CERTIFICATE IN COMPUTER APPLICATION {CCA}

CCA – 101 FUNDAMENTAL AND IT PROGRAMMING

ASSIGNEMENT

NAME – SHAMBHAWI KUMARI

FATHER'S NAME – SRI SUDARSHAN KUMAR CHOUDHARY

D.O.B – 11\03\2003

ADDRESS – CSC ACADEMY MATHURAPUR

E-MAIL –
CHOUDHARYSHIVAM414@GMAIL.COM

CONTACT NO – 8789033089

DATE - 19/04/2021

SIGNATURE - Shambhawi Kumari

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

Ans → The four fundamental parts of Computer :-

(i) Input Devise
(ii) Output Devise
(iii) CPU (Central Processing Unit)
(iv) Memory Unit

(i) Input Device :-

Computer Systems use many devices for input purpose. Input devices include the mouse, inputpen, touch screen, and microphone. Regardless of the type of device used, all are components for interpretion and communication between people and computer systems.

(ii) Output Device :-

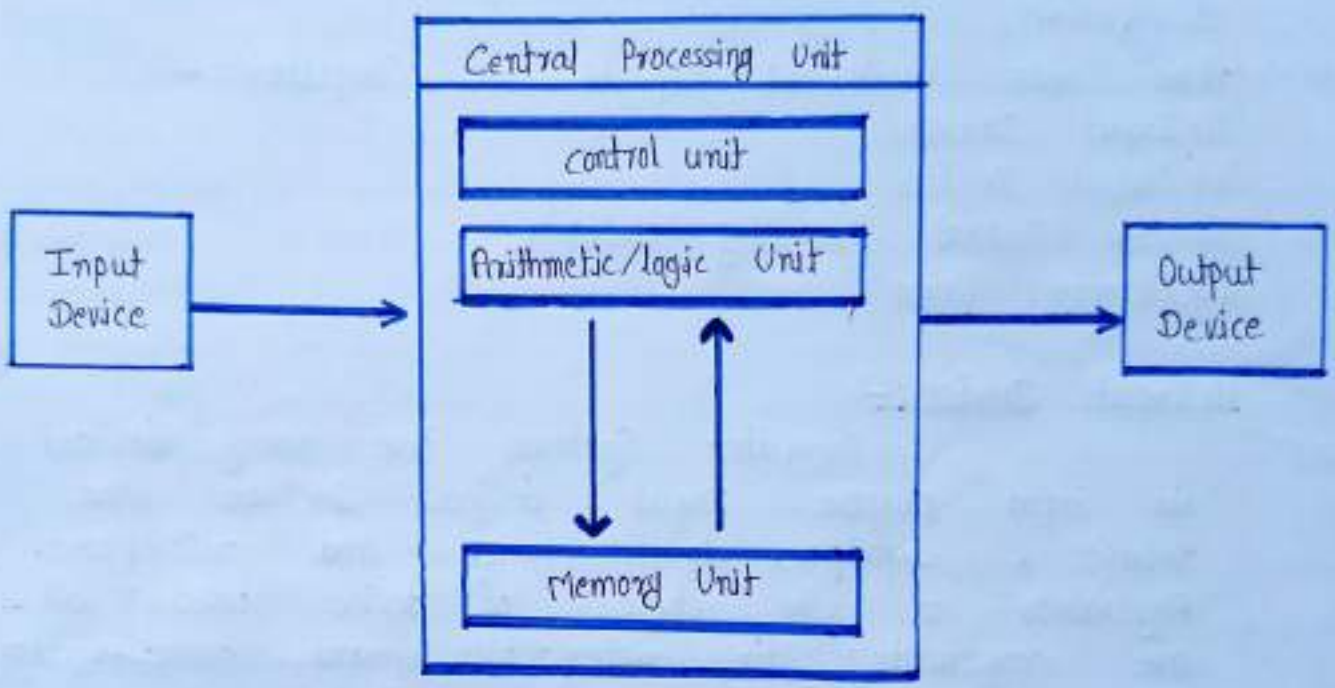
Output Device is used to show the result of the instructions. Example :- Monitor, Printer, Headphones etc.

