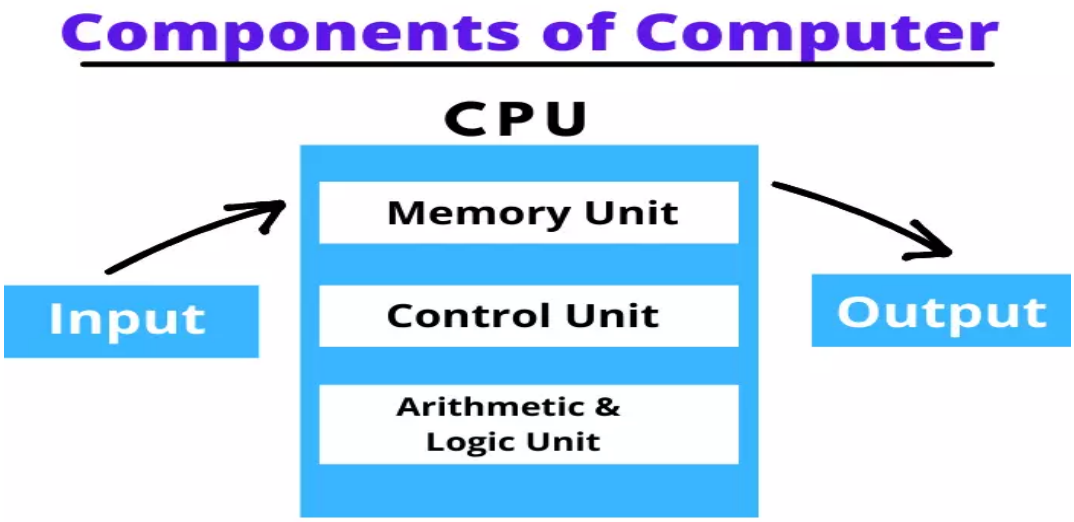
CCA-101: Fundamentals of IT & Programming
Assignment -1

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

Answer: The four fundamental parts of computer are Input Devices, Central Processing Unit (CPU), Output device and Memory unit.



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

Answer: Based on size and capacity, computers are classified as follows:

i. Super Computers: Fastest ever computer being made. They are used for weather forecasting and can do over 25000 million arithmetic operations per second.
ii. Mainframe Computer: They are designed to be used for big organisations where large and big computations are to be carried out. They are faster in terms of speed than Mini Computers. They are used for solving scientific and Engineering problems.
iii. Mini Computers: They are designed to be used for Scientific Research and are much faster in speed than Micro Computer. They are more expensive than PCs.
iv. Micro Computers: Micro Computers are also known as Personal Computer (PC). Personal Computer are classified into PC, PC-XT, PC-AT. Micro Computers are only for personal use such as school, offices, professionals and small companies. They are not expensive and are slower in speed than any other types of Computers.

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

Answer: The evolution of computer to the current state is defined in terms of the generations of computer. Each generation of computer is designed based on a new technological development, resulting in better, cheaper and smaller computers that are more powerful, faster and efficient than their predecessors. 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.

There are about five Generations and these are First Generation, Second Generation, Third Generation, Fourth Generation and Fifth Generation

First Generation used Vacuum Tubes, Second Generation used Transistors, Third Generation used, Integrated Circuit, Fourth Generation used VLSI Microprocessor and Fifth Generation used ULSI microprocessor or Artificial Intelligence.

Q4: Differentiate between Volatile & Non-Volatile memories.

Answer: The difference between Volatile & Non-Volatile memories are as follows.

Volatile Memory	**Non-Volatile Memory**
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.
Contents of Volatile memory is stored temporarily.	Contents of Non-volatile memory is stored permanently.
It is faster than non-volatile memory.	It is slower than volatile memory.
RAM (Random Access Memory) is an example of volatile memory.	ROM (Read Only Memory) is an example of non-volatile memory.
In volatile memory, data can be easily transferred in comparison to non-volatile memory.	In non-volatile memory, data cannot be easily transferred in comparison to volatile memory.
In Volatile memory, process can read and write.	In Non-volatile memory, process can only read.
Volatile memory generally has less storage capacity.	Non-volatile memory generally has more storage capacity than volatile memory.
In volatile memory, the program's data are stored which are currently in process by the CPU.	In non-volatile memory, any kind of data which has to be saved permanently are stored.
Volatile memory is more costly per unit size.	Non-volatile memory is less costly per unit size.
Volatile memory has a huge impact on the system's performance.	Non-volatile memory has a huge impact on a system's storage capacity.

