1.Four Fundamental parts of a computer.

The four Fundamental parts of a computer includes input device, central processing unit, Memory Unit and output device.

Input device:

The device used for interpretation and communication between people and computer systems are known as input device. Input devices include the mouse, input pen, touch screen, and microphone.

Output device:

Output device is used to show the result of the instructions. Example Monitor, printer, Headphones etc.

Central Processing Unit (CPU):

It is the brain of the computer without this unit computer unable to process.

Memory unit:

A memory unit is the collection of storage units or devices together. The information stored in the form of bits.

2.Classification of computers, Based on size and Capacity.

Based on size and capacity, computers are classified as

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

Super Computers:

Supercomputers are the most powerful and physically the largest by size. These are systems designed to process huge amounts of data and the fastest supercomputers can perform over one trillion calculations in a second. Supercomputers have thousands of processors.

Mainframe Computer:

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.

Microcomputers:

Microcomputers are the most frequently used type of computer. Also, known as Personal Computer (PC), a microcomputer is a small computer system designed to be used by one person at a time.

Distributed computers:

It is a model in which components of a software system are shared among multiple computers to improve efficiency and performance.

Parallel Computation:

It is a type of computation in which many calculations or the execution of processes are carried out simultaneously. Large problems can often be divided into smaller ones, which can then be solved at the same time.

3. The meaning of computer generation.

The evolution on digital computing or computing devices is known as computer generation.

Generations of computer:

There are five Generations of Computers:

- First Generation
- Second Generation
- Third Generation
- Fourth Generation
- Fifth Generation

Technologies used:

- Quantum computation and
- Molecular and
- Nanotechnology
- Programming Languages

4. Volatile non-Volatile memory.

Volatile memory	Non-Volatile memory
Random Access Memory(RAM)	Read Only Memory(ROM)
It is also called as read write memory or the main memory or the primary memory.	Stores crucial information essential to operate the system, like the program essential to boot the computer
RAM is further classified into two types- SRAM and DRAM	ROM is further classified into 4 types- ROM, PROM, EPROM, and EEPROM
The programs and data that the CPU requires during execution of a program are stored in this memory.	Used in calculators and peripheral devices
It is a volatile memory as the data	Always retains its data.

loses when the power is turned off	

5. Distinguish between system software, application software and open source software:

System software:

System Software: It is a type of software that is designed to run a computer's hardware and application programs. The system software is the interface between the hardware and user applications.

Examples of System Software: Software like operating systems, compilers, editors and drivers etc.

Application software:

It is software used by end users. It can be called an application or simply an app.

Examples of Application software: word processor, accounting application, a web browser, an email client, media player etc.

Open-source software:

Open-source software (OSS) is a type of computer software in which source code is released under a license in which the copyright holder, grants the rights to the users.

Here, users can study, change, and distribute the software to anyone and for any purpose.

The Linux operating system (OS) is the best-known examples of open source software technology.

6. Create a file in MS-word

- Click the Microsoft Office button.
- Select New. The New Document dialog box appears.

- Select Blank document under the Blank and recent section. It will be highlighted by default.

Click Create. A new blank document appears in the Word window. In that document start typing the text. After completing the text save the document. To save the Document.

- Click the Microsoft Office button.
- Select Save As Word Document. The Save As dialog box appears.
- Select the location where to save the document using the drop-down menu.
- Gave a name (yourself) for the document.
- Click the Save button.

The word document will be created and saved in the name of "yourself".

7. Create a file in ms-word

- Click the Microsoft Office button.
- Select New. The New Document dialog box appears.
- Select Blank document under the Blank and recent section. It will be highlighted by default.

Click Create. A new blank document appears in the Word window.

Type the text.

MS WORD

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

To change color.

- Type the text (MS Word) and select the text to change the color.
- Click the drop-down arrow in the font color box on the home tab.
- Choose the color (red) needed for the text and left click on that color.
- Select the text (word processor) and click ‘U’ or “ctrl + u”.

MS word is an Application software which is capable of

- Select the text (MS Word) to modify and click ‘*I*’ or “ctrl + i”.

- Creating

- Type the text (Creating) and select the text to change the color.
- Click the drop-down arrow in the font color box on the home tab.
- Choose the color needed for the text and left click on that color.