(iii) CPU :-

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

(iv) Memory Unit :-

A memory unit is the collection of


Central Processing Unit
control unit
Arithmetic/logic Unit
Memory Unit
Input Device
Output Device

Storage units or devices together. The memory unit stores the binary information in the from of bits.

Q 2: Discuss about the classification of Computers based on size and capacity.

Ans → Based on size and capacity, computers are classified as follows :-

(i) Super Computers
(ii) Mainframe Computers
(iii) Mini Computers
(iv) Micro Computers

(i) Super Computers :-

Super Computers are the most powerful and physically the largest by size. These are systems designed to process huge amounts of data and the fastest super computers can perform over one trillion calculations in a second. Super Computer have thousands of processors, because of their extraordinary speed, accuracy and processing power, super computers are well suited for solving highly complex problems and performing tasks that demand huge amounts of calculations.

(ii) 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. Some of the functions performed by a mainframe include: flight scheduling, reservation and ticketing for an airline etc.

(iii) Mini Computers :-

Mini Computers are much smalled than mainframe computers. 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 connect to the server through a network by using desktop computers.

(iv) Micro Computers :-

Micro Computers are the most frequently used type of computer. Also, known as personal computer (PC), a micro computer is a small computer system designed to be used by one person and at a time.

Q 3: What is the meaning of Computer generation? How many Computer Generations are defined? What technologies were / are used?

Ans → The meaning of Computer Generation, Each generation is characterized by dramatic improvements over the previous generation in the technology used to build computers, in terms of the internal organization of computer and programming languages.

Computer Generations are defind in five types of Generation :-

(i) First Generation
(ii) Second Generation
(iii) Third Generation
(iv) Fourth Generation
(v) Fifth Generation

There are many technologies used :-

(i) First Generation :- Vacuum Tubes (1940 - 1956) :-

The first computer systems used vaccume tubes for circuitry and magnatic drums for memory and were often enormous, taking up entire rooms. These computers were very expensive to operate and in addition to using a great deal of electricity, the first computer generated a lot of beat, which was often

the cause of malefunctions.

First Generation Computer relied on machine language. The lowest level programming language understood by computers, to perform operations, and they could only solve one problem at a time. It would take operators problem days or even weeks to set-up a new problem. Input was based on punched cards and paper tape, and output was displayed on printouts.

The UNIVAC and ENIAC computers are examples of first generation computing devices. The UNIVAC was the first commercial computer delivered to a business client. The U.S Census Bureau in 1951.

(ii) Second Generation :- Transistor (1956 - 1969) :-

The world would see transistors replace vaccume tubes in the second generation of computers. The transistor was invented at Bell labs in 1947 but did not see widespread use in computers untill the late 1950s.

The transistor was far superior to the vaccume tube, allowing computers to become smaller, faster, cheaper, more energy-efficient and more reliable than their first generation predecessors. Though the transistor still generated a great deal of heat that

subjected the computer to damage, it was a vast improvement over the vaccume tube. Second generation computers still relied on punched cards for input and printouts for output. Second generation computers moved from cryptic binary machine language to symbolic, or assembly language.

(iii) Third Generation :- Integrated Circuits (1964 - 1971) :-

The development of the integrated circuit was the hallmark of the third generation of computers. Transistors were miniaturized and placed on silicon chips, called semiconductors, which drastically increased the speed and efficient of computers.

Instead of punched cards and printouts, user interacted with third generation computer through keyboards and monitors and interfaced with an operating system, which allowed the device to run many different applications at one time with a central program that monitored the memory. Computers for the first time become accessible to a mass audience because they were small and cheaper than their predecessors.

(iv) Fourth Generation :- Microprocessors (1971 - Present) :-

The microprocessors brought the fourth generation of computers, as thousands of integrated circuits were built onto a single silicon chip. What in the first generation filled an entire room could now fit in the palf of the hand. The Intel 4004 Chip, developed in 1971, located all the components of the computer from the unit and memory to input/output controls on a single chip.

