED IN LARGE NETWORK?	NO
10	BUS TOPOLOGY IS SLOWER THAN	RING TOPOLOGY
11	HUB ACT AS_____IN STAR TOPOLOGY	REPEATER FOR DATA FLOW
12	PERFOMANCE OF STAR TOPOLOG IS	FAST WITH LOW NETWORK TRAFFIC
13	TROUBLESHOOTING IN STAR TOPOLOGY IS	EASY
14	IF HUB FAIL IN STAR TOPOLOGY THEN	ENTIRE NETWORK FAIL
15	LIST OUT TYPES OF MESH TOPOLOGY.	1. PARTIAL MASH 2. FULL MASH
16	IN MESH TOPOLOGY EACH CONNECTED CAN CARRY ITS OWN DATA LOAD. (TRUE OR FALSE)	TRUE
17	CABLING COST OF MESH TOPOLOGY IS	HIGH
18	TREE TPOLOGY IS ALSO CALLED	HIRARCHICAL TOPOLOGY
19	TREE TOPOLOGY IS USED IN	WWW (WIDE AREA NETWORK)
20	ERROR DETECTION IS EASY IN TREE TOPOLOGY.(TRUE OR FALSE)	TRUE
21	WHAT IS HYBRID TOPOLOGY?	COMBINATION OF TWO OR MORE TOPOLOGY

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➢ **EXPLAIN OSI REFERENCE MODEL IN DETAIL. (5MARKS) (MIMP)**

OSI

FULL FORM

USE

O – OPEN
S – SYSTEM
I – INTERCONNECTION

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO) IN 1984

DESCRIBES HOW DATA TRANSFER FROM ONE COMPUTER TO ANOTHER COMPUTER IN NETWORK

PROVIDE 7 LAYERS TO PERFORM NETWORD TASK

TRICK TO REMEMBER SEVEN LAYERS OF OSI

DETAIL

- International standard organization (ISO) established a committee in 1977 to develop architecture for computer communication.
- Open Systems Interconnection (OSI) reference model is the result of this effort.
- In 1984, the Open Systems Interconnection (OSI) reference model was approved as an international standard for communications architecture.
- The OSI model is now considered the primary Architectural model for client server model.
- The OSI model describes how data is travel from one computer to other computer.(client to server ,server to client).
- It is provide 7 layer to manage all data transmission.

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7	**Application**	→ Network Processes to Applications
6	**Presentation**	→ Data Representation
5	**Session**	→ Interhost Communication
4	**Transport**	→ End-to-end Connections
3	**Network**	→ Address and Best Path
2	**Data Link**	→ Access to Media
1	**Physical**	→ Binary Transmission
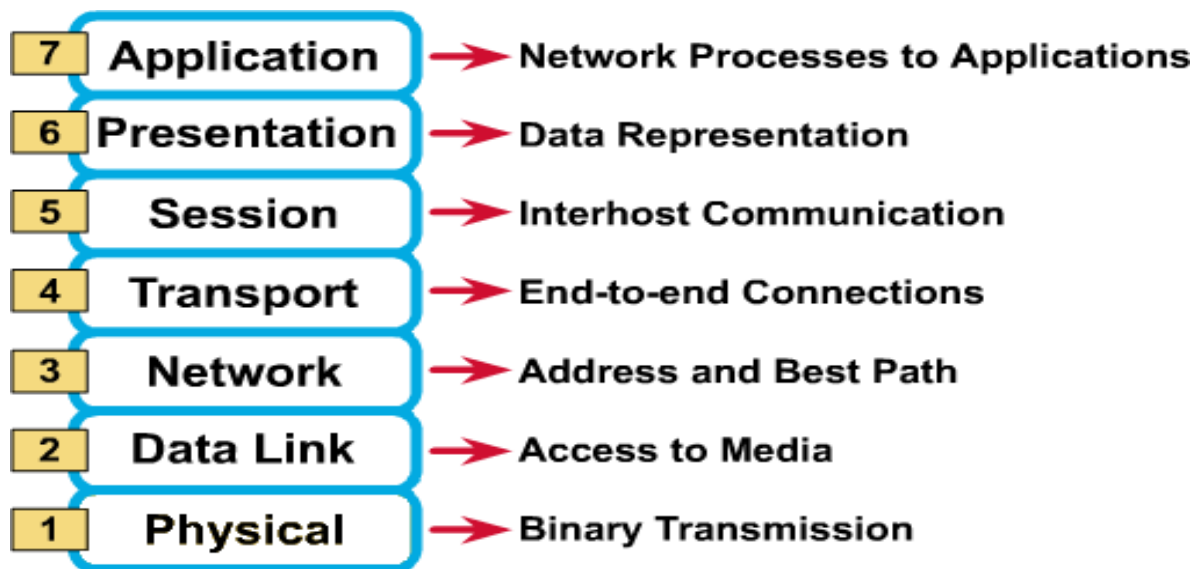
1. **Physical Layer :**
   - Provides physical interface for transmission of information.
   - Defines rules by which bits are passed from one system to another on a physical communication medium.
   - Such characteristics as voltage levels, timing of voltage changes, physical data rates, maximum transmission distances, physical connectors, and other similar attributes are defined by physical layer specifications.

2. **Data Link Layer :**
   - Data link layer attempts to provide reliable communication over the physical layer interface.
   - Breaks the outgoing data into frames and reassemble the received frames.
   - Implement flow control.

3. **Network Layer :**
   - It provide address means path where data to be travel.
   - It provide easy path than data can travel fast and accurate.
   - Defines logical addressing so that any endpoint can be identified.

4. **Transport Layer:**
   - it travel data from one address to other.
   - Main purpose is data can transfer error free.

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- Ensures that data units are delivered in sequence.
- Ensures that there is no loss or duplication of data units.

5. Session Layer :
- It control all the data transmission.
- Any necessary log-on or password validation is also handled by this layer.
- Session layer is also responsible for terminating the connection.

6. Presentation Layer :
- Presentation layer defines the format in which the data is to be exchanged between the two communicating entities.