In volatile memory, processor has direct access to data.	In non-volatile memory, processor has no direct access to data.

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

Answer: The differences between the three types of software are as follows:

System Software	Application software	Open-source software
System Software maintain the system resources and give the path for application software to run.	Application software is built for specific tasks.	OSS is software that is distributed with its source code, making it available for use, modification, and distribution with its original rights.
Low level languages are used to write the system software.	While high level languages are used to write the application software.	Open-source code is usually stored in a public repository and shared publicly.
It's a general-purpose software.	While it's a specific purpose software.	GNU/Linux, Mozilla Firefox VLC media player, SugarCRM, GIMP VNC, Apache web server LibreOffice, Query
Without system software, system can't run.	While without application software system always runs.	
System software runs when system is turned on and stop when system is turned off.	While application software runs as per the user's request.	
Example of system software are operating system, etc.	Example of application software are Photoshop, VLC player etc.	
System Software programming is complex than application software.	Application software programming is simpler as comparison to system software.	

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.

Answer: The steps for creating a file in MS-word, inserted a paragraph about myself and save it with file name "yourself" are as follows"

i. Go to Microsoft Office and select the MS-Word
ii. When MS -Word opened, the cursor will automatically appeared in the blank page
iii. Then typed a paragraph about myself

iv. Finally go to save File (in the upper left corner) choose Save and locate the folder to save the save, enter the File name 'yourself' and click OK.

Q6 b) Write steps regarding followings

To change the font style, the following are the steps:

i. Go to the Font dialog box (in the upper left corner), Select the paragraph that has been typed by you and Right Click.
ii. Select the Font Style or effects you want to e.g., Calibri, Arial, etc
iii. Click OK

To change the font size, the following are the steps:

i. To the right of Font Style is the Font Size dialog box, click
ii. Select on the drop-down arrow on size and select the desired Size e.g. Size, Size

To change the font colour, the following are the steps:

i. Go the Font dialog box (in the upper left corner), and select the A Symbol and choose the desired colour. E.g. Dog, Cat

To highlight (in yellow) the line that reads "need to get IMS's address".

i. To the Left of Color Symbol is the highlight tool written with small 'ab', Select the text and highlight in yellow. E.g. "need to get IMS's address".

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.

Answer: Open MS Word and type the texts as given.

MS Word is widely used word processor developed by Microsoft

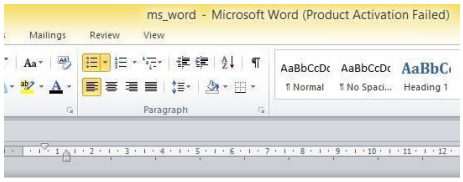
Steps: Select the 'MS Word' text and on the Font dialog box select Red Font colour, Next Select 'word processor' and choose the U Symbol for underlining.

Follow the same steps in the following for font colour, and for the Bullets go to Paragraph dialog box and the Bullets tool

MS Word an application software capable for (choose the *I* symbol for Italic)

- Creating
- Editing
- Saving, ~~and~~ (Select the ~~abc~~ tool)

- Printing any type of documents (Select the **B** tool for Bold)



Q8.

MS Word is widely used word processor developed by Microsoft

MS Word is an application software capable for

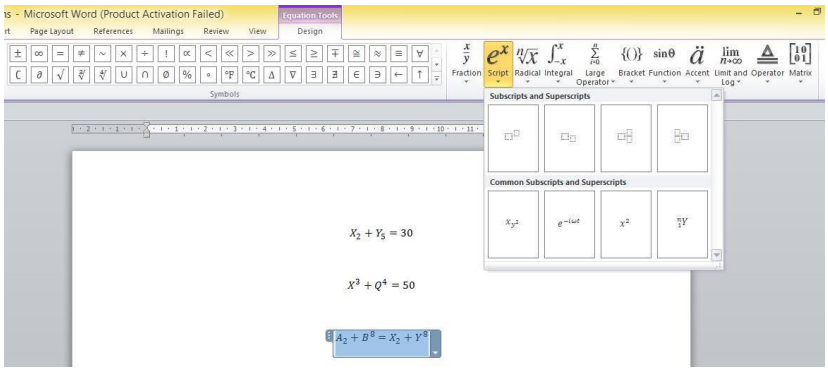
- Creating
- Editing
- Saving, ~~and~~ (Select the ~~abe~~ tool)
- Printing any type of documents (Select the **B** tool)

