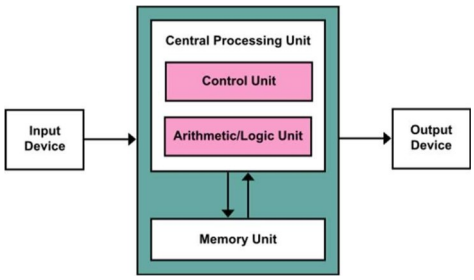
Submitted by:

Laishram Sonika Devi

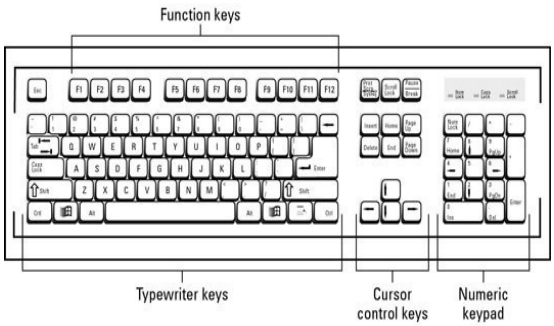
Q1.

Answer:

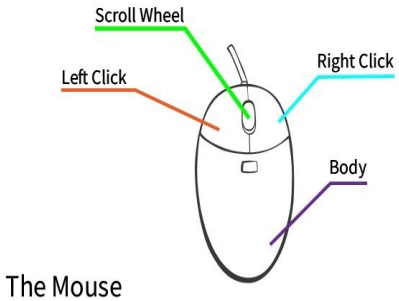
(a) CPU – It is the electronic circuitry within a computer that carries out the instructions of a computer program by performing the basic arithmetic, logical, control and input or output operations specified by the instructions. It is also called a central processor, main processor or just processor, is the electronic circuitry that executes instructions comprising a computer program.



(b) Keyboard – It is a peripheral input device which uses an arrangement of buttons or keys to act as mechanical level or electronic switches. Keyboard keys typically have a set of characters engraved or printed on them and each pair of key typically corresponds to a single written symbol. Keyboard is used as a text entry interface for typing text, numbers and symbols into application software such as a word processor, web browser or social media.

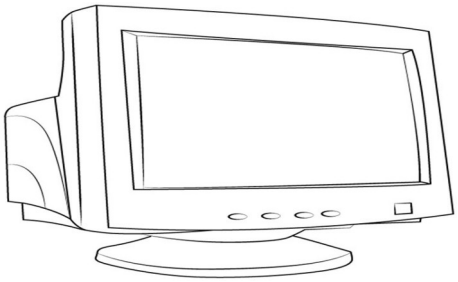


(c) Mouse – A computer mouse is a hand-held pointing device that detects two-dimensional motion relative to a surface. This motion is typically translated into the motion of a pointer on a display. Which allows a smooth control of the Graphical User Interface (GUI) of a computer. Computer mouse have one or more buttons to allow operation such as the selection of menu item on a display. Mouse often also features other elements, such as touch surfaces and scroll wheels, which enables additional control and dimensional input.



The Mouse

(d) Monitor – Monitor is an output device that display information in pictorial or text form. A monitor usually comprises a visual display, some circuitry, a casing and a power supply. Monitors are connected to all the computers via VGA, Digital Visual Interface (DVI), HDMI, DisplayPort, USB-C, Low-voltage Differential Signaling (LVDS) or other proprietary connectors and signals.



Q2.

Answer:

Classification of computers based on size and capacity:

(a) Micro Computers: Microcomputers is a computer whose CPU is a microprocessor. All the components of a microprocessor are on a single integrated circuit chip. Micro computer can be categorized as the desktop, programmable and workstation. The microprocessor-based computers are called third generation computers. They are the backbone of the modern computer era.