7. Application Layer:
- Application layer interacts with application programs and is the highest level of OSI model.
- Examples of application layer are applications such as file transfer, electronic mail, remote login etc.

| SR. NO	QUESTION	ANSWER
1	FULL FORM OF OSI_____	OPEN SYSTEM INTERCONNECTION
2	FULL FORM OF ISO_____	INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
3	OSI WAS APPROVED IN____	1984
4	WHAT IS THE USE OF OSI MODEL?	ARCHITECTURE FOR COMPUTER COMMUNICATION
5	HOW MANY LAYERS ARE THERE IN OSI?	7
6	LIST OUT ALL LAYERS IN OSI	1. APPLICATION 2. PRESENTATION 3. SESSION 4. TRANSPORT 5. NETWORK 6. DATALINK 7. PHYSICAL
7	WHICH LAYER IS KNOWN AS HEART OF OSI?	TRANSPORT LAYER
8	FUNCTION OF APPLICATION LAYER____	NETWORK PROCESS TO APPLICATION

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9	FUNCTION OF PRESENATION LAYER___	DATA REPRESENTATION
10	FUNCTION OF SESION LAYER_____	INTER-HOST COMMUNICATION
11	FUNCTION OF TRANSPORT LAYER____	END - TO – END CONNECTION
12	FUNCTION OF NETWORK LAYER_____	PATH DETERMINATION & IP
13	FUNCTION OF DATA LINK LAYER____	PHYSICAL ADDRESSING
14	FUNCTION OF PHYSICAL LAYER_____	BINARY TRANSMISSION

➢ **EXPLAIN TCP/IP (1 / 2 / 3 M)**
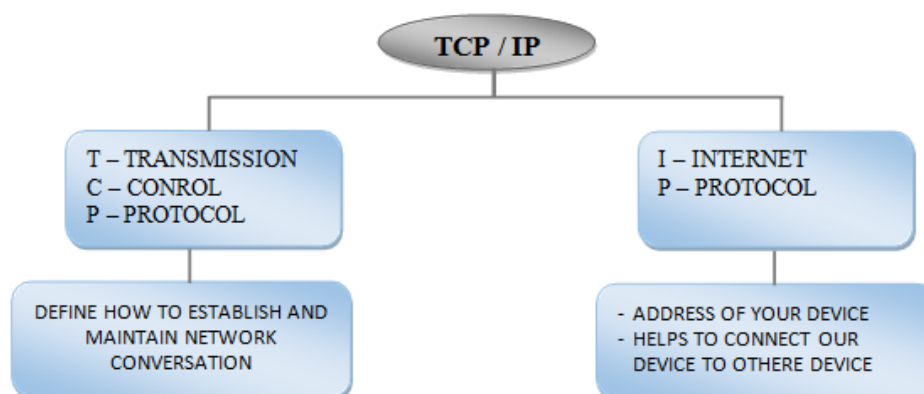
DETAIL:
- TCP/IP model, designed and developed by Department of Defence (DoD) in 1960s and is based on standard protocols.
- It stands for Transmission Control Protocol/Internet Protocol.
- The TCP/IP model is a **Short(new)** version of the OSI model.
- It contains four layers, unlike seven layers in the OSI model. The layers are:
    1. Process/Application Layer
    2. Host-to-Host/Transport Layer
    3. Internet Layer
    4. Network Access/Link Layer
- TCP/IP, or the Transmission Control Protocol/Internet Protocol, is a suite of communication protocols used to interconnect network devices on the internet.

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- Three of the most common TCP/IP protocols
  - HTTP
  - HTTPS
  - FTP
- Different layers of TCP/IP
  1. Network Access Layer - This layer is related to building packets.

  2. Internet Layer - This layer uses IP (Internet Protocol) to describe how packets are to be delivered.

  3. Application Layer - This layer deals with application network processes.

  - These processes include FTP (File Transfer Protocol), HTTP (Hypertext Transfer Protocol), and SMTP (Simple Mail Transfer Protocol).

1 WORD QUESTION – ANSWER

SR. NO	QUESTION	ANSWER
1	FULL FORM OF TCP_____	TRANSMISSION CONTROL PROTOCOL
2	FULL FORM OF IP_____	INTERNET PROTOCOL
3	LIST OUT PROTOCOLS USED IN TCP/IP	1 – HTTP 2 – HTTPS 3 – FTP
4	FULL FORM OF HTTP_____	HYPER TEXT TRANSFER PROTOCOL
5	FULL FORM OF HTTPS_____	HYPER TEXT TRANSFER PROTOCOL SECURE
6	FULL FORM OF FTP_____	FILE TRANSFER PROTOCOL

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> **EXPLAIN INTERNET TERMINOLOGY (1 M EACH)**

1. **Bandwidth** – it means how many data can travel at a time to one computer to other.(bps bits per second).

2. **Bitmap** - A bitmap is a type of memory organization or image file format used to store digital images.

3. **Bits and bytes -**

Bit stands for binary digit: 0 or 1

A byte is made up of 8 bits

4. **Bookmark** - a way of storing your favorite sites on the Internet. Browsers like Netscape or Internet Explorer, chrome let you to categorize your bookmarks into folders.

5. **Browser** - A software program that allows users to access the Internet.

6. **Cookie** - Information (in this case URLs, Web addresses) created by a Web server and stored on a user's computer.

7. **Digit** - - it means single character like o or 1.

8. **Domain Name**
   - A method of identifying computer addresses.
   - Your e-mail address has a domain address.
   - Lke .edu,.com , .in etc.

9. **.gif -** - it means not a photo but animated file or animated short video or animated picture.

10. **Home page**:-
    - Generally the first page retrieved when accessing a Web site.
    - Usually a "home" page acts as the starting point for a user to access

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11. **Hyperlink** -
   - Text, images, graphics that, when clicked with a mouse (or activated by keystrokes)will connect the user to a new Web site.

12. **Internet** - A global network of thousands of computer networks linked by data lines and wireless systems.

13. **URL** - A universal resource locator (a computer address) that identifies the location and type of resource on the Web. A URL generally starts with "http."

14. **Vector** - A line in computer graphics designated by its end points (x-y or x-y-z coordinates).

15. **Instant Messaging (IM)** - a text-based computer conference over the Internet between two or more people who must be online at the same time. When you send an IM the receiver is instantly notified that she/he has a message.

16. **Modem** -

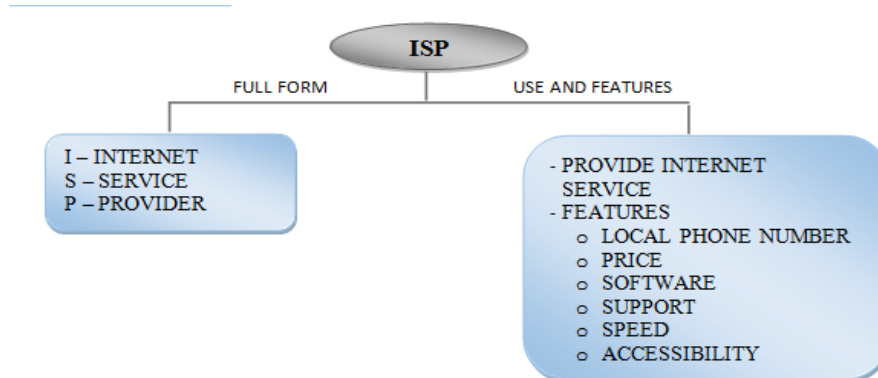   - A device that connects your computer to the Internet.

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➢ **EXPLAIN ISP (2 OR 3 M)**

DETAIL

- ISP: ISP is An Internet Service Provider (ISP) is an organization that provides dial-in Internet account.
- Choosing an ISP: We should consider following features before choosing any ISP.

