CCA-101: Fundamentals of IT & Programming

Assignment -1

Q1: What are the four fundamental parts of computer? Explain it with the help of diagram.

Input device:- an input device is a piece of equipment used to provide data and control signals to an information processing system such as a computer or information appliance. Examples of input devices include keyboards, mouse, scanners, [[digital camera]The]s, joysticks, and microphones.

Central processing unit(CPU):- central processing unit (CPU), also called a central processor, main processor or just processor, is the electronic circuitry within a computer that executes instructions that make up a computer program. The CPU performs basic arithmetic, logic, controlling, and input/output (I/O) operations specified by the instructions in the program. The computer industry used the term "central processing unit" as early as 1955.

Primary Memory:- Primary memory is computer memory that is accessed directly by the CPU. This includes several types of memory, such as the processor cache and system ROM. However, in most cases, primary memory refers to system RAM.

Output:- An output device is any piece of computer hardware equipment which converts information into human-readable form. It can be text, graphics, tactile, audio, and video. Some of the output devices are Visual Display Units i.e. a Monitor, Printer, Graphic Output devices, Plotters, Speakers etc.

Q2: Discuss about the classification of computers based on size and capacity?

Classification of computer based on size and capacity:-

a) Microcomputers(Personal Computer)

A microcomputer is the smallest general purpose processing system. The older pc started 8 bit processor with speed of 3.7MB and current pc 64 bit processor with speed of 4.66 GB.

Examples: - **IBM PCs, APPLE computers**

b) Minicomputer: - A minicomputer is a medium-sized computer. That is more powerful than a microcomputer. These computers are usually designed to serve multiple users simultaneously (Parallel Processing). They are more expensive than microcomputers.
Examples: **Digital Alpha, Sun Ultra**.

c) Mainframe computers: - Computers with large storage capacities and very high speed of processing (compared to mini- or microcomputers) are known as mainframe computers. They support a large number of terminals for simultaneous use by a number of users like ATM transactions. They are also used as central host computers in distributed data processing system.
Examples: - **IBM 370, S/390.**

d) Supercomputer: - Supercomputers have extremely large storage capacity and computing speeds which are many times faster than other computers. A supercomputer is measured in terms of tens of millions Instructions per second (mips), an operation is made up of numerous instructions. The supercomputer is mainly used for large scale numerical problems in scientific and engineering disciplines such as Weather analysis.
Examples: - **IBM Deep Blue**

Q3: What is the meaning of computer generation? How many Computer Generations are defined? What technologies were/are used?

Generation in computer terminology is a change in technology a computer is/was being used. Initially, the generation term was used to distinguish between varying hardware technologies. Nowadays, generation includes both hardware and software, which together make up an entire computer system.

The first integrated circuits contained only a few transistors and so were called "Small-Scale Integration (SSI). They used circuits containing transistors numbering in the tens. They were very crucial in development of early computers. SSI was followed by introduction of the devices which contained hundreds of transistors on each chip, and so were called "Medium-Scale Integration (MSI).

MSI were attractive economically because which they cost little more systems to be produced using smaller circuit boards, less assembly work, and a number of other advantages.

Microprocessor chips produced in 1994 contained more than three million transistors. ULSI refer to "Ultra-Large Scale Integration" and correspond to more than 1 million of transistors. However there is no qualitative leap between VLSI and ULSI, hence normally in technical texts the "VLSI" term cover ULSI.

Q4: Differentiate between Volatile & Non- Volatile memories.

s.no.	**Volatile memory**	**Non volatile memory**
1.	Volatile memory is the type of memory in which data is lost as it is powered-off.	Non-volatile memory is the type of memory in which data remains stored even if it is powered-off.
2.	Contents of Volatile memory is stored temporarily.	Contents of Non-volatile memory is stored permanently.
3.	It is faster than non-volatile memory.	It is slower than volatile memory.
4.	**RAM(Random Access Memory)** is an example of volatile memory.	**ROM(Read Only Memory)** is an example of non-volatile memory
5.	In volatile memory, data can be easily transferred in comparison to non-volatile memory.	In non-volatile memory, data can not be easily transferred in comparison to volatile memory.
6.	In Volatile memory, process can read and write.	In Non-volatile memory, process can only read.

7.	Volatile memory is more costly per unit size.	Non-volatile memory is less costly per unit size.

Q5: Distinguish among system software, application software and open source software on the basis of their features.

System software:- System software is a type of computer program that is designed to run a computer's hardware and application programs. If we think of the computer **system** as a layered model, the **system software** is the interface between the hardware and user applications.

Features of system software:-

- System Software is closer to the system.
- Generally written in a low-level language.
- The system software is difficult to design and understand.
- Fast in speed.
- Less interactive.
- Smaller in size.
- Hard to manipulate

Application software:- Application software is a program or group of programs designed for end users. Examples of an application include a word processor, a spreadsheet, an accounting application, a web browser, an email client, a media player, a file viewer, simulators, a console game or a photo editor.

Feautures of application software:-

- Perform more specialized tasks like **word** processing, spreadsheets, email, photo editing, etc.
- It needs more storage space as it is bigger in size.
- Easy to design and more interactive for the user.

- Generally written in a high-level language.

Open source software:- Open-source software is a type of computer software in which source code is released under a license in which the copyright holder grants users the rights to use, study, change, and distribute the software to anyone and for any purpose. Open-source software may be developed in a collaborative public manner.