In 1981 IBM introduced its first computer for the home users, and in 1948 Apple introduced the Macintosh. Microprocessors also moved out of the realm of desktop computers and into many areas of life as more and more everyday products began to use microprocessors.

As these small computers became more powerful, they could be linked together to form networks, which eventually led to the development of the Internet. Fourth generation computers also saw the development of GUIS, the mouse and handheld devices.

(v) Fifth Generation :- Artificial Intelligence (Present and Beyond) :-

Fifth generation computing devices, based on artificial intelligence, are still in development, though there are some applications,

such as voice recognition, that are being used today. The use of parallel processing and superconductors is helping to make artificial intelligence a reality.

Quantum computation and molecular and nanotechnology will radically change the face of computers in years to come. The goal of fifth generation computing is to develop devices that respond to natural language input are capable of learning and Self-organization.

Q4: Differentiate between Volatile & Non-Volatile memories.

Ans →

Volatile	Non-Volatile
(i) Volatile memory is the type of memory in which data is lost as it powered off.	(i) Non-Volatile memory is the type of memory in which data remains stored even if it is powered off.
(ii) Contents of Volatile memory is stored temporarily.	(ii) Contents of Non-Volatile memory is stored permanently.
(iii) It is faster than non-volatile memory.	(iii) It is slower than volatile memory.
(iv) RAM is an example of volatile memory.	(iv) ROM is an example of non-volatile memory.
(v) In volatile memory, data can be easily transferred in comparison to non-volatile memory.	(v) In non-volatile memory, data can not be easily transferred in comparison to volatile memory.
(vi) In volatile memory, process can read and write.	(vi) In non-volatile memory, process can only read.
(vii) Volatile memory generally has less storage capacity.	(vii) Non-Volatile memory generally has more storage capacity than volatile memory.
(viii) Volatile memory is more costly per unit size.	(viii) Non-Volatile memory is less costly per unit size.
(ix) Volatile memory chips are generally kept on the memory slot.	(ix) Non-Volatile memory chips are embedded on the motherboard.

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

Ans →

System software	Application Software	Open-source Software
It is a type of software that is designed to run a computer's hardware and application programs. Software like operating system, compilers, editors and drives etc. come under this category.	It is software create for a specific purpose, used by end users. It can be called an application or simply an app. Examples: word processor, accounting application, a web browser, an email client, media player etc.	It is a type of computer software in which source code is released under a license in which the copyright holder grants users a license in which right to study, the software to anyone and for any purpose.

Q 6: 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 → Opening MS-word :-

- Click the start icon.
- Then point to all program.
- Then click Microsoft Office and
- Then click Microsoft Word.

Now, Create a file in Microsoft Word.

- Click the Microsoft Office button/ File tab.
- Select New, ten new document dialog box appears.
- Select Blank document. It will be highlighted by default.
- A new blank document appears in the Word-Window.
- Now you can create document about yourself.

Document - 1

You know yourself better than anyone else, but writing about yourself can still be tough! When applying for scholarships or to college, essay prompts can feel so general that they leave us stumped.

Now, To save document using save as command.

- Click the MS office button/ File tab.
- Select save as - Word document.
- Select the location where you want to save the document using the drop-down menu.
- Enter name for the document "Yourself".
- Click the save button.

Q 6: b) Write steps regarding followings

➢ To change the font style:-

Ans →

- Select the text you want to modify.
- Click on font style box on the Home tab, the font style drop-down menu appears.
- Move your cursor over the various font style.
- Left-Click the font style you want to use.
- Then font style will change in the document.

➢ To change the font size:-

- Select the text you want to modify.
- Click on font size box in the font group on the home tab. The font size drop-down menu appears.
- Move your cursor over the various font size.
- Left-Click on font size you want to use.
- Then it will change font size in your document.

➢ To change the font color:-

- Select the text you want to modify.
- Click on the font color box on the Home tab. The font color menu appears.
- Move your cursor over the various font color.
- Left-Click the font color you want to use.
- Then font color will change in the document.