➢**Features of ISP:**

- **Local phone number**: Most of ISPs have many phone numbers that your computer can call to connect to the Internet. By having a local phone number you don't need to spend more on long-distance charges for Internet connection.

- **Price**: ISPs generally charge for the hours or speed they provide. So, you can select your ISP by calculating your usage or speed required.

- **Software**: Some ISPs provide a CD-ROM or disk with software that you can use to connect to and use the Internet.

- **Support**: You never know when you're going to have a problem, so your ISP's technical support phone number (and e-mail help desk) should be open 24 hours a day, 7 days a week.

- **Speed:** Some ISPs have local access numbers that work with 28.8 Kbps, 33.6 Kbps, and 56 Kbps modems. Some also support high-speed connections such as ISDN and ADSL at extra cost.

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1 WORD QUESTION - ANSWER

SR. NO	QUESTION	ANSWER
1	FULL FORM OF ISP	INTERNET SERVICE PROVIDER
2	WHAT DOES ISP DO?	PROVIDE INTERNET SERVICE

➤ EXPLAIN INTRANET & EXTRANET. (2 OR 3 M)

DETAIL

1. INTRANET:
- An intranet is a private network.
- It allows employees and staff in an enterprise to securely share knowledge and information easily within the company or organization.
- It use internal communications only.
- It is one types of lan.

   FEATURES OF INTRANET:

   1. Improved internal communication.
   2. Efficient project management and workflow systems.
   3. Centralized information that connects members.

2. EXTRANET:
- An extranet is a private network that powers internet technology and public telecommunication system.
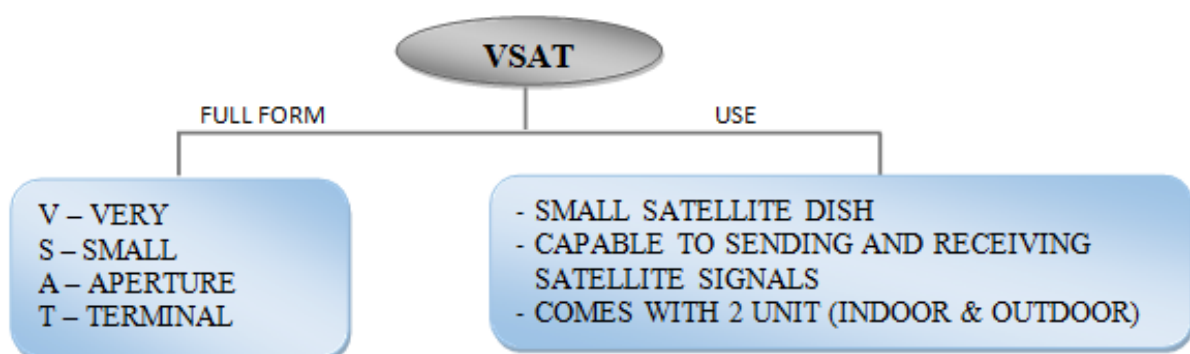
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Parameter	Intranet	Extranet
Usage	Private	Private
User Types	Organization employees and Internal company departments	Suppliers, customer and Business partners.
Usage	Internal employee communication , telephone directories etc.	Check status of orders, Access data , send email
Security	High security. Configured under 100 security level in firewall	Generally uses VPN technology for secured communication over Internet. Medium security Level.
Regulated by	It is regulated by an organization.	It is regulated by multiple organization.
Ownership	Owned by Single organization	It is owned by single/multiple organization.

➢ **EXPLAIN VSAT. (2 OR 3 M)**

VSAT

FULL FORM

V – VERY
S – SMALL
A – APERTURE
T – TERMINAL

USE

- SMALL SATELLITE DISH
- CAPABLE TO SENDING AND RECEIVING SATELLITE SIGNALS
- COMES WITH 2 UNIT (INDOOR & OUTDOOR)

DETAIL

- VSAT (Very Small Aperture Terminal).
- It is a satellite communications system that serves home and business

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users.
- used in the transmit/receive of data, voice and video signals over a satellite .
- Each end user is interconnected with the hub station via the satellite in a star topology.
- For one end user to communicate with another, each transmission has to first go to the hub station which retransmits it via the satellite to the other end user's VSAT.
- VSAT handles data, voice, and video signals.

> **EXPLAIN URL. (2 OR 3 M)**

URL

FULL FORM

U – UNIFORM
R – RESOURCE
L – LOCATOR

- CREATED BY TIM BERNERS-LEE IN 1995
- ADDRESS OF RESOURCE ON INTERNET
- ALSO CALLED WEB ADDRESS WHEN USED WITH HTTP/HTTPS
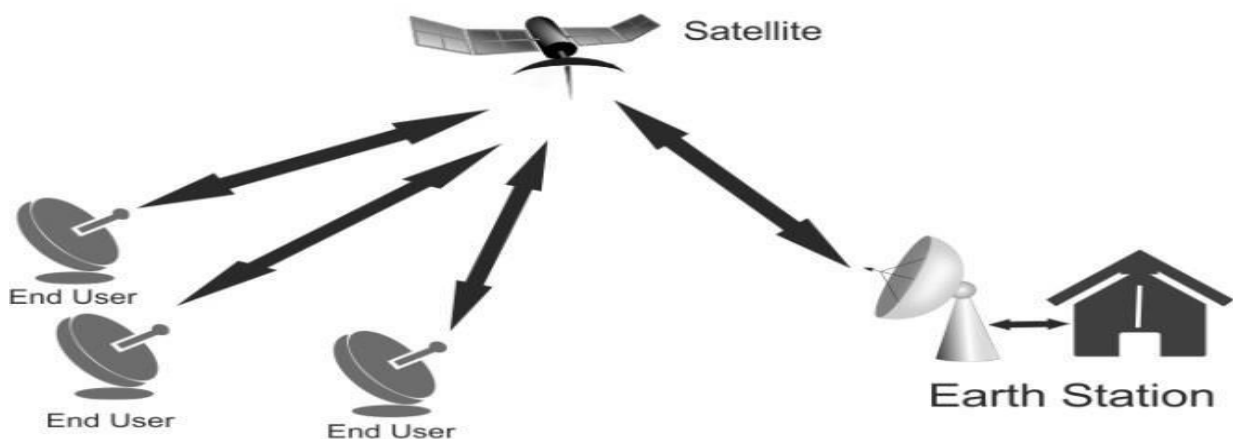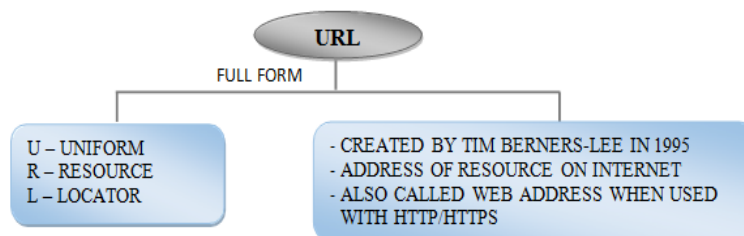
DETAIL