Features of open source software:-

- Lesser hardware costs.
- High-quality software.
- No vendor lock-in.
- Integrated management.
- Simple license management.
- Lower software costs.
- Abundant support.
- Scaling and consolidating.

Q6. a) Create a file in MS-word to insert a paragraph about yourself and save it with file name "yourself". Describe all steps involved in it.

1. To open **Microsoft Word**, click on the **Word** icon ("W") on the toolbar or desktop. ...
2. An open (and blank) **Word document** will open on the screen.
3. Enter **a paragraph about yourself**.
4. When **document** is finished, click on "**File**" on the standard toolbar at the top of screen.
5. Click on "**Save** As."

Q6 b) Write steps regarding followings

- To change the font style
- To change the font size
- To change the font color
- To highlight (in yellow) the line that reads “need to get IMS’s address”.

- Steps to change the font style:-
    - Go to Format > **Font** > **Font**. You can also press and hold. + D to open the **Font** dialog box.
    - Select the **font** and size you want to use.
    - Select Default, and then select Yes.
    - Select OK.

- Steps to change the font size:-
    - Select the text or cells with text you want to change. To select all text in a Word document, press Ctrl + A.
    - On the **Home** tab, click the font size in the **Font Size** box.
- Steps to change font color:-
    - Select the text that you want to change.
    - On the **Home** tab, in the **Font** group, choose the arrow next to **Font Color**, and then select a color.

Q7. Create a file in MS-Word for the following document and save it with file name ‘ms_word’. Describe all steps involved in it.

steps of create a file in ms word:-

1. The Start button in the lower-left corner of your screen gives you access to all programs on your PC—Word included. To start Word:

choose Start → All Programs → Microsoft Office → Microsoft office word.

2. and then enter the data

MS WORD

MS WORD is a widely used commercial word processor developed by microsoft.

ms word is application software,which is capable of

- creating,
- editing,
- saving and
- **printing and type of document**

When **document** is finished, click on "**File**" on the standard toolbar at the top of screen.

Click on "**Save** As."option.

and save this file name "ms word".

Q8. Create a file in MS-word for the following document and save it with file name ‘equations’. Describe

all steps involved in it.

- Choose Insert > Equation and choose the equation you want from the gallery.
- After you insert the equation the Equation Tools Design tab opens with symbols and structures that can be added to your equation.

Q9. Create a file in MS-word that convert existing highlight text to table as shown below and save it as

file name ‘text_to_table’. Describe all steps involved in it.

Processs of converting text into table :-

- Select the text that you want to convert, and then click **Insert** > **Table** > **Convert Text to Table**.
- In the **Convert Text to Table** box, choose the options you want.
- Under **Table size**, make sure the numbers match the numbers of columns and rows you want.
- Under **AutoFit behavior**, choose how you want your table to look. Word automatically chooses a width for the table columns. If you want a different column width, choose one of these options.

- Under **Separate text at**, choose the separator character you used in the text.
- Click **OK**.

Q10. Create a file in MS-Word to insert a table in the document. Describe all steps involved in it.

1. Open a blank **Word** document.
2. In the top ribbon, press **Insert**.
3. Click on the **Table** button.
4. Either use the diagram to select the number of columns and rows you need, or click **Insert Table** and a dialog box will appear where you can specify the number of columns and rows.
5. The blank **table** will now appear on the page.

Q11. Create a following worksheet in MS-excel and save it with name 'book1'.

Roll no.	Name	marks
1	N1	60
2	N2	70
3	N3	80
4	N4	90
5	N5	40
6	N6	50
7	N7	77
8	N8	44
9	N9	88
10	N10	55

Q13 a) Describe various steps involved in the following

1. To modify column width of a worksheet
2. To modify the row height of a worksheet
3. To delete rows and columns of a worksheet

Ans:-

1. Steps of modify column width of worksheet:-
   - Select the **columns** you want to **modify**.
   - Click the Format command on the Home tab. The format drop-down menu appears.
   - Select **Column Width**. Increasing the **column width**.
   - The **Column Width** dialog box appears. Enter a specific measurement.
   - Click OK.

2. Steps of modify column height of a worksheet:-

   - Locate and click the Select All button just below the name box to select every cell in the **worksheet**.
   - Position the mouse over a row line so the cursor becomes a double arrow.
   - Click and drag the mouse to increase or decrease the row **height**, then release the mouse when you are satisfied.

3. Steps of delete rows and column in worksheet:-

   - Right-click in a table cell, **row**, or **column** you want to **delete**.
   - On the menu, click **Delete** Cells.
   - To **delete** one cell, choose Shift cells left or Shift cells up. To **delete** the **row**, click **Delete** entire **row**. To **delete** the **column**, click **Delete** entire **column**.

Q13 b) Describe following terms in the worksheet

I. Absolute reference and relative reference in formula

There are two types of cell **references**: **relative** and **absolute**. **Relative** and **absolute references** behave differently when copied and filled to other cells. **Relative references** change when a **formula** is copied to another cell. **Absolute references**, on the other hand, remain constant no matter where they are copied.

II. Cell address

Cell address, is an alphanumeric value used to identify a specific **cell** in a spreadsheet. Each **cell reference** contains one or more letters followed by a number. The letter or letters identify the column and the number represents the row.