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

- Click the text highlight color in font group on the home tab.
- Various color will appears.
- Move your cursor over the various colors.
- Click on yellow color.
- Then the line "need to get Ins's address" highligh color will change in the document.

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.

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
- printing any type of document

Ans → Opening MS Word

- Click the Start icon.
- Then point to all program.
- Then click Microsoft Office and
- Then click Microsoft word.

Now, Create a file in MS Word

- Click the Microsoft office button / File tab.
- Select New, then new document dialog box appears.
- Select blank document. It will be highlighted by default.
- A new blank document appears in the Word-Window.
- Now you can create document 'MS-Word'

Document - 1

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
- printing any type of document

- Finaly Save document.

Now, To save document using save as command.

- Click the MS office button / File tab.
- Select save as - Word document
- Select the location where you want to save the document using the drop-down menu.
- Enter name for the document 'MS Word'.
- Click the save button.

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

Equations

$X_2 + Y_5 = 30$

$z^3 + Q^4 = 50$

$A_2 + \beta^8 = x_2 + y^8$

Ans-> Opeaning MS Word

- Click the start icon.
- Then paint to all program.
- Then click Microsoft office and
- Then click Microsoft word.

Now, Creat a file in Microsoft Word.

- Click the Microsoft office button / File tab.
- Select New, ten new document dialog box appears.
- Select blank document. It will be highlighted by default.
- A new blank document appears in the Word - Windows.
- Now you can create document by inserting equations.

Document - 1

$X_2 + Y_5 = 30$

$z^3 + Q^4 = 50$

$A_2 + \beta^8 = x_2 + y^8$

Finaly Save Document.

Now, To save document using save as command.

- Click the MS office button / File tab.
- Select save as - Word Window document.
- Select the location where you want to save the document using the drop-down menu.
- Enter name for the document 'equations'.
- Click the save button.

Q 9: 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.
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

Ans → Opening MS Word :-

- Click the start icon.
- Then point to All program.
- Then click Microsoft office and
- Then click Microsoft Word.

Now, Create a file in MS Word :-

- Click the Microsoft Office button/File tab.
- Select New, then new document dialog box appear.
- Select blank document. It will be highlighted by default.

- A new blank document appears in the Word Window.
- Now you can create document by inserting text.
- Finally save document.

Now, To convert existing text to 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.

Now, To save document using save as commands :-

- Click the MS office button / File tab.
- Select save as - word document.
- Select the location where you want to save the document using the drop-down menu.
- Enter ~~a new~~ name for the document 'text to table'.
- Click the save button.

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

Ans → Opening MS Word :-

- Click the start icon.
- Then point to all program
- Then click Microsoft Office and
- Then click Microsoft Word.

Now, Create a file in MS Word :-

- Click the Microsoft Office button / File tab.
- Select New, then new Document dialog box appears.
- Select blank document, it will be highlighted by default.
- A new blank document appear in the Word-Window.
- Now you can create document by inserting text.

Now, to insert a table :-

- Place your insertion point in the document where you want to insert a table.
- Select the Insert tab.
- Click the table command.
- Drag your mouse over the diagram squares to select the number of columns and row in the table.
- Left-Click your mouse and the table appears in the document.
- Enter text into the table.

Q 11: Create a following worksheet in MS-excel and save it with name 'book 1'.

Ans → Starting a Excel :-

- Click on the start button on the taskbar at the bottom left corner of the screen.
- Highlighted the all programs item. The program menu will open.
- Select Microsoft office from the list of programs.
- Click on Microsoft Excel.

Now, to create a new blank worksheet :-

- Left - Click the MS office button / File tab.
- Select New, the new Worksheet dialog box appears and blank worksheet is highlighted by default
- Click on this
- A new blank worksheet appears in the window.

Now, to save Worksheet using save as command :-

- Click the MS office button/ File tab.
- Select save as.
- Select the location where you want to save.
- Enter a name for the worksheet.
- Click the save button.