(b) Mini Computers: Mini computers were introduced in early 1960s. they were faster than microcomputers. Basically, these computers were mainly multi-user systems, where many users work on the systems. Generally, this type of computers had larger memories and greater storage capacity. They had large instruction set and address field. These kinds of computers have efficient storage for handling of text, in comparison to lower bit machine. Due to more efficient processor, speed and memory size, minicomputers was used in variety of applications and could support business application along with the scientific applications. Minicomputer was a multi-user system which means more than one user could use this system simultaneously.

(c) Mainframe Computers: They are large and expensive machines. The word length of mainframe computers may be 48, 60 or 64 bits, memory capacity being in some megabytes and storage capacity in some terabytes. Generally, they handle huge volume of information and data. In terms of speed, they are having significant processing capacity. They are used in research organizations, large industries, airlines reservation where a large data base has to be maintained.

(d) Super Computers: Super computers are the fastest computer in current era. The processing capabilities of super computer lies in the range of GIPS2, word length 64-128 or may be in 256 or so. The memory capacity of super computer is in some gigabytes or in terabytes. The storage capacity of this type is in Exabyte.

Q3.

Answer:

Generation in computer technology 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 main five computer generations defined. Here are the five generation and their technologies:

(a) First Generation: The first generation used Vacuum tube.
(b) Second Generation: The second generation used Transistor.
(c) Third Generation: Third generation used Integrated Circuit.
(d) Fourth Generation: Fourth generation used VSLI microprocessor.
(e) Fifth Generation: Fifth generation used ULSI microprocessor.

Q4.

Answer:

Sl. no	Key	Volatile Memory	Non-volatile Memory
1.	Data retention	Data is present till power supply is present.	Data remains even after power supply is not present.
2.	Persistence	Volatile memory is not permanent.	Non-volatile memory data is permanent.
3.	Speed	Volatile memory data is faster than non-volatile memory.	Non-volatile memory access is slower.
4.	Data transfer	Data transfer is easy in volatile memory.	Data transfer is difficult in non-volatile memory.
5.	CPU access	CPU can access data stored on volatile memory.	Data to be copied from non- volatile memory to volatile memory so that CPU can access its

			data.
6.	Storage	Volatile memory has less capacity.	Non-volatile memory like HDD has very high storage capacity.
7.	Impact	Volatile memory such as RAM has high impact on system's performance.	Non-volatile memory has no impact on system's performance.
8.	Cost	Volatile memory is costly per unit size.	Non-volatile memory is cheap per unit size.
9.	Example	RAM	ROM

Q5.

Answer:

System Software:

1. System software is fast in speed.
2. Written in Low-Level Language.
3. System software is closed to the system.
4. They are smaller in size.
5. They are difficult to design and understand.

Application Software:

1. Performed more specialized task life word processing, spreadsheets, email, photo editing, etc.
2. It needs more storage space as it is bigger in size.
3. Easy to design and more interactive for the user.
4. Generally written in a High-Level Language.

Open Source Software:

1. Flexibility: A programmer can take a standard software package and modify it to better suit business needs. You can usually hire a programmer to add a particular function to open source software.
2. Freedom: Open source software offers users the freedom to use the software as they please. They can run the software anywhere be it on the cloud or in an on-site data center, for absolutely any purpose that serves them.
3. Integration: Easy integration with existing infrastructure is a significant consideration when it comes to selecting software, and in this area open source software excels. Many enterprises agree that this feature often trumps low cost and even performance speed.
4.

Q6.

(a) Answer:

Steps:

1. Open MS-word.
2. Select the blank document.
3. Type [=rand()] Or Type the require text about Yourself.
4. Select the 'File' on the Tab bar.
5. Select the 'Save As' option.
6. Select the folder/desktop option.
7. Type the file name 'Yourself' and click 'Save' button.

Q6.