Q14. a) What tools are available to customize our PowerPoint presentation?

The tools are available to customize our PowerPoint presentation are:-

- Perspector. Perspector is a tool used by designers to create 3D images on PowerPoint presentations. ...
- PivotViewer. The Silverlight PivotViewer is yet another tool frequently used by PowerPoint presentation designers. ...
- Autodesk 3DS Max. ...
- VisualBee PowerPoint Add-In. ...
- **SmartArt**. ...
- Animations and Transitions. ...

Q14 b) Write the steps for the following action for creation of power point presentation

a. Open a Blank presentation

Steps of open a blank a document:-

- If you already have a **file open** in Word.
- you can create a new **document** by clicking **File**>New.
- You can also use the shortcut Ctrl+N (Command+N for Mac).
- To **open a blank document**, double-click the **blank document** option.

b. Save the presentation as Lab1.pptx.

Steps to save the presentation :-

- To save the presentation go to the **file** .
- Click on **save as** option.
- And save the presentation giving the name **"Lab1.pptx."**

c. Add a Title to the first slide: the name of your college
   Steps of add a title to the slide:-
   - Go to the first slide of presentation.
   - Add the title name “abc college”.
   - And save it by press **“ctrl+s”.**

d. Type your first name and last name in the Subtitle section
   Steps of type first name and last name in the subtitle section.
   - There are many free software packages (such as Aegisub or Subtitle Workshop), that allow you to type in the subtitles yourself and lock them to a specific time code (e.g 00:45-00:51). There is a thing you should keep in mind – adding the subtitles manually is a very time-consuming process. Moreover, you will have to dedicate some time to learn the interface and shortcuts of the software of your choice.

e. Add a New Slide which has a Title and Content.
   Steps of add a new slide:-
   - In the **slide** preview pane on the left, left-click with your mouse in-between two **slides** where you want to insert a **slide**.
   - In the PowerPoint Ribbon, on the Home or Insert tab, click the **New Slide** option.
   - In the drop-down menu that opens, select the type of **slide** to insert.

Q15. Write steps for creation of a set of PowerPoint slides that demonstrates your skill to use the tools of PowerPoint. It should include the following things

Title slide &bullet list Inserting Excel Sheet

Clip art and Text

Slide show effects

- Click the **Start** button.
- Click **All Programs** option from the menu.

- Search for **Microsoft Office** from the sub menu and click it.
- Search for **Microsoft PowerPoint** from the submenu and click it.
- Go to the **"paragraph"**icon and select the bullet where you want.
- To insert **clip art and text** go to the i**nsert tab** and click on **clip art** and choose the picture you want to appear on page.
- And then to slide show effect select all the slide and go to the **"format "**and select the slide show effect .and click on that.

Q16. What is the difference between Machine Language and High Level Language?

s.no.	Machine language	High level language
1.	It is a machine friendly language.	It is programmer friendly language.
2.	machine language is high memory efficient.	High level language is less memory efficient.
3.	It is tough to understand.	It is easy to understand.
4.	It is complex to debug comparatively.	It is simple to debug.
5.	It is complex to maintain comparatively.	It is simple to maintain
6.	It is machine-dependent.	It can run on any platform.
7.	It is non-portable.	It is portable.

Q17. Discuss about different data types of C programming Language?

4 data types in C language are:-

- **char:** The most basic data type in C. It stores a single character and requires a single byte of memory in almost all compilers.
- **int:** As the name suggests, an int variable is used to store an integer.
- **float:** It is used to store decimal numbers (numbers with floating point value) with single precision.
- **double:** It is used to store decimal numbers (numbers with floating point value) with double precision.

Q18. Find the output of the following expressions?

a) X=20/5*2+30-5
   x=30

b) Y=30 – (40/10+6) +10
   y=30

c) Z= 40*2/10-2+10
   Z=16

Q19. Describe the syntax of the following statements?

a) If – else statement syntax:-

```
if (test expression)
{
  // statements to be executed if the test expression is true
}
```

b) for loop-

```
for (initializationStatement; testExpression; updateStatement)
{
  // statements inside the body of loop
}
```

c) **while loop**

Syntax

```
while (condition test)
{
    //Statements to be executed repeatedly
    // Increment (++) or Decrement (--) Operation
}
```

d) **Do-while loop** - A **do...while** loop is similar to a while loop, except the fact that it is guaranteed to execute at least one time.

```
while (testExpression)
{
  // statements inside the body of the loop
```

}

Q20. Find the output of the following program segments?

a	b	c

#include <stdio.h>
int main()
{
int i;
for (i=1; i<2; i++)
{
printf("IMS Ghaziabad\n");
}
}
	#include <stdio.h>
	int main()
	{
	int i = 1;
	while (i <= 2)
	{
	printf("IMS Ghaziabad\n");
	i = i + 1;
	}
	}
		#include <stdio.h>
		void main()
		{
		int a = 10, b=100;
		if(a > b)
		printf("Largest number is %d\n", a);
		else
		printf("Largest number is %d\n", b);
		}

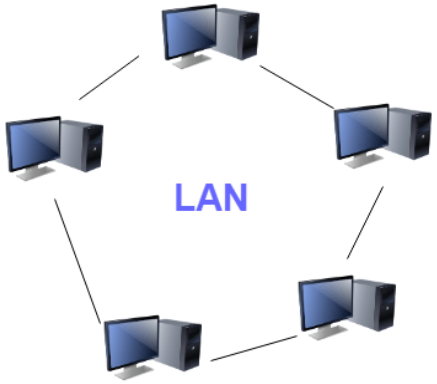
[redacted]	IMS Ghaziabad IMS Ghaziabad	Compilation failed due to following error(s). main.c: In function 'main ': main.c:14:9: warning: missing terminating " character printf("Largest number is %d\n", a);

CCA-102: DATA COMMUNICATIONS ASSIGNMENT

Q1. What are the different types of networks?