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- A URL identifies a particular Internet resource; for example, a web page.
- Every resource available via the WWW has a unique URL.
- Every URL contains the following information:
    - The scheme name or protocol.
    - A colon, two slashes.(://)
    - A host, normally called a domain name
    - A colon followed by a port number.
    -
- for example **http://www.shreehnshuklagroupofcolleges.org/full-form**
  The above URL contains:

SR. NO	QUESTION	ANSWER
1	FULL FORM OF URL	UNIFORM RESOURCE LOCATOR
2	WHAT IS USE OF URL?	ADDRESS OF A RESOURCE ON THE INTRENET
3	HOW MANY PROTOCOLS INCLUDE IN URL?	3
4	LIST OUT PROTOCOLS USED IN URL	HTTP,HTTPS,FTP
5	GIVE ONE EXAMPLE OF URL.	HTTP://WWW.HNSHUKLAGROUPOFCOLLEGES.ORG

> **EXPLAIN PORTAL. (2 OR 3 M)**

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- *Portal* is a term, generally synonymous with *gateway*, for a World Wide Web site that is or proposes to be a major starting site for users when they get connected to the Web or that users tend to visit as an anchor site.
- Some major general portals include Yahoo, Excite, Netscape, Lycos, CNET.
- Typical services offered by portal sites include a directory of Web sites, a facility to search for other sites, news, weather information, e-mail, stock quotes, phone and map information, and sometimes a community forum. Excite is among the first portals to offer users the ability to create a site that is personalized for individual interests.

➢ EXPLAIN DNS. (2 OR 3 M)

```
                    ┌─────────┐
                    │   DNS   │
                    └─────────┘
            ┌───────────┴────────────┐
  ┌──────────────────┐      ┌──────────────────────────────┐
  │ D – DOMAIN       │      │ - PHONEBOOK OF INTERNET       │
  │ N – NAME         │      │ - TRANSLATES DOMAIN NAME INTO │
  │ S – SYSTEM       │      │   IP ADDRESS                  │
  └──────────────────┘      └──────────────────────────────┘
```

DETAIL

- The Domain Name System (DNS) is the phonebook of the Internet.
- Humans access information online through domain names, like nytimes.com or espn.com.
- Web browsers interact through Internet Protocol (IP) addresses.
- DNS translates domain names to IP addresses so browsers can load Internet resources.
- Each device connected to the Internet has a unique IP address which other machines use to find the device.
- DNS servers eliminate the need for humans to memorize IP addresses such as 192.168.1.1 (inIPv4), or more complex newer alphanumeric IP addresses.

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➢ WHAT IS WWW? (1 / 2 / 3 M)
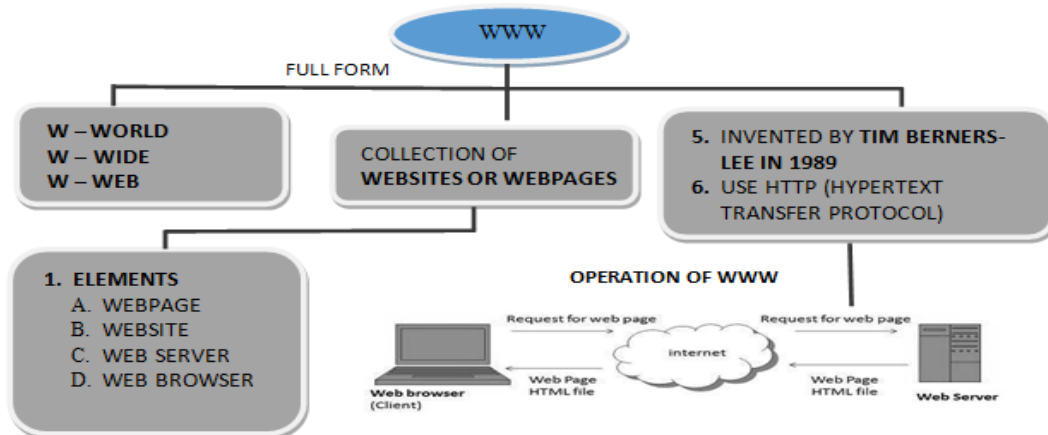
DETAIL

- The World Wide Web (abbreviated as **WWW** or **W3**, commonly known as **the Web)** is a software application that makes it easy and possible for nearly anyone to publish and browse hypertext documents on the Internet.
- WWW is a most common access method of internet resources(elements of web)

o **Elements of Web**
   1. *Web Page*
      — A web page is a hypermedia document or we can say it is an HTML document that is stored on a web server.
   2. *Web Site*
      — A web site is a collection of World Wide Web files
   3. *Web Server*
      — Web server is a computer that is connected via Internet and runs a program that takes responsibility of storing, retrieving, distributing web files.
   4. *Web Browser/Web Client*
      — A web browser is a software application that functions as the interface between a user and the

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Internet. We can also say that it request web resources from web servers on the internet.

SR. NO	QUESTION	ANSWER
1	FULL FORM OF WWW _____	WORLD WIDE WEB
2	FATHER OF THE WEB _____	TIM BERNERS – LEE
3	WWW DEVELOPED / INVENTED IN _____	1989 – 1990
4	WHAT IS WWW?	COLLECTION OF WEBSITE / WEBPAGE
5	LIST OUT ELEMENTS OF WEB.	WEBPAGE, WEBSITE, WEB SERVER,WEB CLIENT
6	FULL FORM OF HTTP_____	HYPERTEXT TRANSFER PROTOCOL
7	WHAT IS WEBPAGE?	HYPERTEXT DOCUMENTS
8	WHAT IS WEBSITE?	COLLECTION OF WEB PAGES

➢ **WHAT IS SEARCH ENGINE. (2 OR 3 M)**

DETAIL

- ☐ A search engine is a program that does the following things
    1. Allow you to submit a form containing a query that consists of a word or describing the specific information you are trying to locate on the web.
    2. Searches its database to try to match your query.
    3. Collects and returns a list of clickable URL's containing presentations that match your query.
    4. Permits you to revise and resubmit a query.
- ☐ A number of search engines also provide URL's for related or suggested topics.
- ☐ Popular search engines:
    1. AltaVista-altavista.digital.com
    2. HotBot-www.hotbot.com
    3. WebCrawler-www.webcrawler.com

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4. Google-www.google.com
5. Infoseek-www.infoseek.com

- ## _Meta Search Engine_
    1. A meta search engine are all-in-one search engine performs a search by calling on morethan one other search engine to do the actual work.
    2. The results are then collected and duplicates are eliminated and the results are then ranked as how it matches your query. Then you are presented with the list of URL's.
- Popular Meta Search Engines
    1. MetaSearch-www.metasearch.com
    2. MetaCrawler-www.metacrawler.com
    3. Metafind-www.metafind.com

➢ EXPLAIN REMOTE LOGIN. (2 M)
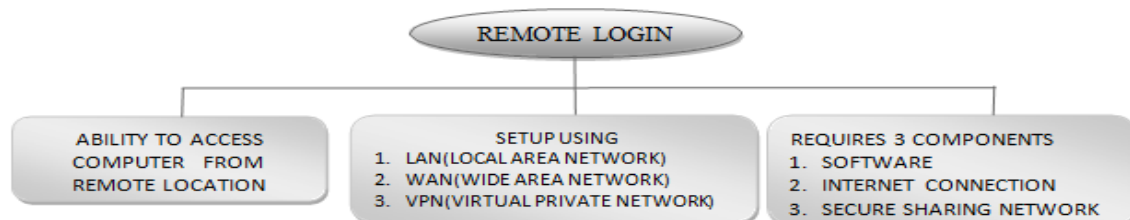
DETAIL
- Remote access refers to the ability to access a computer, such as a home computer or anoffice network computer, from a remote location.

