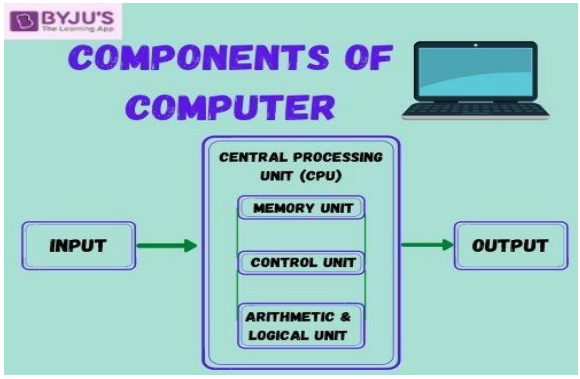
CCA-101: Fundamentals of IT & Programming Assignment -1

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

Ans.

Basic Components of Computer

Input Unit.
tput Unit.
Memory Unit.
Control Unit.
rithmetical and Logical Unit.



- Input Unit

  A computer will only respond when a command is given to the device. These commands can be given using the input unit or the input devices.

  For example: Using a keyboard we can type things on a Notepad and the computer processes the entered data and then displays the output of the same of the screen.

  The data entered can be in the form of numbers, alphabet, images, etc. We enter the information using an input device, the processing units convert it into computer understandable languages and then the final output is received by a human-understandable language.

- output Unit

  When we command a computer to perform a task, it reverts for the action performed and gives us a result. This result is called output. There are various output devices connected to the computer. The most basic of which is a monitor. Whatever we write using a keyboard or click using a mouse, is all displayed on the monitor.

  Thus, the output unit gives us the final result once the entire processing is done within the mechanism of a device.

For example: when we visit an ATM, we enter our details like language, pin, amount to be withdrawn, etc. and then the final money which the cash dispenser releases is our outcome. In this case, the cash dispenser acts as an output unit.

- ## Memory Unit

  When we enter the data into the computer using an input device, the entered information immediately gets saved in the memory unit of the Central Processing Unit (CPU). Because of the presence of some existing programming, the Memory Unit transmits the data further to the other parts of the CPU.

  Similarly, when the output of our command is processed by the computer, it is saved in the memory unit before giving the output to the user.

- ## Control Unit

  This is the core unit which manages the entire functioning of the computer device. It is one of the most essential components of the computer system.

  The Control Unit collects the data entered using the input unit, leads it on for processing and once that is done, receives the output and presents it to the user. It can be said to the centre of all processing actions taking place inside a computer device.

  Basically, the instructions taken, interpretation of entered data, issuing signals to execute the data and then finally retrieving the data is all done in the Control Unit.

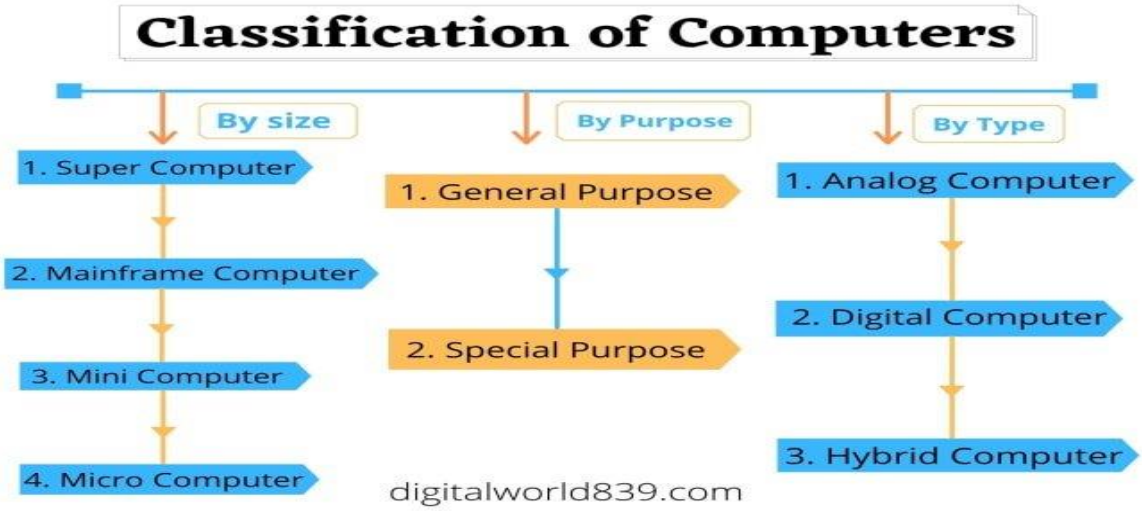
- ## Arithmetic & Logical Unit

  As the name suggests, all the mathematical calculations or arithmetic operations are performed in the Arithmetic and Logical Unit of the CPU.