- Editing
- Saving, ~~and~~
- **Printing any type of document**.

- Type the text “Editing”
- Then type the text “saving” and select the text and apply the needed color.
- Then type the text “and” select the text and apply “Strikethrough”.
- And type the text “Printing any type of document” and apply bold.
- Select all the needed text and click bullets.

8. Create file in MS-word.

- Click MS-word
- Click Blank document. A new blank MS-word window will appear.
- Type the text to modify

Equations

$X^2 + Y^5 = 30$

$Z^3 + Q^4 = 50$

$A^2 + B^8 = X^2 + Y^8$

Then click “ctrl + s” or click file and then click save.

A window will appear, choose a location to save your file.

And type the file name as “equations” in the text box.

Then click “save”. The file will be saved as “equations”.

9. Text to table.

- Click MS-word
- Click Blank document. A new blank MS-word window will appear.
- Type the text to modify.

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.

Then click “ctrl + s” or click file and then click save.

A window will appear, choose a location to save your file.

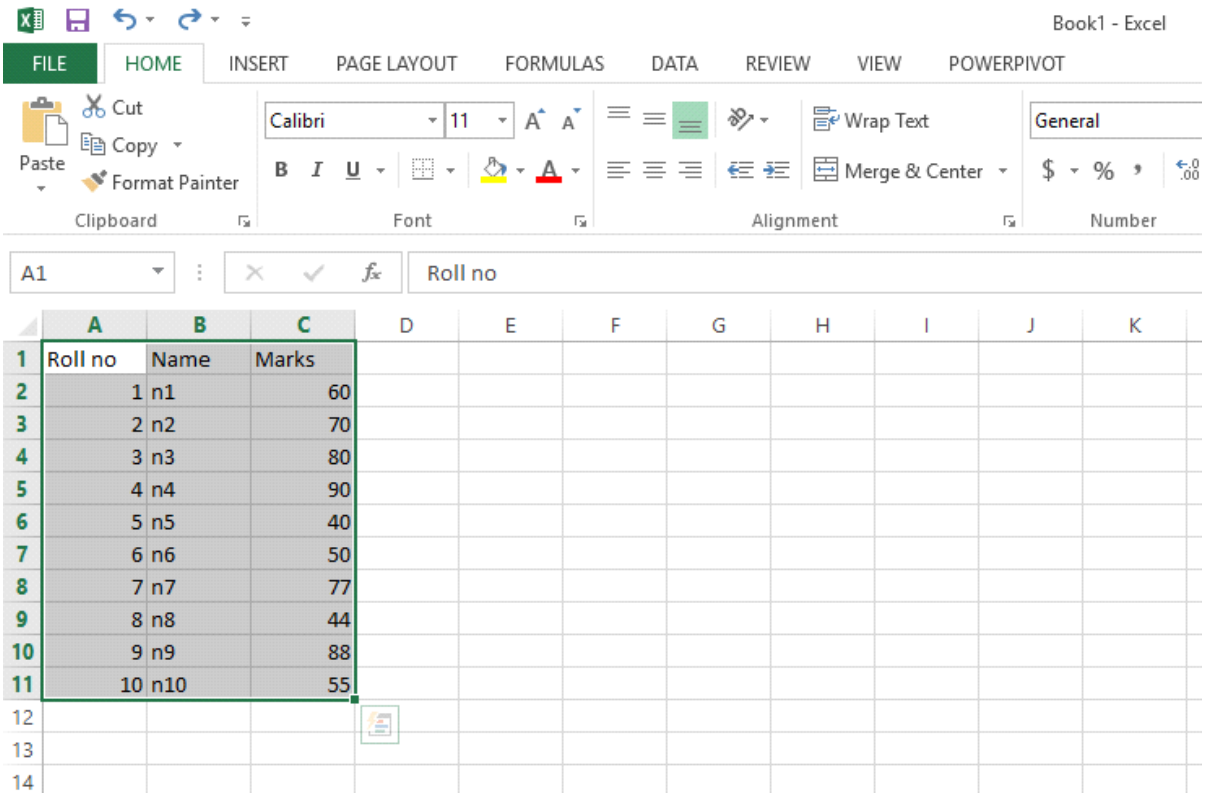
And type the file name as “text_to_table” in the text box.