- This allows employees to work offsite, such as at home or in another location, while still having access to a distant computer or network, such as the office network.

- Remote access can be set up using a local area network (LAN), wide area network (WAN) or even a virtual private network (VPN) so that resources and systems can be accessed remotely.

- Remote access is also known as remote login. To establish a remote connection, both the local machine and the remote computer/server must

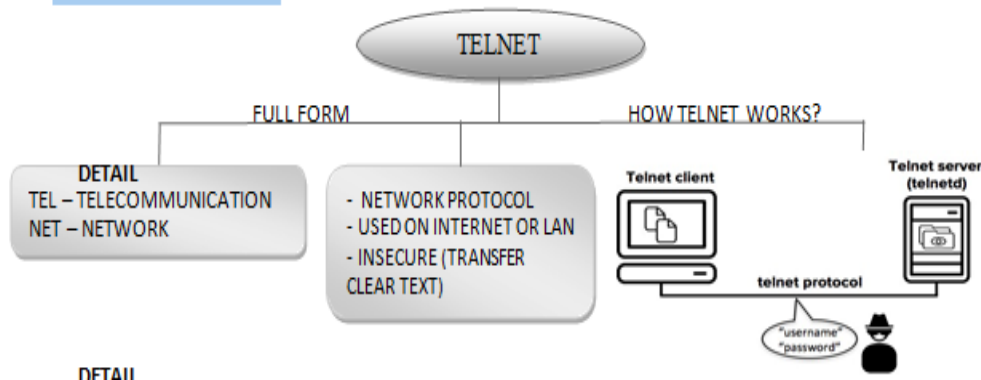# SHREE H. N. SHUKLA COLLEGE OF I.T. & MGMT.
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1 WORD QUESTION – ANSWER

SR. NO	QUESTION	ANSWER
1	WHAT IS REMOTELOGIN?	ABILITY TO ACCESS COMPUTER FROM REMOTE LOCATION
2	REMOTE ACCESS CAN BE SET UP USING_	LAN,WAN,VPN
3	LIST OUT REQUIRED COMPONENTS OF REMOTE ACCESS.	1. SOFTWARE 2. INTERNET CONNECTION 3. SECURE SHARING NETWORK
4	REMOTE ACCESS IS ALSO CALLED_	REMOTE LOGIN

➢ **EXPLAIN TELNET. (2 M)**

- ☐ TELNET (TELecommunication NETwork) is a network protocol used on the Internet orlocal area network (LAN) connections.
- ☐ A Telnet program allows a user on one system to login to a remote system and issue commands in a command window of the remote system.
- ☐ The telnet program runs on your computer to connect PC to a server on the network.
- ☐ You can then enter commands from your telnet program and they will be executed as if you were entering them directly on the server console.

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- Telnet is a computer protocol that provides two-way interactive communication compatibility for computers on the internet and local area networks.
- Telnet is considered insecure because it transfers all data in clear text.

➤ EXPLAIN FTP. (2 OR 3 M)(IMP)
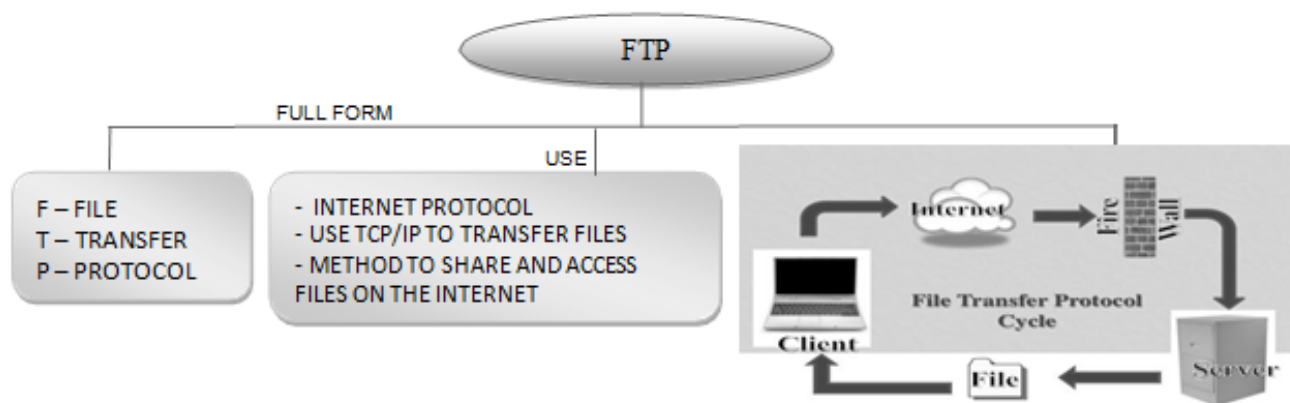
DETAIL

- FTP (File Transfer protocol) is a standard Internet protocol for transmitting files between computers on the internet.
- FTP is an application protocol that uses the Internet's TCP/IP protocols.
- FTP is commonly used to transfer web pages files from their creator to the computer that acts as their server for everyone on the internet. It's also commonly used to download programs and other files to your computer from other servers.
- As a user, you can use FTP with a simple command line interface (for example, from the Windows MS-DOS Prompt window) or with a commercial program that offers a graphical user interface.
- Your Web browser can also make FTP requests to download programs you select from a Web page. Using FTP, you can also update (delete, rename, move, and copy) files at a server. You need to logon to an FTP server.

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1 WORD QUESTION - ANSWER

SR. NO	QUESTION	ANSWER
1	FULL FORM OF FTP	FILE TRANSFER PROTOCOL
2	FTP IS USED TO_____	TRANSFER FILE OVER THE INTERNET
3	FTP IS AN APPLICATION PROTOCOL? (TRUE OR FALSE)	TRUE
4	FTP USE WHICH PROTOCOL?	TCP/IP

➢ **EXPLAIN E-MAIL. (2 OR 3 M)**
   DETAIL

   ☐ Email, e-mail or electronic mail is the transmission of messages (emails or email messages) over electronic networks like the internet. It is also a method of exchanging digital messages from an author to one or more recipients.