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

Steps: After creating the MS Word with the name equations, the following steps are used for all the equations:

Go to Insert – Equation – Insert New Equation – Select the Script tool (image shown below) to choose the desired equation – Use the symbols for inserting + or =

$X_2 + Y_5 = 30$
$X^3 + Q^4 = 50$
$A_2 + B^8 = X_2 + Y^8$



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 command, a dialog box appear	Click on convert text to table, new dialog box
Here set the number of columns	Click OK, Select text convert on the table

Steps: After the MS-word named 'text-to-table' the given text are converted to a table format by Selecting all the text – Go to Insert – choose the Convert to Text option – Dialog box appear and select the necessary requirements and click OK.

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

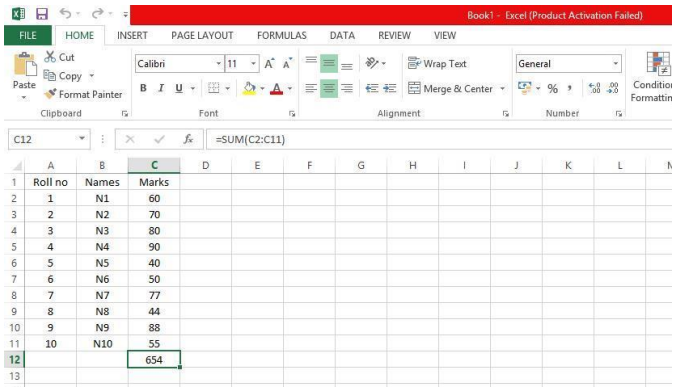
Answer:

Select the text you want to convert	Select the insert tab

Click on command, a dialog box appear	Click on convert text to table, new dialog box
Here set the number of columns	Click OK, Select text convert on the table

Steps: After the MS-word named ‘text-to-table’ the given text are converted to a table format by Selecting all the text – Go to Insert – choose the Convert to Text option – Dialog box appear and select the necessary requirements and click OK.

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



	A	B	C
1	Roll no	Names	Marks
2	1	N1	60
3	2	N2	70
4	3	N3	80
5	4	N4	90
6	5	N5	40
7	6	N6	50
8	7	N7	77
9	8	N8	44
10	9	N9	88
11	10	N10	55
12			654
13			

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

i. the sum of the marks using AutoSum in a range of cells (C2:C11)
Answer: 654

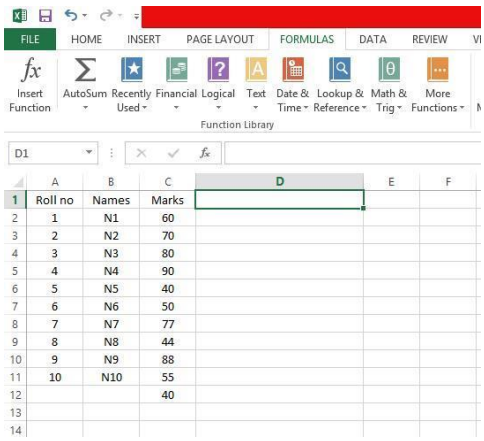
ii. average of the marks in a range of cells (C2:C11)
Answer: 65.4

iii. highest marks in a range of cells (C2:C11)
Answer: 90

iv. minimum marks in a range of cells (C2:C11)
Answer: 40

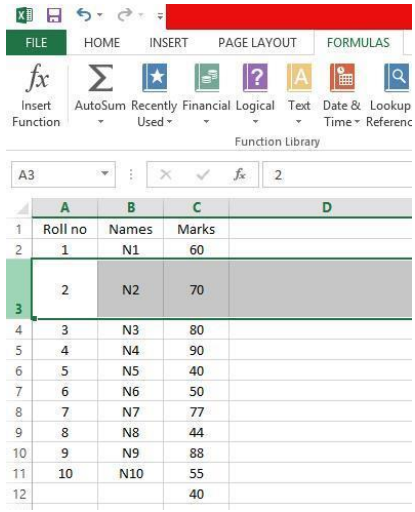
Q13 a) Describe various steps involved in the following

i. To modify column width of a worksheet
Steps: Position the cursor over the column line in the column heading, and a double arrow will appear. Left-click the mouse, then drag the cursor to the right to increase the column width or to the left to decrease the column width. Release the mouse button.