Then click “save”. The file will be saved as “text_to_table”.

10. Create a file in MS-word and insert table.

- Click MS-word
- Click Blank document. A new blank MS-word window will appear.
- Type the text that you need.
- Then click insert tab and choose table.
- Click on table command. A dialog box appears.
- Choose the table column and row you need.
- A table will be appeared. You can also adjust the table size in your document.

11. Creating worksheet in MS-excel.



Then click “ctrl + s” or click file and then click save.

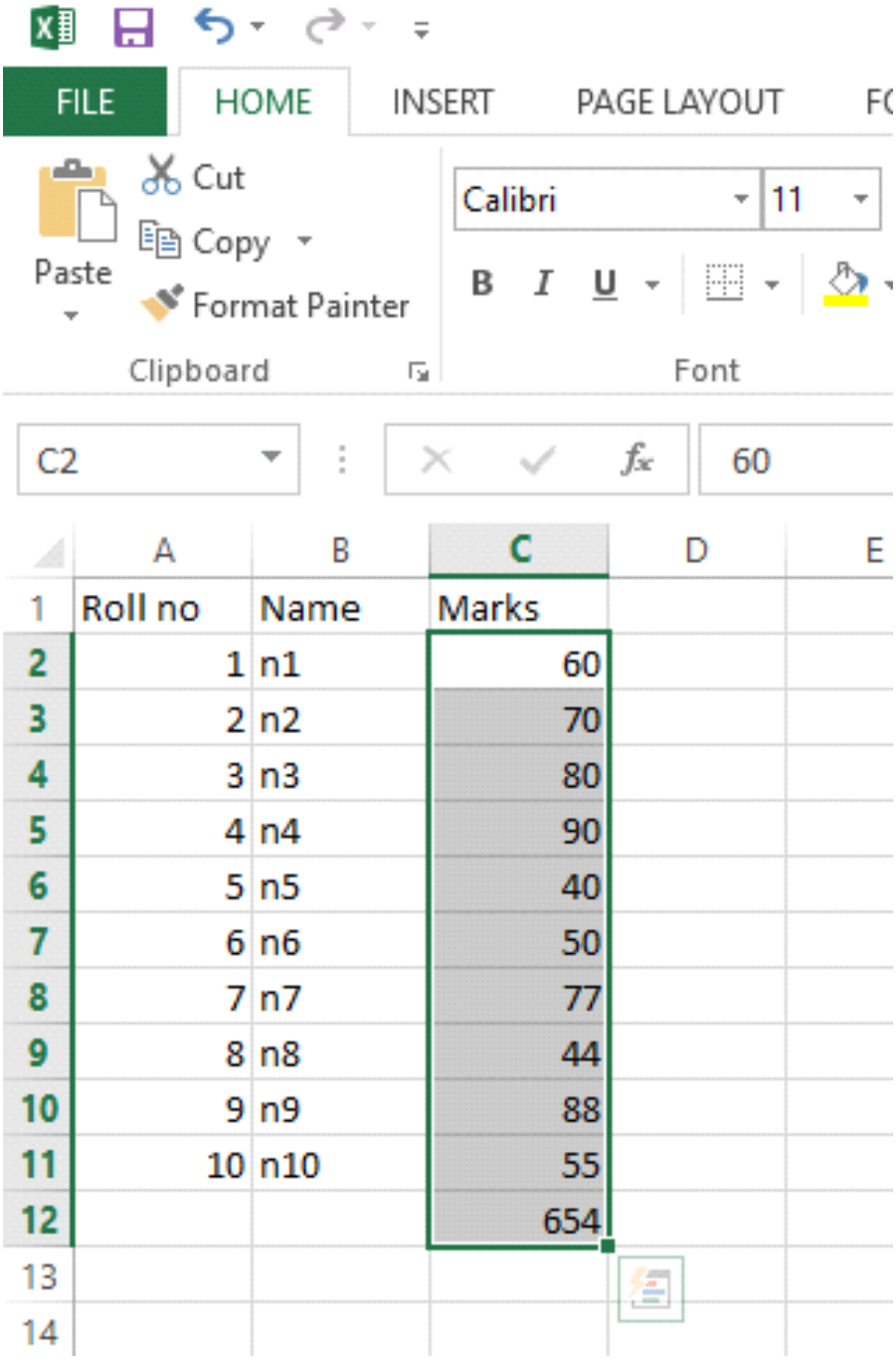
A window will appear, choose a location to save your file.