   ☐ The first e-mail was sent by Ray Tomlinson in 1971. Tomlinson sent the e-mail to himself as a test e-mail message, containing the text "something like QWERTYUIOP."

   ☐ Email uses multiple protocols within the TCP/IP suite. For example, SMTP is used to send messages, while the POP protocol is used to retrieve messages from a mail server.
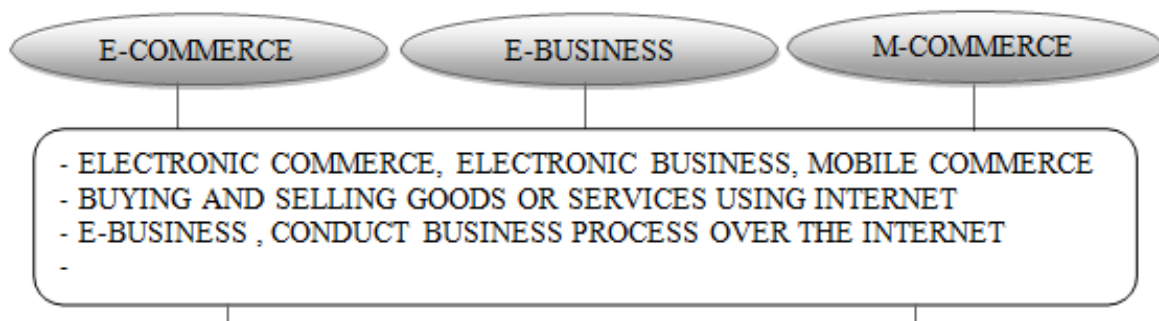
Example:- vishalhns@gmail.com

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➢ **EXPLAIN E-COMMERCE, E-BUSINESS & M-COMMERCE. (2 M EACH)**

E-COMMERCE   E-BUSINESS   M-COMMERCE

- ELECTRONIC COMMERCE, ELECTRONIC BUSINESS, MOBILE COMMERCE
- BUYING AND SELLING GOODS OR SERVICES USING INTERNET
- E-BUSINESS , CONDUCT BUSINESS PROCESS OVER THE INTERNET
-

DETAIL
1. E-COMMERCE
- E-commerce is the buying and selling of products and services by businesses and consumers over the Internet.
- People use the term "ecommerce" to describe encrypted payments on the Internet.
- Benefits of E-Commerce:
  o Reduced costs by reducing labor, reduced paper work, reduced errors in keying in data, reduce post costs.
  o Reduced time. Shorter lead times for payment and return on investment in advertising, faster delivery of product
  o Improve relationships with trading partners.

2. E-BUSINESS
- E-business (electronic business), derived from such terms as "e-mail" and "e- commerce," is the conduct of business on the Internet, not only buying and selling but also servicing customers and collaborating with business partners.
- For example, a successful shop front business may decide to create a website to promote their business but not actually sell products directly through the internet.

3. M-COMMERCE
- The phrase mobile commerce was originally coined in 1997 by Kevin

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Duffey at the launch of the Global Mobile Commerce Forum, to mean "the delivery of electronic commerce capabilities directly into the consumer's hand, anywhere, via wireless technology."

- Many choose to think of Mobile Commerce as meaning "a retail outlet in your customer's pocket."
- M-commerce (mobile commerce) is the buying and selling of goods and services through wireless handheld devices such as cellular telephone and personal digital assistants (PDAs).
- Known as next-generation e-commerce, m-commerce enables users to access the Internet without needing to find a place to plug in.

➔ Note:

- E-commerce transactions are limited. E-business transactions are not limited.
- M-commerce is a sub-part of e-commerce

➢ EXPLAIN E-GOVERNANCE. (2 M)

- ☐ E-Governance can be defined as the application of information and communication technology (ICT) for providing government services, exchange of information, transactions, integration of previously existing services and information portals.

- ☐ The "e" in e-Governance stands for 'electronic'.

- ☐ The use of electronic technologies in three areas of public action:

- ☐ relations between the public authorities and civil society the functioning of the public authorities at all stages of the democratic process (electronic democracy) the provision of public services (electronic public services)

- ☐ *Objectives*

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- o Better service delivery to citizens.

- o Ushering in transparency and accountability.

- o Empowering people through information.

- o Improve efficiency within Government i.e between centre-state or inter-states.

- o Improve interface with business and industry.

1 WORD QUESTION – ANSWER

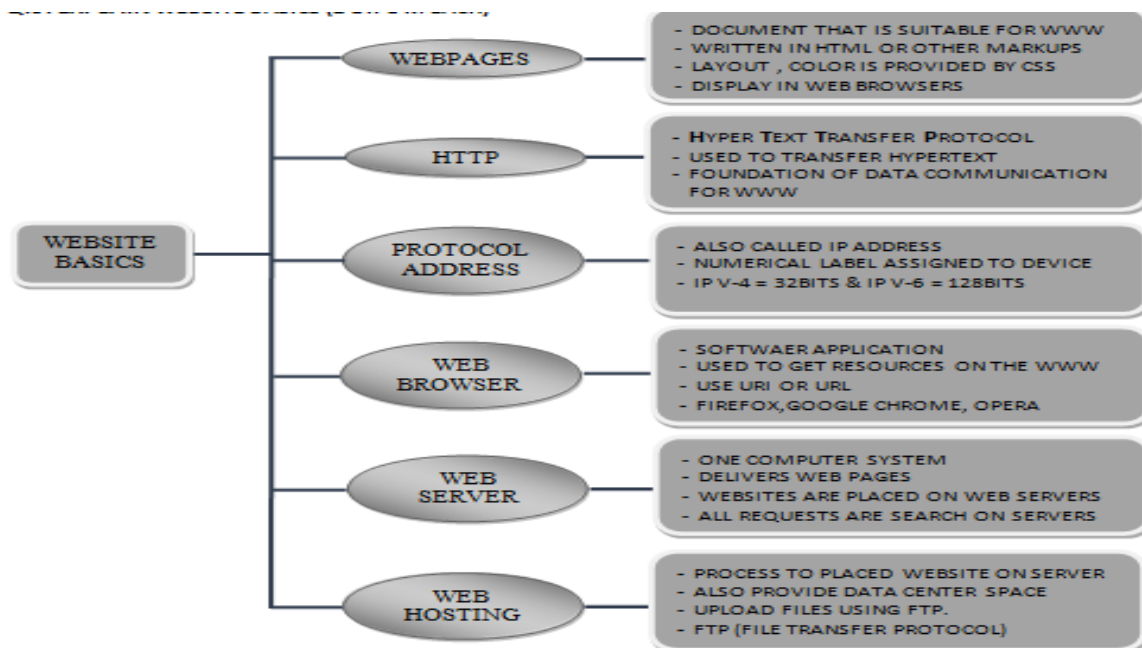| SR. NO	QUESTION	ANSWER
1	FULL FORM OF E-GOVERNANCE	ELECTRONIC GOVERNANCE
2	E-GOVERNANCE IS USED FOR	PROVIDE GOVERNMENT SERVICES ONLINE
3	OBJECTIVE OF E-GOVERNANCE	BETTER SERVICE DELIVERY TO CITIZENS.USHERING IN TRANSPARENCY AND ACCOUNTABILITY.