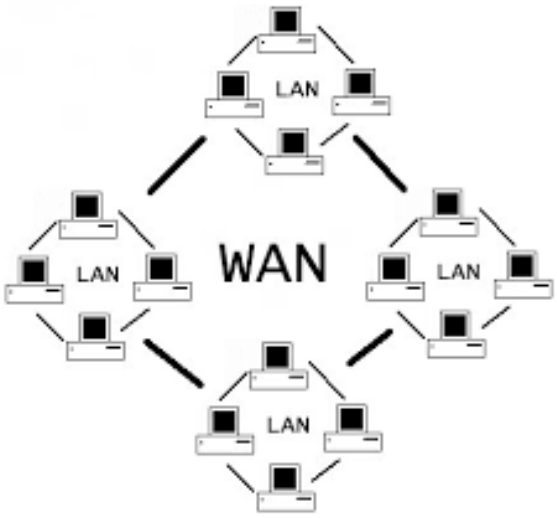
ANS:- Types of network:-

1 LAN (LOCAL AREA NETWORK)



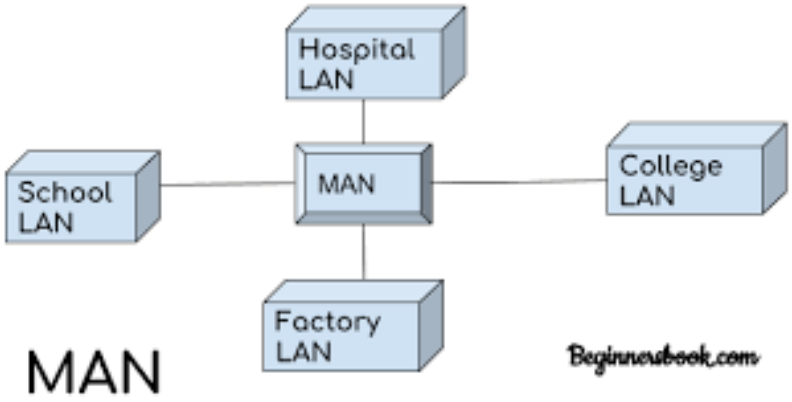
A Local Area Network (LAN) is a group of computer and peripheral devices which are connected in a limited area such as school, laboratory, home, and office building. It is a widely useful network for sharing resources like files, printers, games, and other application. The simplest type of LAN network is to connect computers and a printer in someone's home or office. In general, LAN will be used as one type of transmission medium.

2 WAN (WIDE AREA NETWORK)



WAN **Wide Area Network** is another important computer network that which is spread across a large geographical area. WAN network system could be a connection of a LAN which connects with other LAN's using telephone lines and radio waves. It is mostly limited to an enterprise or an organization.

3 MAN (Metropolitan Area Network)



A **Metropolitan Area Network** or MAN is consisting of a computer network across an entire city, college campus, or a small region. This type of network is large than a LAN, which is mostly limited to a single building or site. Depending upon the type of configuration, this type of network allows you to cover an area from several miles to tens of miles.

4 PAN (PERSONAL AREA NETWORK)

PAN is a computer network formed around a person. It generally consists of a computer, mobile, or personal digital assistant. PAN can be used for

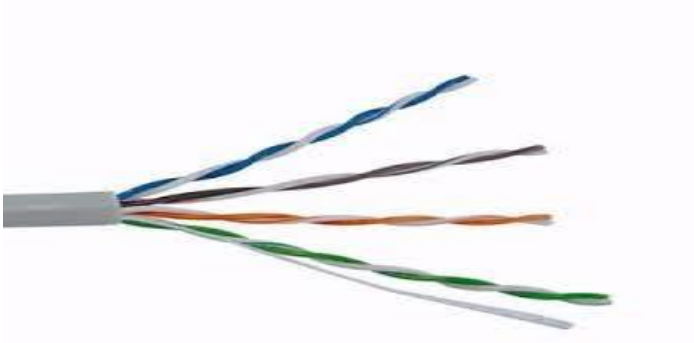
establishing communication among these personal devices for connecting to a digital network and the internet.

Q2. Explain the Shielded twisted pair (STP) and Unshielded twisted pair(UTP).

ANS: STP (SHIELDEDE TWISTED PAIR)

Shielded twisted pair (**STP**) **cable** was originally designed by IBM for token ring networks that include two individual wires covered with a foil **shielding**, which prevents electromagnetic interference, thereby transporting data faster.

UTP (UNSHIELDED TWISTED PAIR)



UTP stands for *Unshielded Twisted Pair cable*. *UTP cable* is a 100 ohm copper *cable* that consists of 2 to 1800 *unshielded twisted pairs* surrounded by an outer jacket. They have no metallic shield. This makes the *cable* small in diameter but unprotected against electrical interference.