And type the file name as “book1” in the text box.

Then click “save”. The file will be saved as “book1”.

12. Calculate the data in the worksheet.

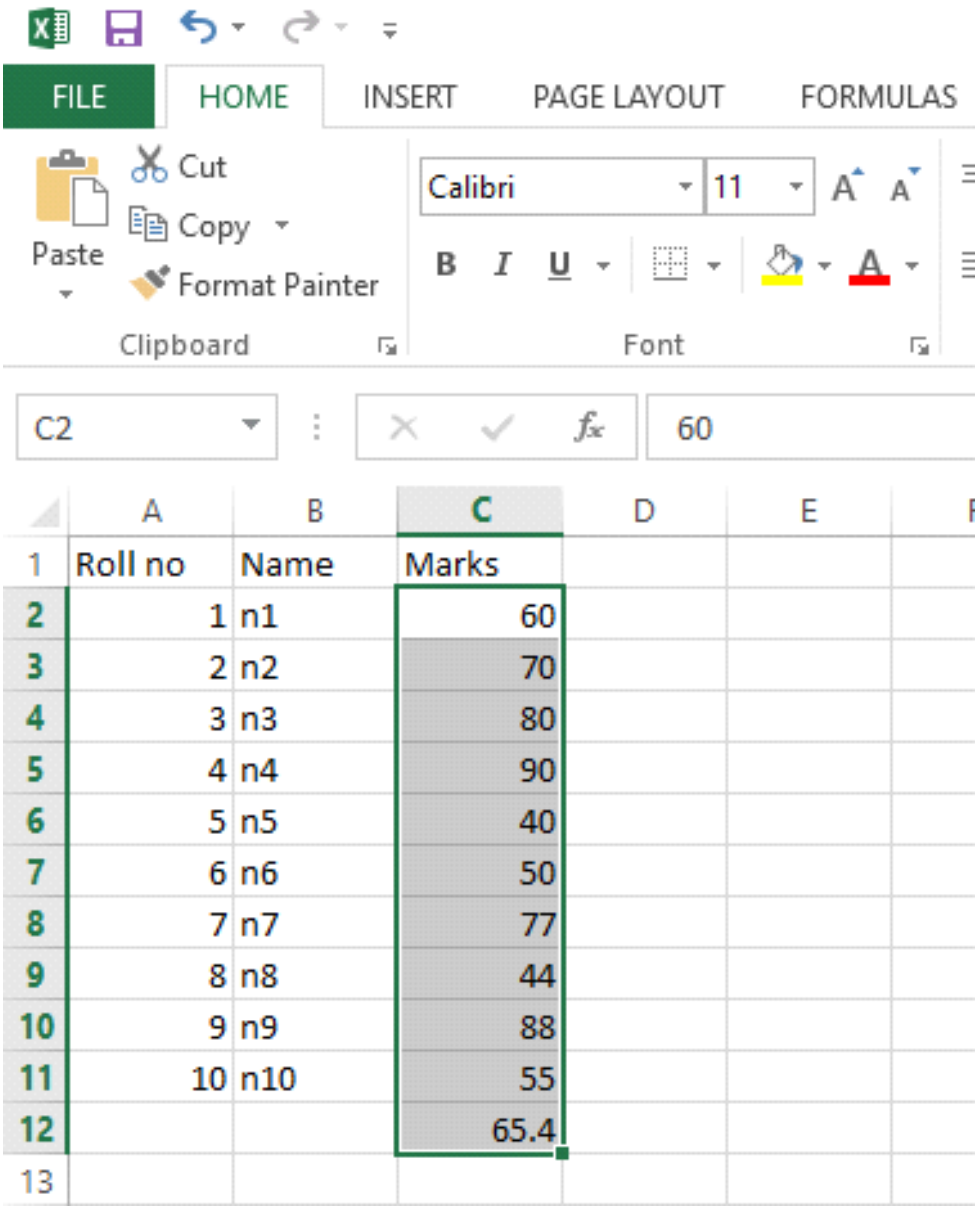
- The sum of marks using AutoSum in a range of cells(C2:C11)



	A	B	C	D	E
1	Roll no	Name	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					
14					

The AutoSum of marks in cells (C2:C11) is ‘654’.

