

CCA-101: Fundamentals of IT Programming

Assignment- 1

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

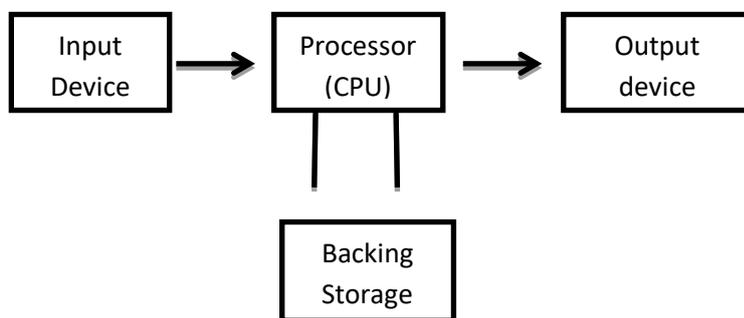
Ans: The four fundamentals parts of computer is Central processing unit (CPU), Motherboard, Hard drive and Random Access Memory (RAM).

Input Devices: In computing, an input device is a piece of equipment used to provide data and control signals to an information processing system.

CPU: The Central Processing Unit (CPU) is the primary component of a computer that acts as its “control centre.”

Output Devices: An output device is any hardware device used to send data from a computer to another device or users.

Backing storage :Backup storage refers to a storage device, medium or facility that is used for storing copies and instances of backup data.



Block Diagram of a Digital Diagram.

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

Ans: Based on size and capacity , computers are classified as follow:

- Super Computers
- Mainframe Computer
- Mini Computers
- Micro Computers

Super Computers: Super Computers are the most powerful and physically the largest by size. The fastest supercomputers can perform over one trillion calculations in a second. Super computers have thousands of processors. Because of their extraordinary speed, accuracy and processing power, supercomputers are well suited for solving highly complex problems & huge amounts of calculations

Mainframe Computers: Mainframe computers are very large often filling an entire room and can process thousands of millions of instructions per second. In a mainframe environment, users connect to the mainframe through the many terminals wired to the mainframe. Mainframes are capable of supporting hundreds to thousands of users simultaneously .

Minicomputers: Minicomputers are much smaller than mainframes. These computers are also less expensive. Sometimes referred to as midrange server or midrange computer. They are typically larger, more powerful and more expensive than desktop computers. Midrange computers are usually used by small and medium-sized business as their servers. Users to the connect to the server through a network by using desktop computers.

Microcomputers: Microcomputers are the most frequently used type of computer .it is also , known as personal computer (PC) . A microcomputer is a small computer system designed to be used by one person at a time.

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

Ans: 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. Includes both hardware and software.

There are five computer generations:.

First generation of computer technology vacuum tube based.

Second generation of computer technology transistor based.

Third generation of computer technology integrated circuits based.

Fourth generation of computer technology microprocessor based.

Fifth generation of computer technology natural language input.

Q4: Differentiate between Volatile & Non Volatile memories.

Ans:

Volatile	Non-Volatile
<p>Volatile memory is a computer storage that only maintains its data while the device is powered</p> <p>Examples: RAM (Random access memory) is volatile. When we are working on a document, it is kept in RAM, and if the computer loses power, your work will be lost.</p>	<p>Non-Volatile memory is a type of computer memory that has capability to hold saved data even if the power is turned off.</p> <p>Examples:Read-only memory (ROM), Hard disk, floppy disk, etc.</p>

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

Ans: **System Software:** It is a type of software that is designed to run a computers hardware and application programs. Software like operating systems, computers, editors and drivers etc. , come under this category. A computer cannot function without the presence of system software.

Application Software: It is software created for a specific purpose, used by end users. It can be called an application or simply an app.

Open Source Software: It is a type of computer software in which **sourcecode** is released under a licences in which the copyright holder grants users rights to study, change and distribute the software to anyone and for my purpose.

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.

Ans:

- First step- Open a MS Word
- Second step - Typing the paragraph about myself
- Third step- Saving the file through the file menu **save as** and choose location where to save
- Fourth step- Renaming the file **“yourself”**
- Fifth step- Click **save** .

Q6.b) Write steps regarding followings.

- To change the font style : Ctrl + Shift + F
- To change the font size: Ctrl + Shift + P
- To change the font color: On the Home tab, in the Font group, choose the arrow next to Font Color, and then select a color.
- To Highlight (in yellow) the line that reads “need to get IMS’s address”.
Select the text that you want to highlight. Go to Home and, select the arrow next to Text Highlight Color. Select the yellow 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.

Ans: **MS Word**

MS Word is a widely used commercial word processor development by Microsoft.