  It can also perform actions like a comparison of data and decision-making actions. The ALU comprises circuits using which addition, subtraction, multiplication, division and other numerical based calculations can be performed.

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

One can classify the computer system in the following three classes: 1. Computers on the Basis of Size and Capacity include Super, Mainframe, Mini, and Micro Computer. 2. Computers on the Basis of Purposes include General purpose and Special Purpose. 3. Computers on the Basis of Hardware Design and Data Handling include Analog, Digital, and HybridComputer.



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.

There are five computer generations known till date. Each generation has been discussed in detail along with their time period and characteristics. In the following table, approximate dates against each generation has been mentioned, which are normally accepted.

Following are the main five generations of computers.

S.No	Generation & Description
1	First Generation The period of first generation: 1946-1959. Vacuum tube based.
2	Second Generation The period of second generation: 1959-1965. Transistor based.
3	Third Generation The period of third generation: 1965-1971. Integrated Circuit based.
4	Fourth Generation

	The period of fourth generation: 1971-1980. VLSI microprocessor based.

o.	On the basis of	Volatile Memory	Non-Volatile Memory

5	Fifth Generation The period of fifth generation: 1980-onwards. ULSI microprocessor based.

Q4: Differentiate between Volatile & Non- Volatile memories.

1.	**Basic**	It is a type of computer memory that stores the data temporarily. It requires a continuous electric current to maintain its saved data.	It is also a type of computer memory th data permanently. It retains the data ir even when the power is gone.
2.	**Persistence**	The data in volatile memory is not permanent.	The data in volatile memory is permaner
3.	**Speed**	It is faster than non-volatile memory.	It is slower than volatile memory.
4.	**Storage**	It has less storage capacity.	It has high storage capacity.
5.	**Data transfer**	Data transfer in volatile memory is easier.	Data transfer in non-volatile memory is
6.	**Impact**	Volatile memory has a high impact on the performance of the system.	Non-Volatile memory has no impa performance of the system.
7.	**Read and write**	In volatile memory, both read and write operations can be performed.	In non-volatile memory, only a read op be performed.
8.	**Cost**	Volatile memory is expensive per unit size.	It is less expensive.
9.	**Position of memory**	The chips of volatile memory are kept in the memory slot.	While chips of the non-volatile m embedded on the motherboard.
10.	**CPU Access**	In volatile memory, the processor has direct access to data.	In non-volatile memory, the processo have direct access to data.
11.	**Example**	Some common examples of volatile memory are **RAM** and **Cache memory**.	The common examples of Non-volat are **ROM (Random Access Memor (Hard Disk Drive)**.

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

Difference Between System Software and Application Software	
System Software	**Application Software**
This acts as an interface between the system and the applications	This is designed directly from the user perspective
It is the platform that allows the various application software to run on the system	These are independent applications which can be download and installed in the system
System Software is generally developed in low-level languages. This is so that the interaction between the software and hardware can be simplified and made more compatible	Each application has a specific purpose and thus is developed with high-level languages so that the purpose can be fulfilled
Is working is more automated. Once a system is turned on, the system software starts working	User action is required to start application software. These applications can only be work when the user commands the system to do so
These are responsible for the working of the system	They have minimum involvement in the processing and functioning of the computer device
The system software are installed at the time of installing the operating system. A computer device cannot work without its presence	The application software can be installed as and when the user requires them
It is an independent software. Once this is installed the computer will work	This is a dependent software. Applications can only be downloaded when the operating system is installed
Since a device cannot work without a system software, the user has to have it	These are designed to be user interactive, thus the application

installed in their devices	software can be removed as and when required by the user
Example for System Software includes Android, Mac Operating system, MS Windows, etc.	Examples of Application Software includes Word Processor, games, media player, etc.

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.

Steps to create document in MS WORD

Step 1: Open Ms word on your system.

Step 2: Click on the new file when you open the word file when the dialog box appear.

Step 3: Once this click on Blank doc under the recent section, it will get in bold or highlighted by default.

Step 4: Click on the create A new blank doc will open.

Step 5: Once it is opened you can write anything you want in the doc for yourself.

Step 6: You can also edit the text you have written as you can change the background color ,or the text and many other things in the docs

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”.**

Font type:

1. Select the text you want to modify.
2. Select the Home tab and locate the Font group.
3. Click the drop-down arrow next to font style box.
4. Font style menu appears.
5. With a left click select the desired font style.