(b). Answer:

1. To change the font style:
   - Select the text and click the font button from the toolbar in the home tab and select the style.
2. To change the font size:
   - Select the text and click the font size button from the toolbar in the home tab and select the size.
3. To change the font color:
   - Select the text and click the font color button from the toolbar in the home tab and select the font color.
4. To highlight (in yellow) the line that reads "need to get IMS's address".
   - To highlight in yellow, the line that reads "need to get IMS's address", select the text and click the text highlight color from the toolbar in the home tab and select the yellow color.

Q7.

Answer:

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 any type of document**

Ans: Steps:

1. Select the text 'MS Word' and choose its font style in Font Toolbar in Home Tab.

2. Select the text ‘MS Word’ and click the ‘Font color’ from Toolbar in Home Tab and select the desire color.
3. Select the text ‘Word processor’ and click on Underline button from the Toolbar in home tab and choose the require underline for text.
4. Select the text ‘MS Word’. Then click on the ‘Italic’ button from Toolbar in Home Tab.
5. Select the word ‘creating’ and click on the font color from the toolbar in home tab and choose the blue color.
6. Select the word ‘saving’ and click on the font color from the toolbar in home tab and choose the red color.
7. Select the word ‘and’ and click on the Strikethrough command on toolbar in Home Tab.
8. Select the line ‘printing any type of document’ and click on the Bold icon on Toolbar in Home Tab.

Q8.

Answers:

Equations

$X_2 + Y_5 = 30$

$Z^3 + Q^4 = 50$

$A_2 + B8 = X_2 + Y8$

Steps:

- Open MS Word and choose the blank document
- Type the require text or the equations
- To make the powers smaller, select the text and click on the Subscript and Superscript on the toolbar in the home tab.
- Click on the file button in home tab and click save as option and save the file as ‘**equations**’.

Q9.

Answer:

Select the text you want to

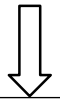
convert. Select the **Insert** tab.

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.

Steps:

1. Open MS-word and choose blank document.
2. Type the require text.
3. Select the text needed to convert into table.
4. Select the Insert tab.
5. Click on Table command.
6. Click on 'Convert Text to Table' on the dialog box.
7. Click 'Ok' and text converted into table.
8. Click on Microsoft Office Button.
9. Click on 'Save As' option and type the file name as 'text-to-table'.
10. Click the 'Save' option and save it.

Q10.

Answer:

Video provides a powerful way to help you prove your point. When you click Online Video, you can paste in the embed code for the video you want to add. You can also type a keyword to search online for the video that best fits your document.

To make your document look professionally produced, Word provides header, footer, cover page, and text box designs that complement each other. For example, you can add a matching cover page, header, and sidebar. Click Insert and then choose the elements you want from the different galleries.

Themes and styles also help keep your document coordinated. When you click Design and choose a new Theme, the pictures, charts, and SmartArt graphics change to match your new theme. When you apply styles, your headings change to match the new theme.

Save time in Word with new buttons that show up where you need them. To change the way a picture fits in your document, click it and a button for layout options appears next to it. When you work on a table, click where you want to add a row or a column, and then click the plus sign.

Steps:

1. Open MS-word and select the blank document.

2. Type the require text.
3. Place the cursor on the position where you want to add table.
4. Click on the **Insert Tab** to insert a table.
5. Then, click the **Table** command on tool bar.
6. Click the **Insert Table** in dialog box.
7. Choose the require numbers of rows and columns.
8. Click on **OK** option and the table is finally inserted.

Q11.

Answer:

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.

Answer:

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

Total	654
Average	65.4
Highest	90
Minimum	40

Q13.

(a) Answer:

- To modify column width of a worksheet:
  i. Select a column or a range of columns.
  ii. Select a **Home** tab and in the **Cells** group, select **Format.**
  iii. Click on **Column width** and type the width for column.
  iv. Select **OK.**
- To modify the row height of a worksheet.
  i. Select a row or a range of rows.
  ii. Select a **Home** tab and in the **Cells** group, select **Format.**
  iii. Click on **Row Height** and type the height for row.
  iv. Select **OK.**
- To delete rows and columns of a worksheet.
  i. Select the cell you want to delete within the column or row.
  ii. Select **Home** tab. And in cells group click on **Delete Sheet Column** or **Row**.