Q3. What is difference between baseband and broadband transmission?

ANS:

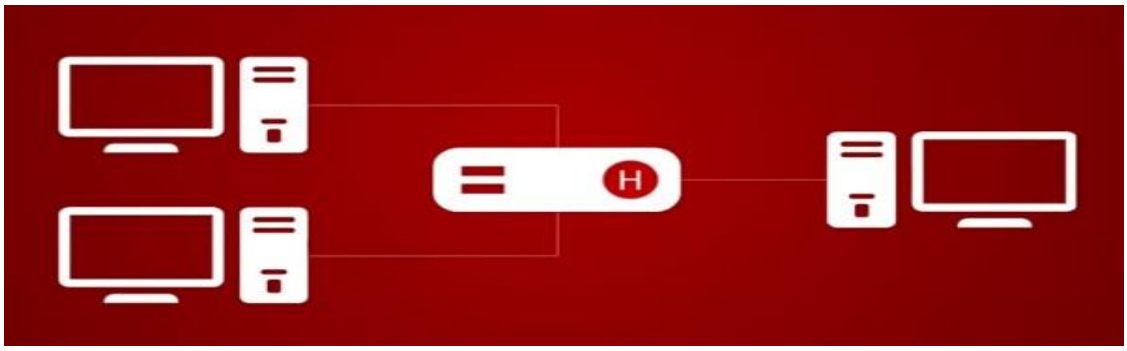
s.no.	Baseband transmission	Broadband transmission
1.	In baseband transmission, the type of signalling used is analog.	In broadband transmission, the type of signalling used is digital
2.	It is used with a bus as well as tree topology.	It works well with bus topology.
3.	Only PSK encoding is used.	In broadband transmission, Manchester and Differential Manchester encoding are used.
4.	Signals can be travelled over long distances without being attenuated.	Signals can only travel over short distances.
5.	Baseband Transmission is unidirectional in nature.	Broadband Transmission is bidirectional in nature.

Q.4 What is the difference between a hub, modem, router and a switch?

ANS:- computers, network devices or other networks are required to be connected, hubs, **switches** and routers are the bridges to link them together. All the three types of devices can perform the same function, and technicians sometimes may use the terms interchangeably. However, this will make people confuse whether they are the same thing or different from each other. This post is going to explore the actual meanings of hub, switch, router and what they are used for.

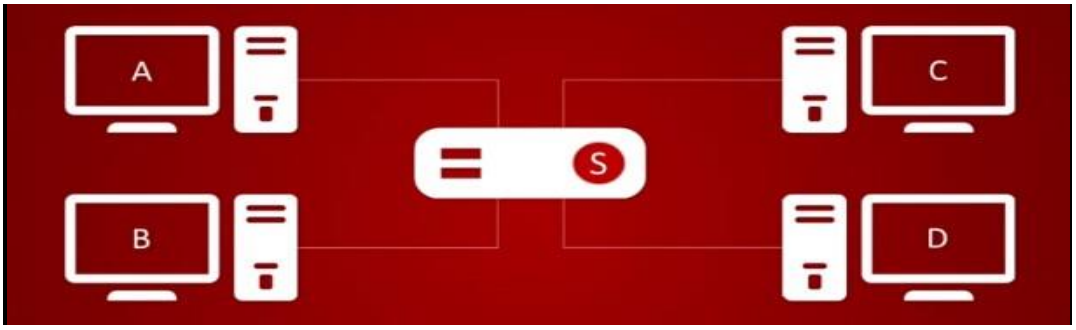
- **HUB**

  A hub is to sent out a message from one port to other ports. For example, if there are three computers of A, B, C, the message sent by a hub for computer A will also come to the other computers. But only computer A will respond and the response will also go out to every other port on the hub. Therefore, all the computers can receive the message and computers themselves need to decide whether to accept the message.