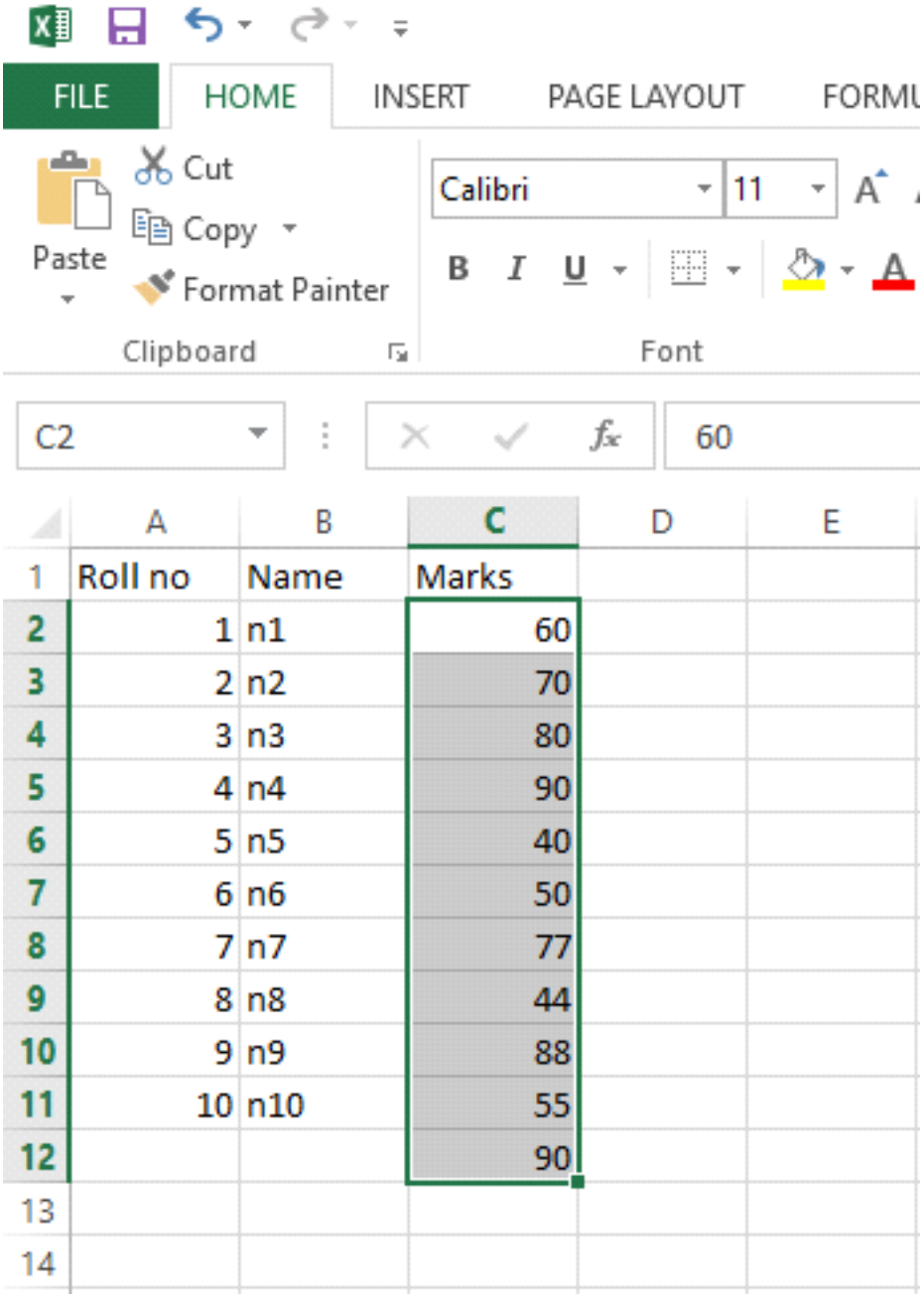
- The average of the marks I a range of cells(C2:C11)