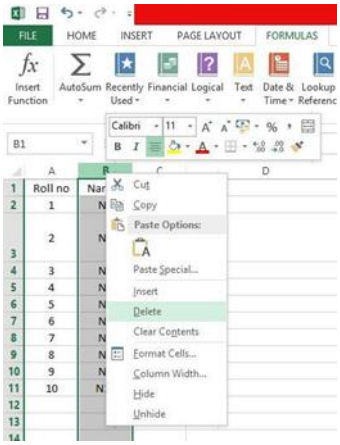
ii. To modify the row height of a worksheet

Steps: Position the cursor over the row line you want to modify, and a double arrow will appear. Left-click the mouse, then drag the cursor upward to decrease the row height or downward to increase the row height. Release the mouse button.



iii. To delete rows and columns of a worksheet

Steps: Select the row or column you want to delete. Click the Delete command in the Cells group on the Home tab. Selected column or row deleted



Q13 b) Describe following terms in the worksheet

i. Absolute reference and relative reference in formula
Relative reference - Cell references in formula automatically adjust to new locations when the formula is pasted into different cells.
Absolute references, on the other hand, remain constant no matter where they are copied. Cell references in a formula always refer to the same cell or cell range

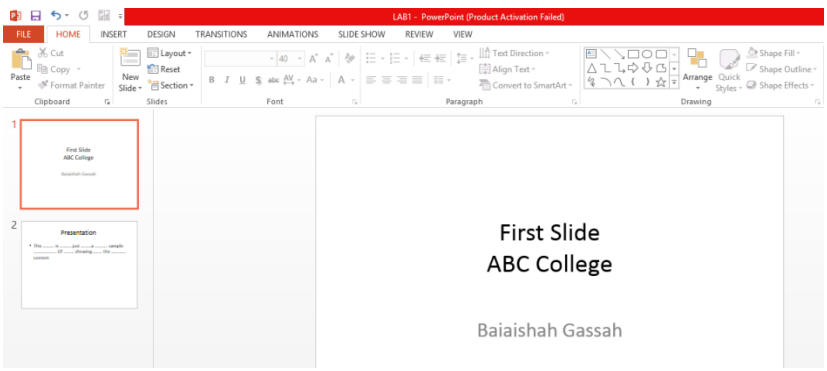
ii. **Cell address** - A cell reference or cell address is a combination of a column letter and a row number that identifies a cell on a worksheet.

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

Answer: Templates and Themes, Slide Layouts, Fonts, Color Themes, Icons, Shapes, Stock Photos, Charts and Graphs, Maps, Tables, Flowcharts, Icon Charts, Radials, Progress Bars, Animation, Transitions, Interactivity and Audio and Video

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

i. Open a Blank presentation – Open a new MS Powerpoint file, a blank page will appear or if its already exist then Go to INSERT and select Blank page
ii. Save the presentation as Lab1.pptx – Go to File and select Save As – Choose the location to save and name the file as 'Lab2' – Click OK.
iii. Add a Title to the first slide: the name of your college – On the first slide Add title and add the college name just below the title
iv. Type your first name and last name in the Subtitle section – Names and title are typed as shown in the imaged below
v. Add a New Slide which has a Title and Content—a new slide and content is added and shown below



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

i. Title slide & bullet list
Open MS PowerPoint --- The blank page containing 'title and content' appears --- enter the title desired --- For bullets go to Home option, on the Paragraph section, select the Bullet symbols for different designs required.
ii. Inserting Excel Sheet

After opening MS PowerPoint, For Inserting Excel Sheet --- Go to Insert option (next to Home button) --- Click on the Table, a drop down box appear --- Select Excel Spreadsheet which is in the last option --- Excel Spreadsheet appears

iii. Clip art and Text

Click in the slide where you want to insert a clip art file --- On the Insert tab, in the Images group, click Online Pictures --- In the Insert Pictures dialog box enter your search terms and click OK --- Locate the clip art you want to insert in your slide and double-click on it or click the item and select Insert.