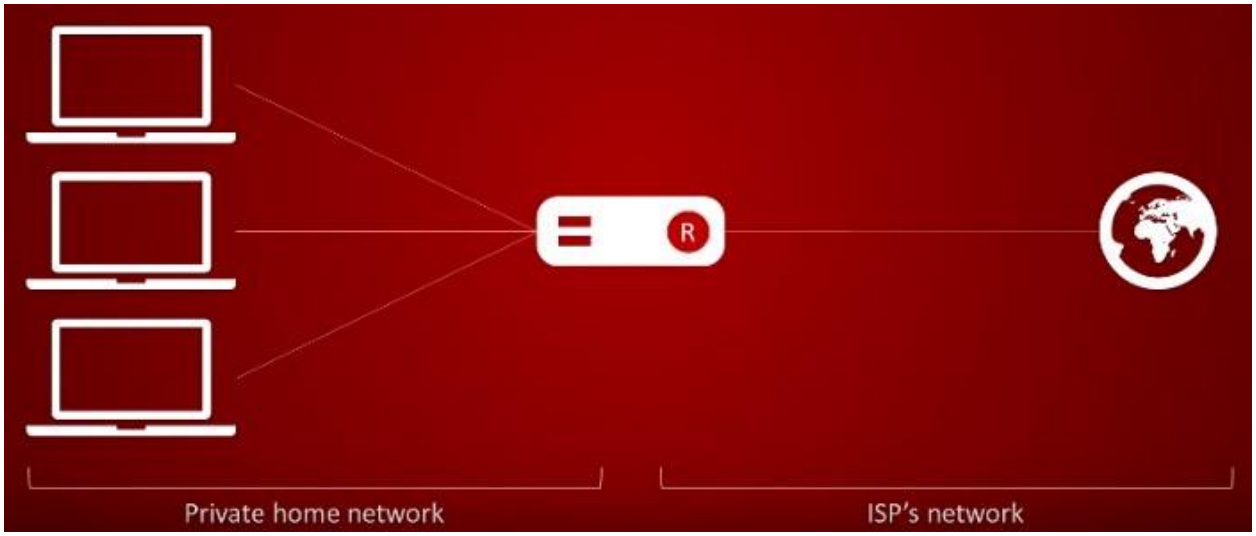
- **SWITCH**

  A switch is able to handle the data and knows the specific addresses to send the message. It can decide which computer is the message intended for and send the message directly to the right computer. The efficiency of switch has been greatly improved, thus providing a faster network speed.



- **ROUTER**

  Router is actually a small computer that can be programmed to handle and route the network traffic. It usually connects at least two networks together, such as two LANs, two WANs or a LAN and its ISP network. Routers can calculate the best route for sending data and communicate with each other by protocols.



- **MODEM**

  a portmanteau of "modulator-demodulator" – is a hardware device that converts data from a digital format, intended for communication directly between devices with specspecialized wiring, into one suitable for a transmission medium such as telephone lines or radio. A modem modulates one or more carrier wave signals to encode digital information for transmission, and demodulates signals to decode the transmitted information. The goal is to produce a signal that can be transmitted easily and decoded reliably to reproduce the original digital data.

Q. 5 When you move the NIC cards from one PC to another PC, does the MAC address gets transferred as well?

Ans: Yes, that's because MAC addresses are hard-wired into the NIC circuitry, not the PC.

Q.6 When troubleshooting computer network problems, what common hardware-related problems can occur?

Ans: Most common hardware related problems are PaBX, LAN Card, WLAN Card and Wi-Fi AP if it is wireless, Cables, Switches, Routers and Wireless Controllers.

Q.7 In a network that contains two servers and twenty workstations, where is the best place to install an Anti-virus program?

Ans: The best solution is to install anti-virus on all the computers in the network. This will protect each device from the other in case some malicious user tries to insert a virus into the servers or legitimate users.

Q.8 . Define Static IP and Dynamic IP? Discuss the difference between IPV4 and IPV6.

Ans: STATIC IP:

A static IP address is simply an address that doesn't change. Once your device is assigned a static IP address, that number typically stays the same until the device is decommissioned or your network architecture changes. Static IP addresses generally are used by servers or other important equipment.

DYNAMIC IP:

A dynamic IP address is an IP address that changes from time to time unlike a static IP address. Most home networks are likely to have a dynamic IP address and the reason for this is because it is cost effective for Internet Service Providers (ISP's) to allocate dynamic IP addresses to their customers

the difference between IPV4 and IPV6:-

IPV4	IPV6
IPv4 has 32-bit address length	IPv6 has 128-bit address length
It Supports Manual and DHCP address configuration	It supports Auto and renumbering address configuration
In IPv4 end to end connection integrity is Unachievable	In IPv6 end to end connection integrity is Achievable
It can generate 4.29×109 address space	Address space of IPv6 is quite large it can produce 3.4×1038 address space
Security feature is dependent on application	IPSEC is inbuilt security feature in the IPv6 protocol
Address representation of IPv4 in decimal	Address Representation of IPv6 is in hexadecimal
Fragmentation performed by Sender and forwarding routers	In IPv6 fragmentation performed only by sender
In IPv4 Packet flow identification is not available	In IPv6 packetflow identification are Available and uses flow label field in the header
In IPv4 checksumfield is available	In IPv6 checksumfield is not available
It has broadcast Message Transmission Scheme	In IPv6 multicast and any cast message transmission scheme is available
In IPv4 Encryption and Authentication facility not provided	In IPv6 Encryption and Authentication are provided

IPv4 has header of 20-60 bytes.	IPv6 has header of 40 bytes fixe

Q.9 . Discuss TCP/IP model in detail.

Ans: TCP/IP model

The **TCP/IP** Reference **Model**. **TCP/IP** means Transmission Control **Protocol** and Internet **Protocol**. It is the network **model** used in the current Internet architecture as well. ... These protocols describe the movement of data between the source and destination or the internet.

- The TCP/IP model was developed prior to the OSI model.
- The TCP/IP model is not exactly similar to the OSI model.
- The TCP/IP model consists of five layers: the application layer, transport layer, network layer, data link layer and physical layer.
- The first four layers provide physical standards, network interface, internetworking, and transport functions that correspond to the first four layers of the OSI model and these four layers are represented in TCP/IP model by a single layer called the application layer.
- TCP/IP is a hierarchical protocol made up of interactive modules, and each of them provides specific functionality.