	A	B	C	D	E
1	Roll no	Name	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			65.4		
13					

The Average of marks in cells (C2:C11) is ’65.4’

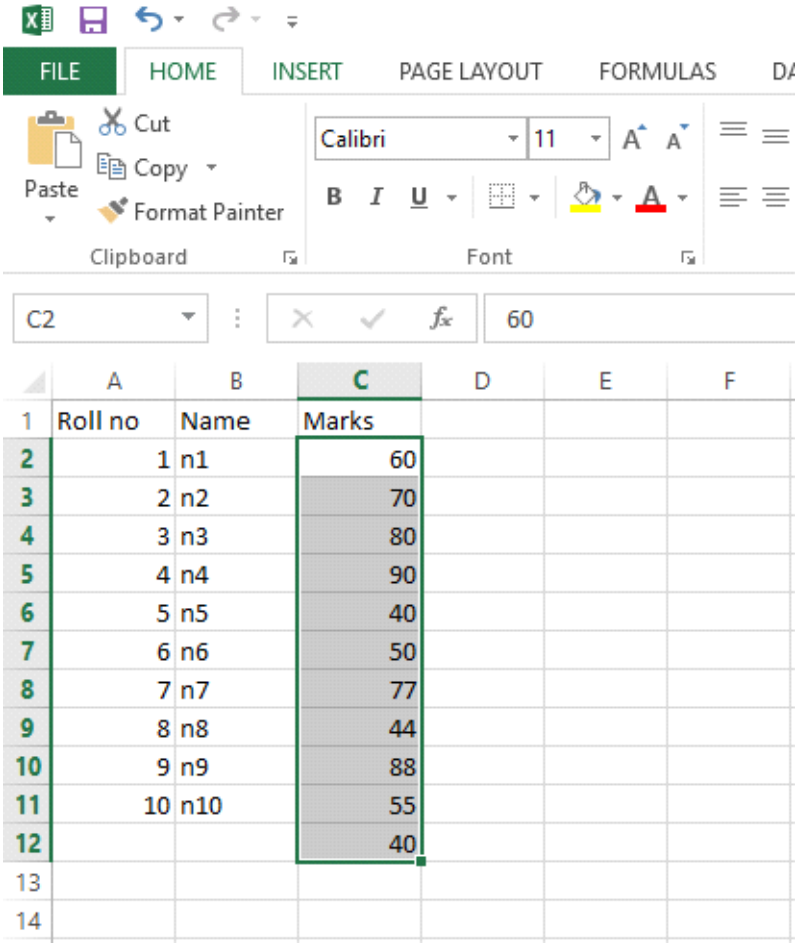
- Highest mark in a range of cells (C2:C11)



	A	B	C	D	E
1	Roll no	Name	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			90		
13					
14					

The Highest of marks in cells (C2:C11) is ‘90’.

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



	A	B	C	D	E	F
1	Roll no	Name	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			40			
13						
14						

Minimum marks in a range of cells (C2:C11) is ‘40’.

13.a) Various steps involved in following:

<u>To modify column width of a worksheet.</u>

- To modify column width:

- 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.

Another way to modify column width:

- Left-click the column heading of a column you want to modify. The entire column will appear highlighted.
- Click the Format command in the Cells group on the Home tab. A menu will appear.
- Select Column Width to enter a specific column measurement.
- Select AutoFit Column Width to adjust the column so all the text will fit.

To modify row width of a worksheet.

- 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.

Other method to modify the row height:

- Click the Format command in the Cells group on the Home tab. A menu will appear.
- Select Row Height to enter a specific row measurement.
- Select AutoFit Row Height to adjust the row so all of the text will fit.

To delete rows and columns of a worksheet.

- 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.

13.b)Describe following terms:

- **Absolute reference and relative reference in formula.**

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**

Formula that can get current cell address in Excel. Select a cell which you will place the cell address, type this formula **=ADDRESS (ROW(),COLUMN())** ,then the current cell address has been displayed. Then press Ctrl + C to copy it and right click a cell to select paste it as value.

14. a) Tools available for customize power point presentation.

There are tool to customize power point presentation, some of them are Home, Insert, Design, transitions, Animations etc.