Font size:

1. Select the text you want to modify.
2. Click the drop-down arrow next to the Font Size box on the Home tab. A drop-down menu appears.
3. Select the desired font size from the menu. Alternatively, you can type the value you want and then press Enter on your keyboard. Changing the font size.

Font color:

1. Select the text you want to modify.
2. In Home tab locate the Font group.
3. Click the drop-down arrow next to Font color button.
4. Font color menu appears.
5. Select the desired font color with a left click.
6. Word will change the Font color of the selected text.

To highlight

he highlight doesn't necessarily need to be yellow. Click the menu button to the right of the Text Highlight button, and choose a different .

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.

Q8. Create a file in MS-Word for the following document and save it with file name 'ms_word'. Describe all steps involved in it.

Equations

X2=Y5=30

Z3=Q4=50

A2+B8=X2+Y8

4. Step 1: Open Ms word on your system.
5. Step 2: Click on the new file when you open the word file when the dialog box appear.
6. Step 3: Once this click on Blank doc under the recent section, it will get in bold or highlighted by default.
7. Step 4: Click on the create A new blank doc will open.

8. Step 5: Once it is opened you can write anything you want in the doc for yourself.
9. Step 6:click on word equations and go on home tab click on underline

Select the text you want to convert	Select the insert tab

icon(U)

10. Step 6: write the latter and go on home tab use subscript and superscript

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.

Select the text you want to convert

Select the insert tab

Click on table command . A dialog box appears

Click on convert text to table, a new dialog box appears

Here set the number of columns

Click on OK Finally selected text convert in a 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. In the Fixed column width box, type or select a value.

Click on table command . A dialog box appears	Click on convert text to table, a new dialog box appears
Here set the number of columns	Click on OK Finally selected text convert in a table

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

Insert a Table

1. Place the cursor where you want the table to appear.
2. Go to Insert.
3. In the Tables group, select Table.
4. Select Tables, then choose a table style.
5. A pre-formatted table is inserted into the Word document, and the Table Design tab is displayed. Replace the text with your content.

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

2	n2	7				
3	n3	80				
4	n4	90				
5	n5	40				
6	n6	50				
7	n7	77				
8	n8	44				
9	n9	88				
10	n10	55				

Q12. Calculate the following things of a range (C2:C11) of data in the worksheet created in question no

- **the sum of the marks using AutoSum in a range of cells (C2:C11)**
- **average of the marks in a range of cells (C2:C11)**
- **highest marks in a range of cells (C2:C11)**
- **minimum marks in a range of cells (C2:C11)**

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				

Q13 a) Describe various steps involved in the following

- **To modify column width of a worksheet**

1. Select the column or columns that you want to change.
2. On the Home tab, in the Cells group, click Format.
3. Under Cell Size, click Column Width.
4. In the Column width box, type the value that you want.
5. Click OK.

- **To modify the row height of a worksheet**

Select the row or rows that you want to change. **On the Home tab, in the Cells group, click Format. Under Cell Size, click AutoFit Row Height**. Tip: To quickly autofit all rows on the worksheet, click the Select All button, and then double-click the boundary below one of the row headings.

- **To delete rows and columns of a worksheet**

1. Select the cells, rows, or columns that you want to delete.
2. Right-click, and then select the appropriate delete option, for example, Delete Cells & Shift Up, Delete Cells & Shift Left, Delete Rows, or Delete Columns.

13 b) Describe following terms in the worksheet

- **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**.

- **Cell address**

A cell reference, or cell address, is **an alphanumeric value used to identify a specific cell in a spreadsheet**. Each cell address 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?

Tools Used By Pro PowerPoint Presentation Designers

1. Perspector. Perspector is a tool used by designers to create 3D images on PowerPoint presentations. ...
2. PivotViewer. ...
3. Autodesk 3DS Max. ...
4. VisualBee PowerPoint Add-In. ...

5. SmartArt. ...
6. Animations and Transitions. ...
7. Wordle. ...
8. Cacoo.

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

- **Open a Blank presentation**

1. Select the File tab to go to Backstage view.
2. Select New on the left side of the window, then click Blank Presentation.
3. A new presentation will appear.

- **Save the presentation as Lab1.pptx**

1. Step 1 − Click on the File tab to launch the Backstage view and select Save.
2. Step 2 − In the Save As dialog, type in the file name and click "Save".
3. Step 3 − The default file format is Lab1. pptx.

- **Add a Title to the first slide: the name of your college**

1. Select the slide whose layout you will change so that it can have a title.
2. Click Home > Layout.
3. Select Title Slide for a standalone title page or select Title and Content for a slide that contains a title and a full slide text box.