Q.10 What is a Web Browser (Browser)? Give some example of browsers

ANS: A web browser is a software application for accessing information on the World Wide Web. When a user requests a web page from a particular website, the web browser retrieves the necessary content from a web server and then displays the page on the user's device

Example of browsers:-

1 Internet Explorer,

2 Mozilla Firefox,

3 Google Chrome

4 Opera.

11. What is a search engine? Give example.

A search engine is a web-based tool that enables users to locate information on the World Wide Web. Popular examples of search engines are Google, Yahoo!, and MSN Search. Search engines utilize automated software applications (referred to as robots, bots, or spiders) that travel along the Web, following links from page to page, site to site. The information gathered by the spiders is used to create a searchable index of the Web.

1. Bing
2. DuckDuckGo
3. Wiki.com
4. Ecosia
5. Yahoo!
6. Swisscows
7. CC Search
8. Gibiru
9. Qwant
10. Yandex
11. Disconnect
12. Ask

12. What is the Internet & WWW? What are the uses of internet in our daily life?

Internet:-The **Internet** is a vast network that connects computers all over the world. Through the **Internet**, people can share information and communicate from anywhere with an **Internet** connection.

WWW:-The World Wide Web, commonly known as the Web, is an information system where documents and other web resources are identified by Uniform Resource Locators, which may be interlinked by hypertext, and are accessible over the Internet.

- Uses of the Internet in Education. ...
- Internet Use to Speed Up Daily Tasks. ...
- Use of the Internet for Shopping. ...
- Internet for Research & Development. ...
- Digital Transactions. ...
- Money Management.

13. What is an Internet Service Provider? Give some example of ISP in India.

An Internet service provider (ISP) is an organization that provides services for accessing, using, or participating in the Internet. Internet service providers can be organised in various forms, such as commercial, community-owned, non-profit, or otherwise privately owned.

Internet services typically provided by ISPs can include Internet access, Internet transit, domain name registration, web hosting, Usenet service, and colocation.

An ISP typically serves as the access point or the gateway that provides a user, access to everything available on the Internet.

Example of ISP in india:-

- Jio
- Airtel
- Vodafon
- Idea
- Bsnl
- Mtnl.

14. Discuss the difference between MAC address, IP address and Port address.

MAC Address:-A media access control address is a unique identifier assigned to a network interface controller for use as a network address in communications within a network segment. This use is common in most IEEE 802 networking technologies, including Ethernet, Wi-Fi, and Bluetooth.

IP address:- An Internet Protocol address is a numerical label assigned to each device connected to a computer network that uses the Internet Protocol for communication. An IP address serves two main functions: host or network interface identification and location addressing.

Port address:- in computer networking, a port is a communication endpoint. At the software level, within an operating system, a port is a logical construct that identifies a specific process or a type of network service.

15. How do we view my Internet browser's history?

In a Microsoft Edge browser window, open the history menu using the keyboard shortcut Ctrl+H. You can also access this menu with the following steps:

1. Click the Hub button in the upper right-hand corner of the window.
2. Click the History icon to open the history menu.

This menu allows you to view the pages you've visited in chronological order.

CCA-103: Communication & Soft Skills Assignment

1. Elaborate the process & elements of Communication in detail through suitable examples.

Communication process as such must be considered a continuous and dynamic inter-action, both affecting and being affected by many variables.

(1) Sender:

The person who intends to convey the message with the intention of passing information and ideas to others is known as sender or communicator.

(2) Ideas:

This is the subject matter of the communication. This may be an opinion, attitude, feelings, views, orders, or suggestions.

(3) Encoding:

Since the subject matter of communication is theoretical and intangible, its further passing requires use of certain symbols such as words, actions or pictures etc. Conversion of subject matter into these symbols is the process of encoding.

(4) Communication Channel:

The person who is interested in communicating has to choose the channel for sending the required information, ideas etc. This information is transmitted to the receiver through certain channels which may be either formal or informal.

(5) Receiver:

Receiver is the person who receives the message or for whom the message is meant for. It is the receiver who tries to understand the message in the best possible manner in achieving the desired objectives.

(6) Decoding:

The person who receives the message or symbol from the communicator tries to convert the same in such a way so that he may extract its meaning to his complete understanding.

(7) Feedback:

Feedback is the process of ensuring that the receiver has received the message and understood in the same sense as sender meant it.