14.b) Write the steps for the following action:

Open a Blank Presentation:

- Click on start
- Select MS office PowerPoint option
- Double click on it.
- A power point Window will appear. Choose the blank document. Click on the blank document. A new blank window will appear.

Save the presentation as Lab1.pptx:

- Save the slide by clicking ctrl + s. or click fie menu and click save option.
- Save the presentation by giving the name "Lab1" and it will be saved in the Lab1.pptx format.

Add a title to the first slide:the name of your college

- Add a title to the first slide.
- Click on start
- Select MS office PowerPoint option
- Double click on it.
- A power point Window will appear. Choose the blank document. Click on the blank document. A new blank

window will appear.

- Type the college name in the title section on your side.

Type your first name and last name.

Type your first name and last name on the subtitle section on the slide.

Add a new slide which has title and content.

Click on insert option and click the left arrow in "New slide" and select Title and content slide.

15. Steps for creation of a set of power point slides.

Title slide &bullet list:

- Click on start
- Select MS office PowerPoint option
- Double click on it.
- A power point Window will appear. Choose the blank document. Click on the blank document. A new blank title slide will appear.
- Type the text you want one by one and select the text. Then click left arrow of "bullets" in home option and choose the bullets you want and click on that particular bullet. The selected text will appear with bullets.

Insert Excel sheet.

- Click on start.
- Select MS office PowerPoint option
- Double click on it.
- A power point Window will appear. Choose the blank document. Click on the blank document. A new blank window will appear.
- Click on insert
- Click the arrow of the table option.
- And click Excel spread sheet.

Clip art and text.

- Click on start.
- Select MS office PowerPoint option
- Double click on it.
- A power point Window will appear. Choose the blank document. Click on the blank document. A new blank window will appear.
- 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 in the Bing.com field and press
- Locate the clip art you want to insert in your slide and double-click on it.

Slide show effects:

- Click on start.
- Select MS office PowerPoint option
- Double click on it.
- A power point Window will appear. Choose the blank document. Click on the blank document. A new blank window will appear.
-

16. Difference between Machine Language and High Level Language.

1) Machine language uses binary numbers/codes but high level languages (HLL) use key words similar to English and are easier to

write.

2) Machine Language is a Low level language and is machine dependant while HLLs are not.

17. Different Data types of c programming Language.

A data-type in C programming is a set of values and is determined to act on those values. C provides various types of data-types which allow the programmer to select the appropriate type for the variable to set its value.

Character char -128 to 127 or 0 to 255

Number int -32,768 to 32,767 or -2,147,483,648 to 2,147,483,647

Small Number short -32,768 to 32,767

Long Number long -2,147,483,648 to 2,147,483,647

Decimal Number float 1.2E-38 to 3.4E+38 till 6 decimal places

18. Find out the following expression.

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

X=4*2+30-5

X=8+30-5

X=8+25

X=33.

Answer is X=33.

b. Y=30-(40/10+6)+10.

Y=30-(4+6)+10

Y=30-10+10

Y=20+10

Y=30.

Answer is y=30

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

Z=40*0.2-2+10

Z=8-2+10

Z=6+10

Z=16

Answer is Z=16.

19. Syntax

a. If-else statement.

```
if (expression)   {
      Block of statements;
}
else {
Block of statements;
 }
```

- for loop syntax

```
for ( initialization; condition; increment/decrement) {
 Single statement     or     Block of statements;
}
```

- while loop syntax

```
while ( expression ) {
  Single statement       or     Block of statements;
}
```

- do-while loop syntax

```
do {
Single statement     or     Block of statements;
}
while(expression);
```

20. Output of the following program.

a) #include <stdio.h>

```
        int main()
        {
          int i;
            for (i=1; i<2; i++)
        {
     printf( "IMS Ghazibad\n");
   }
}
```

Output

IMS Ghazibad

b) #include <stdio.h>

```
       int main()
       {
          int i = 1; while ( i <= 2)
          {
        printf( " IMS Ghazibad \n");
     i = i + 1;
   } }
```

Output:

IMS Ghazibad

IMS Ghazibad

c) #include <stdio.h>

```
  int main()
     {
int a=10, int b=100;
if(a>b)
printf("Largest number is %d\n", a);
else
printf("Largest number is %d\n", b);
}
```

Output:

Largest number is b 100.