- **Type your first name and last name in the Subtitle section**

Subtitle. **First name Last name**. Institutional affiliation (in original ... Use arial 10 to **write** this **part of** the text. ... Author's name, Paper Title.

- **Add a New Slide which has a Title and Content**

To insert a new slide in PowerPoint with a “Title and Content” slide layout, **click the “Home” tab in the Ribbon. Then click the “New Slide” button in the “Slides” button group**. Alternatively, to insert a new slide with a different slide layout, click the “Home” tab in the Ribbon.

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**

1. On the **View** tab, in the **Presentation Views** group, click **Normal**.
2. On the left side of the PowerPoint window, click a slide thumbnail that you want to add bulleted or numbered text to.
3. On the slide, select the lines of text in a text placeholder or table that you want to add bullets or numbering to.
4. On the **Home** tab, in the **Paragraph** group, click **Bullets** or **Numbering**

- **Inserting Excel Sheet**

  Hold down SHIFT, and then select the same number of existing sheet tabs of the worksheets that you want to insert in the open workbook. For example, if you want to add three new worksheets, select three sheet tabs of existing worksheets. On the Home tab, in the Cells group, click Insert, and then click Insert Sheet.

- **Clip art and Text**

  Select Insert > Picture > From Online. In the Online Pictures dialog box, type words describing the kind of picture you want (such as roses), and then press Enter. and then select Clipart under the Type category. Select the image you want to insert, then click the Insert button.

- **Slide show effects**
  - Select the item you want to animate, then go to the Animations tab > Animations group > More. Choose an animation.
  - Use Effect Options if you want the animation on multiple items. Use the Animation Pane to change the order and timing.
  - Use Play All to preview your animations.

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

Parameter	High-Level Language	Low-Level Language
Basic	These are programmer-friendly languages that are manageable, easy to understand, debug, and widely used in today's times.	These are machine-friendly languag very difficult to understand by huma but easy to interpret by machines.
Ease of Execution	These are very easy to execute.	These are very difficult to execute.
Process of Translation	High-level languages require the use of a compiler or an interpreter for their translation into the machine code.	Low-level language requires an ass directly translating the instructions c machine language.
Efficiency of Memory	These languages have a very low memory efficiency. It means that they consume more memory than any low-level language.	These languages have a very high efficiency. It means that they consu energy as compared to any high-lev language.
Portability	These are portable from any one device to another.	A user cannot port these from one another.
Comprehensibility	High-level languages are human-friendly. They are, thus, very easy to understand and learn by any programmer.	Low-level languages are machine-f They are, thus, very difficult to unde learn by any human.

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

Data Types	Memory Size	Range
signed short int	2 byte	−32,768 to 32,767
unsigned short int	2 byte	0 to 65,535

long int	4 byte	-2,147,483,648 to 2,147,483,647
signed long int	4 byte	-2,147,483,648 to 2,147,483,647

Q18. Find the output of the following expressions

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

Ans X=33

b) **Y=30 – (40/10+6) +10**

Ans Y=30

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

Ans Z=16

Q19 Describe the syntax of the following statements

a) If – else statement

The if/else statement is **a part of JavaScript's "Conditional" Statements, which are used to perform different actions based on different conditions**. In JavaScript we have the following conditional statements: Use if to specify a block of code to be executed, if a specified condition is true.

b) for loop

n programming, a **loop** is used to repeat a block of code until the specified condition is met.

c) while loop

While loop is also known as a pre-tested loop. In general, a while loop **allows a part of the code to be executed multiple times depending upon a given boolean condition**. It can be viewed as a repeating if statement.

d) do-while loop

do { statement(s); } **while**(condition);. Notice that the conditional expression appears at the end of the **loop**, so the statement(s) in the **loop** executes once ...

Q20. Find the output of the following program segments

a)	b)	c)
#include<stdio.h> int main()	#include<stdio.h> int main()	#include<stdio.h> int main()

{
int i;
for (i=1; i<2;i++)
{
Printf(“IMS Ghaziabad\n”);
}
 	
Output:-
1
IMS Ghaziabad
	{
	int i=1;
	while(i<=2)
	{
	Printf(“IMS Ghaziabad\n”);
	I=i+1;
	}
	
	Output:-
	1
	2
	IMS Ghaziabad
		{
		int a=10,b=20
		if(a>b)
		
		Printf(“the largest number is %d\n”,a);
		Else
		Printf(“the largest number is %d\n”,b);
		}
		
		Output:-
		the largest number is 20