BOOK 1

	A	B	C
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			
13			
14			
15			

Student / Sheet 2 / Sheet 3 / Sheet

Q 12: Calculate the following things of a range (C2:C11) of data in the worksheet created in question no 10.

Ans → ➢ the sum of the marks using AutoSum in a range of cells (C2:C11)

= SUM (cell range)
= SUM (C2:C11) ↵
= 654

➢ average of the marks in a range of cells (C2:C11)

= Average (cell range)
= Average (C2:C11) ↵
= 65.4

➢ Highes marks in a range of cells (C2:C11)

= Max (cell range)
= Max (C2:C11) ↵
= 90

➢ minimum marks in a range of cells (C2:C11)

= Min (cell range)
= Min (C2:C11) ↵
= 40

Book 1

	A	B	C
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			
13			
14			
15			
16			

Student / Sheet 2 / Sheet 3 / Sheet

Q 13: a) Describe various steps involved in the following

Ans →

➢ To modify column width of a worksheet :-

- Position the cursor over the column line in the column heading.
- And a double arrow will appear.
- Left - Click the mouse, then dialog drag the cursor to the right to increase the column width or to the left to decrease the column width.
- Release the mouse button.

➢ To modify the row height 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 dialog drag the cursor upward to decrease the row height or downward to increase the row height.
- Release the mouse button.

➢ To delete rows and columns of a worksheet :-

- Select the row or column you want to delete
- Click tab delete command in the cells tab group on the home tab.
- Selected column or row deleted.

Q 13:b) Describe following terms in the worksheet :-

➢ Absolute reference and relative reference in formula :-

Ans→

- Relative reference : Cell reference in formula automatically adjuct to new locations when the formula is pasted into different cells. This is called a relative reference.
- Sometimes when you copy and paste a formula, you don't want one or more cell references to change.
- An absolute reference solve this problems. Absolute Reference : Cell reference in a formula always refer to the some cell or cell range. If a formula is copied to a different location, the absolute reference remains the same.
- An absolute reference is designated in the formula by the addition of a dollar sign ($).

➢ Cell address :-

- Each rectangle in the worksheet is called a cell. Each cell has a name, or a cell address, based on the column and row where it is located. In below diagram name of selected cell is C3 because column head is C and row head is 3.

Q 14. a) What tools are available to customize our PowerPoint presentation?

Ans → Many tools are available to our PowerPoint presentation :-

1. Home :-

The home tab holds the Cut and Paste features, Font and Paragraph options, and what you need to add and organize slides.

2. Insert :-

Click Insert to add something to a slide. This includes pictures, shapes, charts, link, text boxes, video and more.

3. Design :-

On the Design, tab, you can add a theme or color scheme, or format the slide background.

4. Transitions :-

Set up how your slides change from one to the next on the Transitions tab. Find a gallery of the possible transitions in the transistion to This Slide group - click more at the side of the gallery to see all of them.

5. Animations :-

Use the Animation tab to choreograph the movement of things on your slides. Note that you can see many possible animations in the gallery in the Animation group, and see more of them by clicking More.

6. Slide Show :-

On the slide show tab, set up the way that you want to show your presentation to others.

7. Review :-

The Review tab lets you add comments, run spell-check, or compare one presentation with another (such as an earlier version).

8. View :-

Views allows you to look at your presentation in different ways, depending on where you are in the creation or delivery process.

9. File :-

At one end of the ribbon is the File tab, which you use the behind the scenes stuff you do with a file, such as opening, saving, sharing, exporting,

printing and managing your presentation. Click the File tab to open a new view called the Backstage.

Click from the list on the side to do what you want to do; for example, click print to find the options and setting for printing your prese-natation. Click Back to return to the presentation that you were working on.

10. Tools tabs :-

When you click some parts of your slides, such as pictures, shapes, SmartArt or text boxes, you might see a colorful new tab appear.

In the example above, the Drawing Tools tab appears when you click a shape or text box. When you click a picture, the picture tools tab appear. Other such tabs include SmartArt Tools, Chart Tools, Table tools and Video tools. These tabs disappear or change when you click some-thing else in your presentation.