MS Word is application software , which is capable of

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

The step involved in it are as following:

- (i) Open MS- Word from Microsoft office
- (ii) Type the document
- (iii) On the Home tab, in the Font group, choose the arrow next to Font Color, and then select a color.
- (iv) To underline the selected words press Ctrl+U
- (v) To write in italic letter Select ***ms-word*** and press Ctrl+ I
- (vi) To saved the file press **Ctrl+S** and click on **save as** and after choosing the file location rename the file as **‘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.

Ans: Equations

$$X_2 + Y_5 = 30$$

$$Z^3 + Q^4 = 50$$

$$A_2 + B^8 = X_2 + Y^8$$

The step involved in it are as following:

- (i) Type the equation in ms word
- (ii) By pressing Ctrl+= Subscript is given on X + Y and A,X
- (iii) By pressing Ctrl+ Shift++ = Superscript is given on Z + Q and B,Y
- (iv) The file is saved by pressing Ctrl+ S and giving file name '**equations**'.

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.

Ans:

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 number of columns.

Click on OK Finally Selected text convert in a table



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 number of columns.	Click on OK Finally Selected text convert in a table

The step involved in it are as following:

- Type the text in ms word
- Select all the words and highlight from home page selecting colour from text highlight colour
- Select all words click on insert table and convert text to table.

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

Ans: The step involved in it are as following:

- (i) Open a blank word document
- (ii) In the top ribbon, press insert
- (iii) Click on the table button
- (iv) Either use the diagram to select the number of columns and rows you need, or click insert table
- (v) The blank table will now appear on the page

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

Ans:

The screenshot shows an Excel worksheet with the following data:

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

Q12. Calculate the following thing of a range (C2:C11) of data in the worksheet created in question no 10.

- The sum of the marks using Auto sum in a range of cells (C2:C11)

The screenshot shows the same data as Q11, but with an 'Autosum' column added in column D:

Roll No	Name	Marks	Autosum
1	n1	60	654
2	n2	70	594
3	n3	80	524
4	n4	90	444
5	n5	40	354
6	n6	50	314
7	n7	77	264
8	n8	44	187
9	n9	88	143
10	n10	55	55

- Average of the marks in a range of cells (C2:C11)

The screenshot shows the same data as Q11, but with an 'Average' column added in column D:

Roll No	Name	Marks	Average
1	n1	60	65.40
2	n2	70	66.00
3	n3	80	65.50
4	n4	90	63.43
5	n5	40	39.00
6	n6	50	63.00
7	n7	77	66.00
8	n8	44	62.33
9	n9	88	71.50
10	n10	55	55.00

- Highest marks in a range of cells (C2:C11)

The screenshot shows the same data as Q11, but with a 'Highest marks' column added in column D:

Roll No	Name	Marks	Highest marks
1	n1	60	90
2	n2	70	90
3	n3	80	90
4	n4	90	90
5	n5	40	88
6	n6	50	88
7	n7	77	88
8	n8	44	88
9	n9	88	88
10	n10	55	55

- Minimum marks in a range of cells (C2:C11)

	A	B	C	D	E	F
1	Roll No	Name	Marks	Minimum marks		
2	1	n1	60	40		
3	2	n2	70	40		
4	3	n3	80	40		
5	4	n4	90	40		
6	5	n5	40	40		
7	6	n6	50	44		
8	7	n7	77	44		
9	8	n8	44	44		
10	9	n9	88	55		
11	10	n10	55	55		
12						
13						
14						
15						

Q13 a) Describe various steps involved in the following

- To modify column width of a worksheet :Step 1- Select a column or a range of column
Step 2- On the home tab, select Format > Column Width
Step 3- Type the column width and select OK.
- To modify the row height of a worksheet
Step 1- On the Home tab, in the Cells group, click Format.
Step 2- Under Cell Size, click Row Height.
Step 3- In the Row height box, type the value that you want.
- To delete rows and columns of a worksheet
Step 1- Right-click in a table cell, row, or column you want to delete.
Step 2- On the menu, click Delete Cells.
Step 3- 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.

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

Ans: To customize power point presentation this are the tools available and used:-

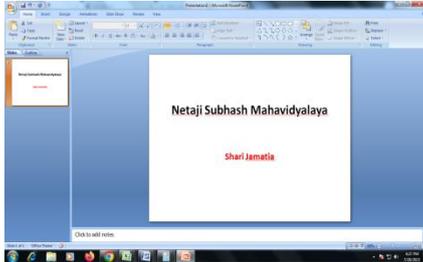
- Tool 1: Templates and Themes.
- Tool 2: Slide Layouts.
- Tool 3: Fonts.
- Tool 4: Color Themes.
- Tool 5: Icons.
- Tool 6: Shapes.
- Tool 7: Stock Photos.
- Tool 8: Charts and Graphs.