OR

i. Select the desire row or column.
ii. **Right-click** and select **Delete.**

Q13.

(b) Answer:

- **Absolute Reference:**
  An absolute reference in Excel means there is a fixed point of reference applied to a cell or a formula. This is so the return value will always stay the same no matter where the cell or formula moves to – within the same sheet or across different sheet.

  This refers to a fixed point of reference is a constant, and involves the use of dollar sign $ in the formula (i.e., everyone is to receive the same bonus payout, so the amount $1500 is constant in this situation).

Microsoft Excel
97-2003 Worksheet

- **Relative Reference:**
  It is the default cell reference in Excel. It is simply the combination of column name and row number without any dollar ($) sign. When you copy the formula from one cell to another the relative cell address changes depending on the relative position of column and row. C1, D2, E4, etc. are examples of relative cell references. Relative references are used when we want to perform a similar operation on multiple cells and the formula must change according to the relative address of column and row.

This refers to a relative point of reference, is constantly changing and dollar sign ($) is absent in the formula (i.e., when each unit price and quantity are difference variables, there's no constant in the calculation).

- **Cell Address:**
  A cell address is a combination of column letter and a row number that identifies a cell on a worksheet.
  For example, A1 refers to the cell at the intersection of column A and row 1; B2 refers to the second cell in column B, and so on.
  When used in formula, cell references help Excel find the values the formula should calculate. For instance,
  - To pull the value of A1 to another cell, you use this simple formula:
    =A1
  - To add up the values in cells A1 and A2, you use this one:
    =A1+A2

Q14.

(a) Answer:

Tools available to customize our PowerPoint presentation are:

a) Perspector
b) Pivot Viewer
c) Autodesk 3DS Max
d) VisualBee PowerPoint Add-in
e) SmartArt
f) Animations and Transition
g) Wordle
h) CA coo
i) Oomfo
j) Clip champ

(b). Answer:

- To open blank presentation:
  I. Open PowerPoint presentation using 'Run' command (window key + R).
  II. Select the 'Blank Presentation'. It is opened.
- Save the Presentation as Lab1.pptx.:
  I. Select the 'File' on Tab bar.

II. Click on ‘Save As’ option.
III. Click on document/Desktop as your choice.
IV. Type the name ‘Lab1.pptx’.
V. Click the ‘Save’ button.

- Add a Title to the first slide: the name of your college.
  i. Left click on the ‘Click to Add Title’ section on the first slide.
  ii. Type the name of your college.
- Type your first name and last name in the subtitle section:
  i. Left click on the ‘Click to Add Subtitle’ section.
  ii. Type your first name and last name.
- Add a New slide which has a Title and content.
  i. Select the Home tab.
  ii. Click on the dropdown button of the ‘New Slide’ on toolbar.
  iii. Select the slide having ‘Title and Content’. It is added.

Q15.

Answer:

- Title slide and bullet list:
  i. Open PowerPoint Presentation.
  ii. Select the Home tab.
  iii. Click at the dropdown button on ‘New Slide’ at toolbar.
  iv. Select the slide having Title slide and Bullet list.
- Inserting Excel sheet:
  i. Open the slide where you want to insert the Excel Sheet.
  ii. Select the ‘Insert tab’. And click on ‘Object’ on tool bar.
  iii. Select the ‘Microsoft Excel Worksheet’ object type.
  iv. Click the ‘OK’ button.
- ClipArt and Text:
  i. Select the Insert Tab.
  ii. Select the ‘Pictures’ or ‘Online pictures’ on tool bar.
  iii. Choose the appropriate art for the topic.
  iv. Click on the ‘Insert’ button.
- Slide show effects:
  i. Select ‘Design Tab’ for Themes, Variants and Slide size.
  ii. Select ‘Transition Tab’ for Cut, Fade, Push, Wipe, Split, Reveal, Shape, Flash, etc. for slide effects.