Q 14: b) Write the steps for the following action for creation of power point presentation

Ans → ➢ **Open a Blank presentation :-**

- Click on start.
- Select ms office PowerPoint option.
- Double Click on it.

Again,

- Select the file tab to go to Backstage view.
- Select New, on the left slide of the window.
- then, click Blank presentation.

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

- Click on the file tab to launch the Backstage view and select save.
- In the save as dialog, type in the file name and click "save".
- The default file formal is .'pptx'. If you want to save the file with a different name, choose one of the file types from the "save as type" dropdown list.

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

- Select the file tab to go to Backstage view.
- Select new on the left side of the window.

- Then, click blank presentation, additional information on how slide can be used.
- then, open the first slide.
- Click the title bar.
- Type the name of my college "KSRI Sarairanjan College".

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

- Select the file tab to go to backstage view.
- Select new, on the left of the window.
- Additional information on how the template can be used.
- Click on Blank Presentation.
- Then, open the Subtitle section.
- Type the first name in subtitle "Srishti" and type the last name in the subtitle section "Kumari".

➢ **Add a New Slide which has a Title and content:-**

- To insert a new slide that contains a "Title and content" slide layout, click the "Home tab" in the ribbon.
- Then, click the "New Slide" button in the slides button group.
- To insert a new slide and choose the slide layout. Click the drop-

down part of this button.

- Doing this then shows a drop-down menu that displays the different slide layouts you can apply.
- Then click one of the slide layouts in the drop-down menu to create a new slide with that layout.

Q 15. Writes steps for creation of a set of Power Point slides that demonstrates your skill to use the tools of PowerPoint. It should include the following things

➢ Title slide & bullet list :-

- Start Microsoft PowerPoint.
- Open arbitrary existing PowerPoint presentation.
- Click the new slide button on the Formatting toolbar. The slide layout task pane appears as shown in the above figure. The Slide layout task. Pane lets you select from numerous layouts that determine what you want to appear on the new slide. We want to add a Bulleted list Slide.
- Click the Bulleted list layout, as shown in the above figure. A new slide appears after the current slide in your presentation as shown in the figure. Notice there are two placeholder on this slide: one for the title of the slide and the other for the bulleted list. To add text to a placeholder, all you have to do is click and type.
- Click the title placeholder (where it says: "click to Add Title"). An insertion point (a)

appears in the placeholder, indicating that you can add text to the placeholder.

- Type some text. Now let's add some text to the bulleted list placeholder.

- Click the bulleted list placeholder and type something and press <Enter>. PowerPoint adds another bullet to the list when you press the <Enter> key.

- Repeat the following three times: Type some text and press <Enter>.

- Click the Slide Layout pane's Close button. If you are not planning to use the Slide Layout Pane again for a while, it is usually a good idea to close it so you can have extra viewing space for your presentation.

➢ Inserting Excel Sheet :-

- In powerpoint, on the Insert tab, click or tap Object.

- In the Insert Object dialog box, select Create from file.

- Click or tab Browse, and in the

Browse box, find the Excel workbook with the data you want to insert and link to

- Before you close the Insert object box, select Link, and click OK.

➢ 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 On line Pictures. (In PowerPoint 2007/2010, this option is called Clip Art.)
- In the Insert pictures dialog box (Clip Art task pane in PowerPoint 2007/2010), enter your search terms in the Bing.com field and press.
- Your search results load in the task pane.
- Locate the clip art you want to insert in your slide and double-click on it or click the item and select Insert.

➢ Slide show effects :-

- Notice that there is a separate area

to the left on the screen where you first slide is located.

- The first way to add a slide is to right - click the area under where your first slide is located and select 'New slid'. A new slide will appear.

Part - 2

Q 16: What is the difference between Machine Language and High Level Language?