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

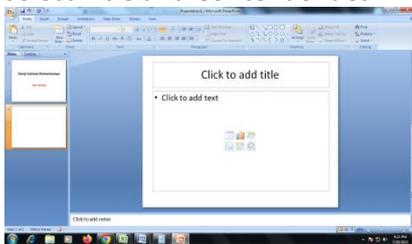
- Open a Blank presentation
- Save the presentation as Lab1.pptx
- Add a Title to the first slide: the name of your collage
- Type your first name and last name in the Subtitle section
- Add a New Slide which has a Title and Content

Ans:

- Open a Blank presentation : Step – Open Microsoft PowerPoint from Microsoft office and click on blank presentation
- Save the presentation as **Lab1.pptx** : 1st Step –Left Click Office button from left top corner
2nd Step- Left click on **Save As**
3rd Step- click on PowerPoint 97-2003 presentation
4th step- Change File name to **Lab1** and click the **Save button**
- Add a Title to the first slide: the name of your collage : 1st step- click inside of the slide Click Add Title and type the words name of college ” **Netaji Subhash Mahavidyalaya**”

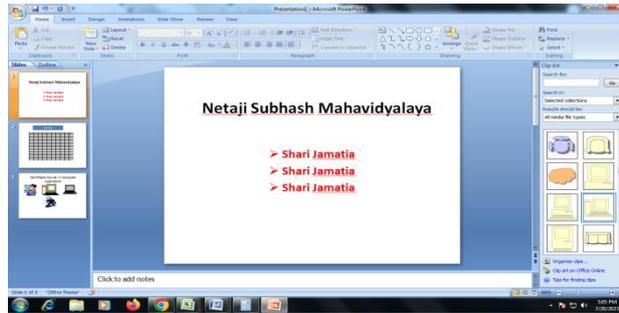


- Type your first name and last name in the Subtitle section : 1st step- In the first slide sub title section type ”**Shari Jamatia**”
- Add a New Slide which has a Title and Content: 1st Open New slides from Home Tab and select **Title and Content Slides**



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 :- 1st step- Open New slide in Ms Powerpoint select the slide and edit the title and Bullet list in Sub title
- Inserting Excel Sheet :- 1st step- open new slide and insert Excel sheet from **Insert tab – Table – click on excel spreadsheet**
- Clip art and Text :- 1st step- Open new slide .
2nd step- Open **Insert tab** and Click on **Clip Art** ribbon and **windows search option** is open up at the right corner .
3rd step- when you click on **Search option** picture appear and select the picture as per choice
- Slide show effects: Slide show effect can be given from **Design tab- Effect can be change as per desired.**



Part -2

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

Ans: Difference between machine language and high level language:

Machine language	High level language
Machine language is the language written as strings of binary 1's & 0's to create instructions	A Programming language that uses English and mathematical symbol in its instruction
languages are closer to the system hardware and require the knowledge of hardware to write the instructions	languages are the machine independent languages that do not require the hardware knowledge to write instructions

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

Ans:

Types	Description
Primitive Data Types	Primitive data types are the most basic data types that are used for representing simple values such as integers, float, characters, etc.
User Defined Data Types	The user-defined data types are defined by the user himself.
Derived Types	The data types that are derived from the primitive or built-in data types are referred to as Derived Data Types.

Q18. Find the output of the following expressions

a) $X-20/5*2+30-5$ b) $Y-30-(40/10+6)+10$ c) $Z=40*2/10-2+10$

Ans: a) $X + 17$ b) $Y - 30$ c) $Z = 16$

Q19. Describe the syntax of the following statements

- a) If-else statement :- `if (test-expression) { True block of statements } Else { False block of statements }`
- b) for loop : A "For" Loop is used to repeat a specific block of code a known number of times.
- c) while loop : `while(condition){ //code to be executed. }`

d) do-while loop : do { statements} while (expression);

Q20. Find the output of the following program segments

a)	b)	c)
<pre>#include <stdio.h> int main() { int i; for (i=1; i<2; i++) { print("IMS Ghaziabad\n"); } }</pre>	<pre>#include <stdio.h> int main() { int i= 1; While (i<=2) { Printf("IMSGhaziabad\n"); i=i+1; } }</pre>	<pre>#include <stdio.h> void main() { int a=10,b=100 if(a>b) printf("largest number is %d\n",a); elseprintf("largest number is %d\n",b); }</pre>