Q16. Answer:

Differences between Machine Language and High Level Language are:

- Machine Language:
  i. It is also known as Low Level Language.
  ii. It can be understood easily by the machine.
  iii. It is considered as machine-friendly language.
  iv. It is difficult to understand.
  v. It is difficult to debug.
  vi. Its maintenance is also complex.
  vii. It is not portable.
  viii. It depends on the machine; hence it can't be run on different platforms.
  ix. It consumes less memory.
  x. It requires an assembler that would translate instructions.
  xi. It is not used widely in today's times.
- High-level Language:
  i. It can be easily interpreted as well as compiled in comparison to machine language.
  ii. It can be considered as a programmer-friendly language.
  iii. It is easy to understand.
  iv. It is easy to debug.
  v. It is simple in terms of maintenance.
  vi. It requires a compiler/interpreter to be translated into machine code.
  vii. It can be run on different platforms.
  viii. It can be ported from one location to another.
  ix. It is less memory efficient, i.e. it consumes more memory in comparison to low-level languages.
  x. Examples of high level languages include C, C++, Java, Python.
  xi. It is used widely in today's times.

Q17.

Answer:

Different Data types in C programming:

1. **CHAR**: The CHAR data type stores character data in a fixed-length field. Data can be a sting of single-byte or multiple letters, numbers, and other characters that are supported by the code set of your database locale. It has a value range of -128 to127. Char is a C++ data type designed for the storage of letters. Char is an abbreviation for an alphanumeric character. It is an integral data type, meaning the value is stored as an integer. A char takes a memory size of 1 byte. It also stores a single character.
2. **INT**: INT is a data type used to represent real numbers that do not have fractional values. Different types of integer data types are stored on machines in different ways. It is a functional variable types built into the compiler and used to defined numeric variables holding whole numbers. Integers are a commonly used data type in computer programming. It has a memory size of 2 or 4 bytes. And a value range of about -32,768 to 32,767.

3. **Long:** The long data type modifier is used when the value to be stored is large and exceeds the usual integer range. It can be applied to int and double data type in C. A long integer variables takes 4 bytes of memory space in a 32-bit system.
   Syntax: long type Var_name.
   Example: long int Var1; //or long var1
   long long int Var2; // or long long
   Var2 long double Var3;

In C, "long int" is equivalent to simply "long" and similarly instead of "long long int" you can simply write "long long". This is commonly used in competitive programming as the inputs there can be very large. It has a value range of -2,147,483,648 to 2,147,483,647.

4. **Float:** Float is datatype which is used to represent the floating point numbers. It is a 32-bit IEEE 754 single precision floating point number (1-bit for the sign, 8-bit for exponent, 23*bit for the value). It has 6 decimal digits of precision.
   The float data type is used to store the floating-point numbers. The numbers that have a fractional part are called floating-point numbers. For example, 3.0, 5.57, -3.12, etc. are all floating numbers. Moreover, it should be noticed carefully that 8 is an integer but 8.0 is a floating-point number. Although the value of both the digits is the same, 8.0 has a decimal number which differentiates it with 8.
   The major advantage of floating point numbers over integers is that they can represent a much larger and wider range of digits as compared to int data type. It has a memory size of 4 bytes. And a range of 1.2E-38 to 3.4E+38.
5. **Double:** Double is also a datatype which is used to represent the floating point numbers. It is a 64-bit IEEE 754 double precision floating point number for the value. It has 15 decimal digits of precision. The float data type is also used to store floating-point numbers. But still, it is considered as distinct datatype because of two reasons. The first one is that it occupies twice as much memory as float datatype. The second reason is that it is used to store a much larger range of floating-point numbers than a float data type.
   The double stores almost double the number of significant digits after the decimal point or precision of the float. However, the double data type consumes more memory and it is advisable to use a smaller data type as much as possible for the sake of optimization of code. It has a memory size of 8 bytes and a range of 2.3E-308 to 1.7E+308.