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➢ EXPLAIN WEBSITE BASICS (2 OR 3 M EACH)

WEBPAGES
- DOCUMENT THAT IS SUITABLE FOR WWW
- WRITTEN IN HTML OR OTHER MARKUPS
- LAYOUT , COLOR IS PROVIDED BY CSS
- DISPLAY IN WEB BROWSERS

HTTP
- HYPER TEXT TRANSFER PROTOCOL
- USED TO TRANSFER HYPERTEXT
- FOUNDATION OF DATA COMMUNICATION FOR WWW

PROTOCOL ADDRESS
- ALSO CALLED IP ADDRESS
- NUMERICAL LABEL ASSIGNED TO DEVICE
- IP V-4 = 32BITS & IP V-6 = 128BITS

WEB BROWSER
- SOFTWAER APPLICATION
- USED TO GET RESOURCES ON THE WWW
- USE URI OR URL
- FIREFOX,GOOGLE CHROME, OPERA

WEB SERVER
- ONE COMPUTER SYSTEM
- DELIVERS WEB PAGES
- WEBSITES ARE PLACED ON WEB SERVERS
- ALL REQUESTS ARE SEARCH ON SERVERS

WEB HOSTING
- PROCESS TO PLACED WEBSITE ON SERVER
- ALSO PROVIDE DATA CENTER SPACE
- UPLOAD FILES USING FTP.
- FTP (FILE TRANSFER PROTOCOL)

DETAIL

1. Web Pages :-

- ☐ A web page (or webpage) is a web document that is suitable for the World Wide Web and the web browser.
- ☐ A web browser displays a web page on a monitor or mobile device. The web page is what displays, but the term also refers to a computer file, usually written in HTML or comparable markup language.
- ☐ Web browsers coordinate the various web resource elements for the written web page, such as style sheets, scripts, and images, to present the web page.
- ☐ Typical web pages provide hypertext that includes a navigation bar or
  a sidebar menu to other web pages via hyperlinks, often referred to as links.

2. Hyper Text Transfer Protocol :-

- ☐ The Hypertext Transfer Protocol (HTTP) is an application protocol for distributed, collaborative, hypermedia information systems.
- ☐ HTTP is the foundation of data communication for the World Wide Web.
- ☐ Hypertext is structured text that uses logical links (hyperlinks) between nodes containing text. HTTP is the protocol to exchange or transfer

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hypertext.

- HTTP functions as a request–response protocol in the client–server computing model. A web browser, for example, may be the *client* and an application running on a computer hosting a web site may be the *server*.
- The client submits an HTTP *request* message to the server. The server, which provides *resources* such as HTML files and other content, or performs other functions on behalf of the client, returns a *response* message to the client.

3. **Protocol Address :-**
- An Internet Protocol address (IP address) is a numerical label assigned to each device (e.g., computer, printer) participating in a computer network that uses the Internet Protocol for communication.
- An IP address serves two principal functions: host or network interface identification and location addressing.
- The Internet Assigned Numbers Authority (IANA) manages the IP address space allocations globally and delegates five regional Internet registries (RIRs) to allocate IP address blocks to local Internet registries (Internet service providers) and other entities.

4. **Web Browser :-**
- A web browser (commonly referred to as a browser) is a software application for retrieving, presenting, and traversing information resources on the World Wide Web.
- An *information resource* is identified by a Uniform Resource Identifier (URI/URL) and may be a web page, image, video or other piece of content.
- Hyperlinks present in resources enable users easily to navigate their browsers to related resources.

5. **Web Server : -**
- Web servers are computers that deliver (*serves up*) Web pages. Every Web server has an IP address and possibly a domain name. For example, if you

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enter the URL *http://www.webopedia.com/index.html* in your browser, this sends a request to the Web server whose domain name is *webopedia.com*.

☐ The server then fetches the page named *index.html* and sends it to your browser.

☐ Any computer can be turned into a Web server by installing server software and connecting the machine to the Internet.

☐ There are many Web server software applications, including public domain software and commercial packages.

6. **Web Hosting :-**

☐ A web hosting service is a type of Internet hosting service that allows individuals and organizations to make their website accessible via the World Wide Web.

☐ Web hosts are companies that provide space on a server owned or leased for use by clients, as well as providing Internet connectivity, typically in a data center.

☐ Web hosts can also provide data center space and connectivity to the Internet for other servers located in their data center, called colocation, also known as *Housing* in Latin America or France.

➢ **EXPLAIN TYPES OF WEBSITE (5M) (MIMP)**
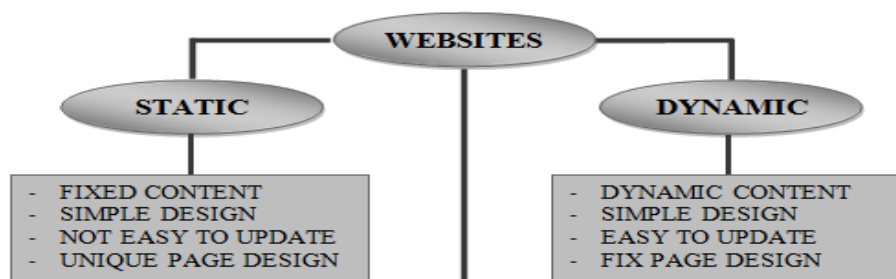
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Detail

- A **web** page or webpage is a document commonly written in HyperText Markup Language (HTML) that is accessible through the Internet or other network using an Internet browser.
- A **web** page is accessed by entering a URL address and may contain text, graphics, and hyperlinks to other **web** pages and files.

Static v Dynamic Website Design

- There are basically two main types of website - static and dynamic.
- A static site is one that is usually written in plain HTML and what is in the code of the page is what is displayed to the user.
- A dynamic site is one that is written using a server-side scripting language such as PHP, ASP, JSP, or ColdFusion.
- In such a site the content is called in by the scripting language from other files or from a
  database depending on actions taken by the user.

Static sites - advantages

- Flexibility is the main advantage of a static site - every page can be different if desired, to match the layout to different content, and the designer is free to put in any special effects that a client may ask for in a unique way on different pages.
- This allows theming - for instance an author may want a different theme for a different book and associated pages or perhaps for a series of books, in order to match the cover designs or the context of the stories.
- Cost is generally lower up-front than a dynamic site.

Static sites - disadvantages

- The main problem with any static site appears when you wish to update the content. Unless you are conversant with HTML and the design methods used in the site then you have to go back to the designer to have

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any content changes made.