For inserting text, Go to the Insert option --- Select the Text Box --- Drag the cursor anywhere you would like to write --- Write down inside the Text Box

iv. Slide show effects

For slide show and effects Go to the Slide Show Option --- Select any option you required for slide show, either from the current slide or from the beginning --- Different animations can also be selected by creating animations for each slide in the Anmations tool box --- Timing of slide show can also be controlled --- Transition effects from one slide to another can also be created.**PART II**

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

High Level Language	Machine Language
It can be considered as a programmer-friendly language. It can be ported from one location to another.	It is considered as a machine-friendly language. It is not portable.
It requires a compiler/interpreter to be translated into machine code.	It requires an assembler that would translate instructions.
It is easy to understand and easy to debug.	It is difficult to understand and difficult to debug
It is less memory efficient, i.e., it consumes more memory in comparison to machine languages.	It consumes less memory.

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

Answer: The different data types of C programming Language are as follows

Serial no	Data Types
1	**Basic Types:** They are arithmetic types and are further classified into *integer* types and *floating-point* types. Integer type examples are int, unsigned int, char, signed char, unsigned char, short, unsigned short, etc. Floating-point types are float, double, long double
2	**Enumerated types:** They are again arithmetic types and they are used to define variables that can only assign certain discrete integer values throughout the program.
3	**The void type:** The type specifier void indicates that no value is available. Examples are Function returns as void (void exit (int status);), Function arguments as void (int rand(void);), Pointers to void (void *malloc(size_t size);)

4	**Derived types:** They include (a) Pointer types, (b) Array types, (c) Structure types, (d) Union types and (e) Function types.

Q18. Find the output of the following expressions

a) X=20/5*2+30-5 X= **33**
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 syntax

```
if(condition)
{
  //execute your code
}
else
{
  //execute your code
}
```

b) for loop syntax

```
for (initialization; condition test; increment or decrement)
{
  statement(s);
}
```

c) while loop syntax

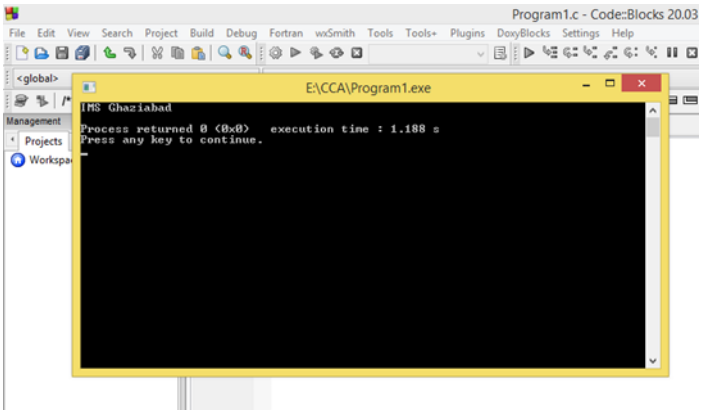
```
While (condition)
{
  statement(s);
  Incrementation or Decrementation;
}
```

d) do-while loop

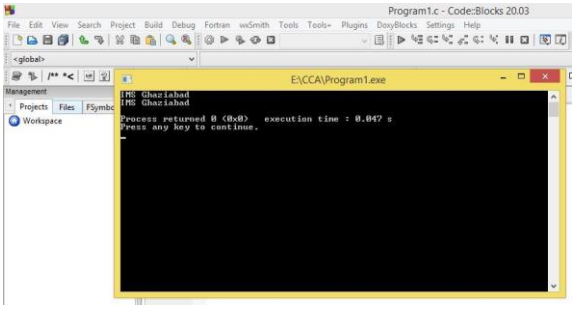
```
do
{
   //Statements
}while(condition test);
```

Q20. Find the output of the following program segments

a) IMS Ghaziabad



b) IMS Ghaziabad



c) Largest number is 100