Web technologies assignment

Q1. Write html and css for the following using div

For header and footer

```
<! DOCTYPE html>
<html lang="en">
<head>
<title>CSS Template</title>
<meta charset="utf-8">
<meta name="viewport" content="width=device-width, initial-scale=1">
<style>
* {
  box-sizing: border-box;
}

body {
  font-family: Arial, Helvetica, sans-serif;
}

/* Style the header */
header {
  background-color: #666;
  padding: 30px;
  text-align: center;
  font-size: 35px;
  color: white;
}

/* Create two columns/boxes that floats next to each other */
nav {
  float: left;
  width: 30%;
  height: 300px; /* only for demonstration, should be removed */
  background: #ccc;
  padding: 20px;
}

/* Style the list inside the menu */
nav ul {
```

```
  list-style-type: none;
  padding: 0;
}

article {
  float: left;
  padding: 20px;
  width: 70%;
  background-color: #f1f1f1;
  height: 300px; /* only for demonstration, should be removed */
}

/* Clear floats after the columns */
section:after {
  content: "";
  display: table;
  clear: both;
}

/* Style the footer */
footer {
  background-color: #777;
  padding: 10px;
  text-align: center;
  color: white;
}

/* Responsive layout - makes the two columns/boxes stack on top of each
other instead of next to each other, on small screens */
@media (max-width: 600px) {
  nav, article {
    width: 100%;
    height: auto;
  }
}
</style>
</head>
<body>
```

```
<h2>CSS Layout Float</h2>
<p>In this example, we have created a header, two columns/boxes and a footer. On smaller screens, the columns will stack on top of each other.</p>
<p>Resize the browser window to see the responsive effect (you will learn more about this in our next chapter - HTML Responsive.)</p>

<header>
  <h2>Cities</h2>
</header>

<section>
  <nav>
    <ul>
      <li><a href="#">London</a></li>
      <li><a href="#">Paris</a></li>
      <li><a href="#">Tokyo</a></li>
    </ul>
  </nav>

  <article>
    <h1>switzerland </h1>
    <p>Switzerland is a mountainous Central European country, home to numerous lakes, villages and the high peaks of the Alps. Its cities contain medieval quarters, with landmarks like capital Bern’s Zytglogge clock tower and Lucerne’s wooden chapel bridge. The country is also known for its ski resorts and hiking trails. Banking and finance are key industries, and Swiss watches and chocolate are world renowned.</p>
    <p>The amazing mountains, heaps of lakes and beautiful villages make for the most beautiful scenery in **Switzerland**. These landscapes are considered to be what makes **Switzerland** the perfect destination for vacationing and exploring new cultures. The high-peak Alps and mountains make up to 62% of the country's territory..</p>
  </article>
</section>

<footer>
  <p>Footer</p>
</footer>
```

```
</body>
</html>
```

For navigation

```
<!DOCTYPE html>
<html>
<title>csc accadmy</title>
<meta name="viewport" content="width=device-width, initial-scale=1">
<link rel="stylesheet" href="https://www.cscacademy.org/">
<body>

<div class="csc accadmy">
  <h2>Navigation Bars</h2>
  <p>The <strong>csc-bar</strong> class is a container for displaying HTML
elements horizontally.</p>
  <p>The <strong>csc-bar-item</strong> class defines the container
elements.</p>
  <p>It it a perfect tool for creating navigation bars:</p>
</div>

<div class="w3-bar w3-black">
  <a href="#" class="https://www.cscacademy.org/overview">Home</a>
  <a href="#" class="https://www.cscacademy.org/governing-body">page
1</a>
  <a href="#" class="https://www.cscacademy.org/vision">page 2</a>
  <a href="#" class="https://www.cscacademy.org/smart-class">page 3</a>
</div>

</body>
</html>
```

For content:-

HTML

```
<div class="shadowbox">
  <p>Here's a very interesting note displayed in a
  lovely shadowed box.</p>
</div>
```

CSS

```
.shadowbox {
  width: 15em;
  border: 1px solid #333;
  box-shadow: 8px 8px 5px #444;
  padding: 8px 12px;
  background-image: linear-gradient(180deg, #fff, #ddd 40%, #ccc);
}
```

For Sidebar

Step 1) Add HTML:

```
<!-- Side navigation -->

<div class="sidenav">

  <a href="#">About</a>

  <a href="#">Contact</a>

  <a href="#">Clients</a>

  <a href="#">home</a>

</div>
```

```
<!-- Page content -->

<div class="main">

  ...

</div>
```

Step 2) Add CSS:

```
/* The sidebar menu */
.sidenav {
  height: 100%; /* Full-height: remove this if you want "auto" height */
  width: 160px; /* Set the width of the sidebar */
  position: fixed; /* Fixed Sidebar (stay in place on scroll) */
  z-index: 1; /* Stay on top */
  top: 0; /* Stay at the top */
  left: 0;
  background-color: #111; /* Black */
  overflow-x: hidden; /* Disable horizontal scroll */
  padding-top: 20px;
}

/* The navigation menu links */
.sidenav a {
  padding: 6px 8px 6px 16px;
  text-decoration: none;
  font-size: 25px;
  color: #818181;
  display: block;
}

/* When you mouse over the navigation links, change their color */
.sidenav a:hover {
  color: #f1f1f1;
}
```

```
/* Style page content */
.main {
  margin-left: 160px; /* Same as the width of the sidebar */
  padding: 0px 10px;
}

/* On smaller screens, where height is less than 450px, change the style of the sidebar (less padding and a smaller font size) */
@media screen and (max-height: 450px) {
  .sidenav {padding-top: 15px;}
  .sidenav a {font-size: 18px;}
}
```

Q3. Write a Program to display count, from 5 to 15 using PHP loop as given below.

```
<?php
$count = 5;
while($count <= 15)
{
  echo $count;
  echo "<br>" ;

  $count++;
}
?>
```

Q4. Write a program in javascript for Unit Conversion from Kilometer (km) to Centimeter (cm). use of message box is necessary .

```
<!DOCTYPE html>

<html>

<title>kilometrs to cm Length Converter</title>
```

```
<body>


<h2>Length Converter</h2>

<p>Type a value in the kilometers field to convert the value to cm:</p>


<p>

  <label>killometers</label>

  <input id="inputcm" type="number" placeholder="killometers"
oninput="LengthConverter(this.value)"
onchange="LengthConverter(this.value)">

</p>

<p>cm: <span id="output cm"></span></p>


<script>

function LengthConverter(valNum) {

  document.getElementById("output cm").innerHTML=valNum/100000;

}

</script>

</body>

</html
```