Ans →

Machine Language	High-Level Language
(i) A computer programming language consisting of binary instructions which a computer can respond to directly.	(i) A high-level language is a programming language that enables development of a program in a much more user-friendly programming context.
(ii) Sometimes, it is reffered to as machine code or object code. Machine language is a collection of binary digits or bits that the computer reads.	(ii) High level language are grouped in two categories based on execution model compiled or interpreted language.
(iii) A computer cannot directly understand the programming languages used to create computer programs, so the program code must be compiled. Example :- 01001000, 01100101, 01101100 etc.	(iii) This language is a programming language with strong abstraction about the details of the computer in contrast to low-level programming language (Assembly language). Example: C, C++, Java.

Q 17: Discuss about different data types of C programming language.

Ans→ Data type of C :-

Each variable in C has an associated data type. Each data type requires different amounts of memory and has some specific operations which can be performed over it. Let us briefly describe them one by one:

Following are the example of some very common data types used in C :-

- Char : The most basic data type in C. It stores a singal character and requires a single byte of memory in almost all compilers.
- Int : As the name suggests, an int variable is used to store an integer.
- Float : It is used to store decimal numbers (numbers with floating point value).
- Double : It is used to store decimal numbers (numbers with floating point value but its range of values are high in comparison to float).

Important Data Type in C with range :-

Type	Keyword	Value of range which can be represented by this data type.
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.

These data types are called primitive data types and we can use these data types to build more complex data types, which are called user defined data types, for example a string will be a secquence of characters.

Q 18: Find the output of the following expressions

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

→ The operation is division first:

20/5 = 4

Formula becomes

4*2+30-5

→ Because the multiplication comes before the addition:

4*2 = 8

Formula becomes

8+30-5

→ Next the addition takes place before the subtraction:

8+30 = 38

Formula becomes

38-5

→ Finaly 38-5 = 33

The final answer is 33

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

→ Performe the division operation in parenthese first:

40/10 = 4

Formula becomes

30-(4+6)+10

→ Nex, Performe the addition in parenthese first:

4+6 = 10

Formula becomes
30 - 10 + 10
↳ Next the addition takes place before the substraction:
30 + 10 = 40
Formula becomes
40 - 10
↳ Finaly 40 - 10 = 30
The final answer is 30

c) z = 40* 2/10 - 2 + 10
↳ The operation is division first:
40*2/10
= 80/10
= 8
Formula becomes
8 - 2 + 10
↳ Next the addition takes place before the substraction:
8 + 10 = 18
Formula becomes
18 - 2
↳ Finally 18 - 2 = 16
The final answer is 16

Q 19: Describe the syntax of the following statements :-

a) If - else statement :-

Ans → If statement can be followed by an optional else etc. block of statements, which executed when the Boolean expression is false.

Syntax :-

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

b) for loop :-

for loop is similar to while, Basic syntax of for loop is as follows :

```
for (expression1; expression2; expression3)
{
Block of statements;
}
```

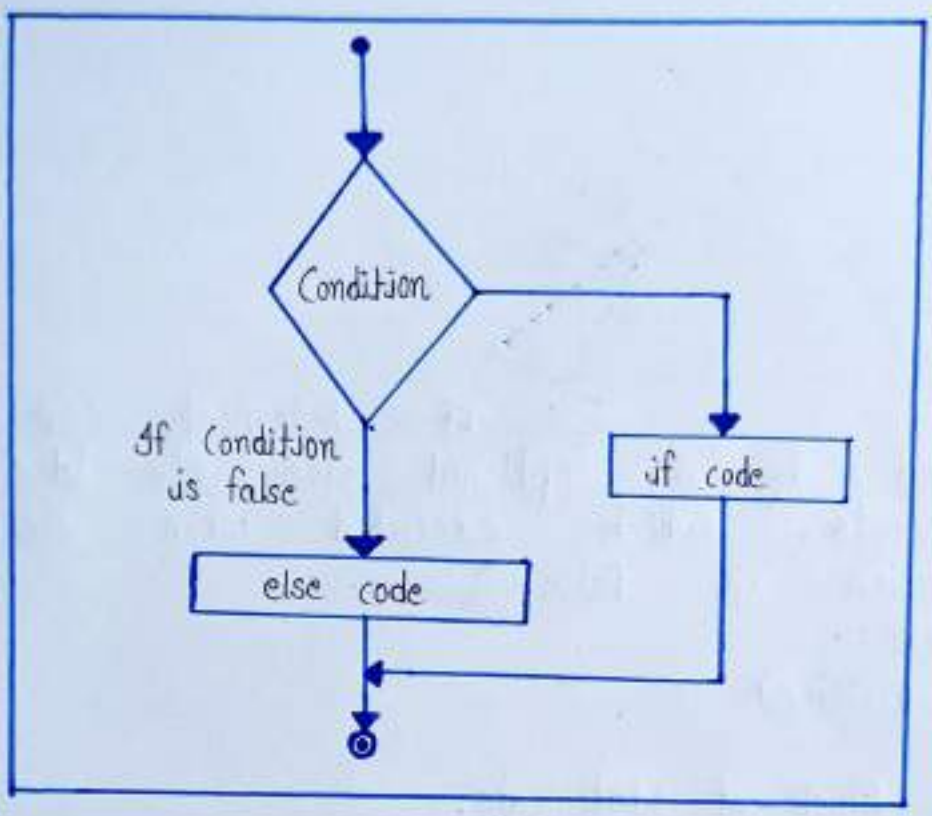
In the above syntax :