Dynamic sites - advantages

- The main advantages of dynamic sites are that by connecting them to databases you can easily pull in information in an organized and structured way to create product pages or categories of related products sorted in a variety of different ways depending on how the user wants to view them.
- This ability to connect to a database means that you can also create a content management system - an interface which allows the client to input and manage data via a web-based series of administration pages.

Responsive Website :-

- Responsive web design (RWD) is an approach to web design aimed at crafting sites to provide an optimal viewing and interaction experience—easy reading and navigation with a minimum of resizing, panning, and scrolling—across a wide range of devices (from desktop computer monitors to mobile phones).

➢ EXPLAIN NETWORK SECURITY CONCEPTS (3M EACH)

DETAIL

1. **Cyber Law :-**

- Cyber law or Internet law is a term that encapsulates the legal issues related to use of the Internet.
- It is less a distinct field of law than intellectual property or contract law, as it is a domain covering many areas of law and regulation.
- Some leading topics include internet access and usage, privacy, freedom of expression, and jurisdiction.

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- "Computer law" is a third term which tends to relate to issues including both Internet law and the patent and copyright aspects of computer technology and software.

- There are rules on the uses to which computers and computer networks may be put, in particular there are rules on unauthorized access, data privacy and spamming.

- There are also limits on the use of encryption and of equipment which may be used to defeat copy protection schemes. The export of hardware and software between certain states within the United States is also controlled.

2. **Firewall : -**

- In computing, a firewall is a network security system that monitors and controls the incoming and outgoing network traffic based on predetermined security rules.

- A firewall typically establishes a barrier between a trusted, secure internal network and another outside network, such as the Internet, that is assumed not to be secure or trusted.

- Firewalls are often categorized as either *network firewalls* or *host-based firewalls*. Network firewalls are a software appliance running on general purpose hardware or hardware- based firewall computer appliances that filter traffic between two or more networks.

- Host-based firewalls provide a layer of software on one host that controls network traffic in and out of that single machine.

- Firewall appliances may also offer other functionality to the internal network they protect such as acting as a DHCP or VPN server for that network.

3. **Cookies : -**

- An HTTP cookie (also called web cookie, Internet cookie, browser cookie or simply cookie) is a small piece of data sent from a website and stored in the user's web browser while the user is browsing.

- They can also be used to remember arbitrary pieces of information that the

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user previously entered into form fields such as names, addresses, passwords, and credit card numbers.

- Other kinds of cookies perform essential functions in the modern web. Perhaps most importantly, authentication cookies are the most common method used by web servers to know whether the user is logged in or not, and which account they are logged in with.

- Without such a mechanism, the site would not know whether to send a page containing sensitive information, or require the user to authenticate them by logging in.

4. **Hackers and Crackers:-**

- A cracker (also known as a black hat hacker) is an individual with extensive computer knowledge whose purpose is to breach or bypass internet security or gain access to software without paying royalties.

- The general view is that, while hackers build things, crackers break things. Cracker is the
name given to hackers who break into computers for criminal gain; whereas, hackers can also be internet security experts hired to find vulnerabilities in systems.

- These hackers are also known as white hat hackers. Crackers' motivations can range from profit, a cause they believe in, general maliciousness or just because they like the challenge.

- They may steal credit card numbers, leave viruses, destroy files or collect personal information to sell.

- Crackers can also refer to those who reverse engineer software and modify it for their own amusement.

- The most common way crackers gain access to networks or systems is through social engineering, whereby the cracker contacts employees at a company and tricks them into divulging passwords and other information that allows a cracker to gain access.

1 WORD QUESTION - ANSWER

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SR. NO	QUESTION	ANSWER
1	WHAT IS CYBER LAW?	- CYBERLAW OR INTERNET LAW - DEAL WITH LEGAL ISSUES RELATED TO INTERNET - UNDER CYBERCRIME DEPARTMENT

2	WHAT IS FIREWALL?	- CONTROL INCOMMING AND OUTGOING NETWORK TRAFFIC
		- TWO TYPES ,
		  o NETWOK FIREWALL
		  o HOSTBASE FIREWALL

3	WHAT IS COOKIES?	- ALSO CALLED WEBCOOKIES, BROWSER COOKIES. - SMALL PIECE OF DATA FROM WEBSITE
4	WHAT IS HACKER?	PERSON WITH LOTS OF EXPERIENCE

> ➤ **EXPLAIN DIGITAL PAYMENT SYSTEM (ELECTRONIC PAYMENT SYSTEM) (2 OR 3M EACH)**

DETAIL

1. **Electronic Cheque : -**

   - An electronic cheque is an electronic copy (scanned image) of a real cheque, which is then transferred by email. In addition to the cheque's 'real' signature, the transfer must be digitally signed using the sender's private key to authenticate the transfer.

   - Electronic checks have been developed in response to the transactions that have arisen in the world of electronic commerce. Electronic checks can be used to make a payment for any transaction that a paper check can cover and are governed by the same laws that apply to paper checks.

2. **Smart Card : -**

   - A smart card, chip card, or integrated circuit card (ICC) is any pocket-sized

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card that has embedded integrated circuits.

- Smart cards are made of plastic, generally polyvinyl chloride, but sometimes polyethylene terephthalate based polyesters, acrylonitrile butadiene styrene or polycarbonate.
- Since April 2009, a Japanese company has manufactured reusable financial smart cards made from paper.
- Smart cards can be either contact or contactless smart card. Smart cards can provide personal identification, authentication, data storage, and application processing.
- Smart cards may provide strong security authentication for single sign-on (SSO) within large organizations.

3. **Debit / Credit Card : -**

- Debit and credit cards offer more than a way to access money without having to carry around cash or a bulky checkbook.
- **Debit cards** are like digitized versions of checkbooks; they are linked to your bank account (usually a checking account), and money is debited (withdrawn) from the account as soon as the transaction occurs.
- **Credit cards** are different; they offer a line of credit (i.e., a loan) that is interest-free if the monthly credit card bill is paid on time. Instead of being connected to a personal bank account, a credit card is connected to the bank or financial institution that issued the card. So when you use a credit card, the issuer pays the merchant and you go into debt to the card issuer.

1 WORD QUESTION – ANSWER

SR. NO	QUESTION	ANSWER
1	FULL FORM OF EPS____	ELECTRONIC PAYMENT SYSTEM
2	LIST OUT ELECTRONIC PAYMENT SYSTEM	1.E CHEQUE 2.SMART CARD 3.CRADIT CARD / DEBIT CARD
3	CRADIT CARD PROVIDE MONTHLY BILLS… (YES OR NO)	YES

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4	DEBIT CARD PROVIDE MONTHLY BILLS… (YES OR NO)	NO
5	SMART CARD IS ALSO KNOWN AS____	ICC
6	FULL FORM OF ICC_	INTEGRATED CIRCUIT CARD