Q18.

Answer:

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

= 33 = 10 =188

Q19.

Answer:

a) If – else statement:
The if-else statement is an extended version of If. The if else statement is used to perform two operations for a single condition. The if-else statement is an extension to the if

statement using which, we can perform two different operations, i.e., one is for correctness of that condition, and the other is for the incorrectness of the condition. Here, we must notice that if and else block cannot be executed simultaneously. Using if-else statement is always preferable since it always invokes an otherwise case with every if condition. The general form of if-else syntax is given below.

```
if (test expression)
{
    true block of statements
}
Els
e
{
    false block of statements
}
Statements
```

In this type of construct, if the value of test-expression is true, then the true block of statements will be executed. If the value of test expression is false, then the false block of statement will be executed. In any case, after the execution, the control will be automatically transferred to the statements appearing outside the block of If.

The **if** statement specifies a block of code to be executed if a condition is true. And the **else** statement specifies a block of code to be executed if the condition is false.

b) for loop:

A for loop is a repetition control structure that allows you to efficiently write a loop that needs to execute a specific number of times. The syntax of a **for** loop in C programming is –

```
for ( init; condition; increment statement(s);
    }
```

Here is the flow of control in a **for** loop-

- The **init** step is executed first, and only once. This step allows you to declare and initialize any loop control variables. You are not required to put a statement here, as long as a semi- colon appears.
- Next, the condition is evaluated. If it is true, the body of the loop is executed. If it is false, the body of the loop does not execute and the flow of control jumps to the next statement just after the **for** loop.

- After the body of the **for** loop executes, the flow of control jumps back up to the increment statement. This statement allows you to update any loop control variables. This statement can be left blank, as long as a semicolon appears after the condition.
- The condition is now evaluated again. If it is true, the loop executes and the process repeats itself (body of loop, then increment step, and then again condition). After the condition becomes false, the **for** loop terminates.

C) while Loop:

The while loop is used to repeat a section of code an unknown number of many times until a specific condition is met. A while loop is the most straightforward looping structure. While loop syntax in C

programming is as follows:

```
while (condition) {
    statements;
}
```

It is an entry-controlled loop. In while loop, a condition is evaluated before processing a body of the loop. If a condition is true, then and only then the body of a loop is executed. After the body of a loop is executed then control again goes back at the beginning, and the condition is checked if it is true, the same process is executed until the condition becomes false. Once the condition becomes false, the control goes out of the loop.

After exiting the loop, the control goes to the statements which are immediately after the loop. The body of a loop can contain more than one statement. If it contains only one statement, then the curly braces are not compulsory. It is a good practice though to use the curly braces even when we have a single statement in the body. In while loop, if the condition is not true, then the body of a loop will not be executed, not even once. At most purposes, this loop is more preferable.

D) do-while Loop:

Unlike **for** and **while** loops, which test the loop condition at the top of the loop, the **do-while loop** in C programming checks its condition at the bottom of the loop. A **do-while** loop is similar to a while loop, except the fact that it is guaranteed to execute at least one time.

The syntax of a do-while loop in C programming language is –

```
do {
   statement(s);
} while (condition);
```

Notice that the conditional expression appears end of the loop, so the statement(s) in the

at the

loop executes once before the condition is tested. If the condition is true, the flow of control jumps back up to do, and the statement(s) in the loop executes again. This process repeats until the given condition becomes false.

A **do-while** loop is a kind of loop, which is a kind of control statement. It is a loop with the test at the bottom, rather than the more usual test at the top. This kind of loop is most often used when the test doesn't make any sense until the statement have been performed at least once.

Q20.

Answer:

A) IMS Ghaziabad
B) IMS Ghaziabad
   IMS Ghaziabad
C) Largest number is 100