expression 1 - Initializes variables.

expression 2 - Conditional expression, as long as this condition is true, loop will keep executing.

expression 3 - Expression3 is the modifier which will increase or decrease the value of the variable.

a)



c) while loop :-

Basic syntax of while loop is as follows :

```
While (Condition)
Single Statement;
OR,
While (Condition)
{
block of statements;
}
```

The above code can be represented in the from of a flow diagram as shown above.

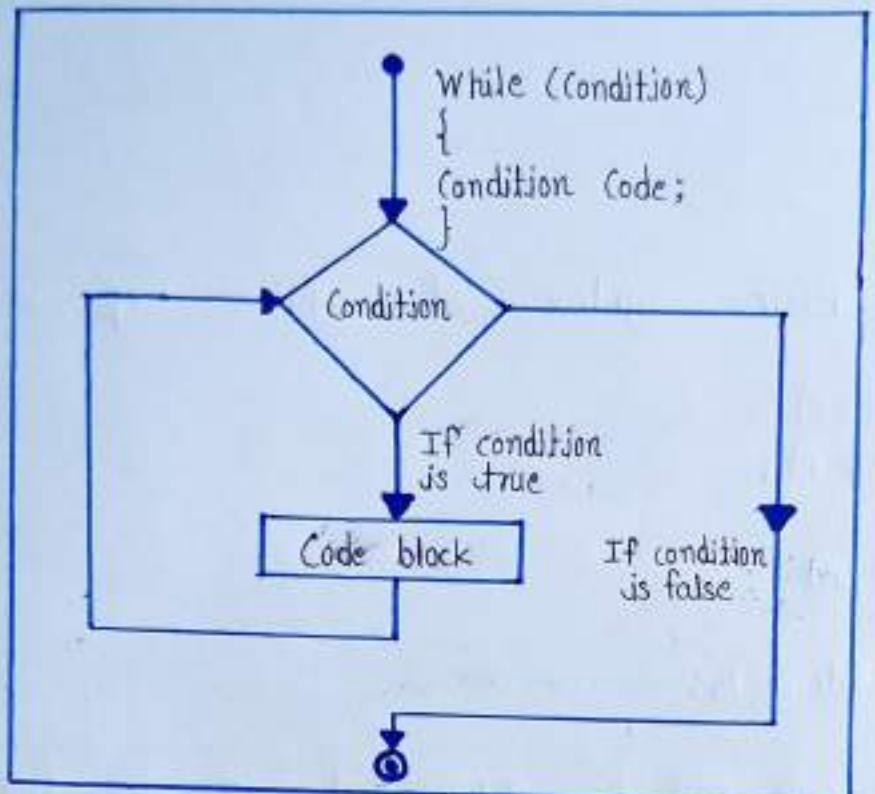
d) do-while loop :-

Basic syntax of do-while loop is as follows :

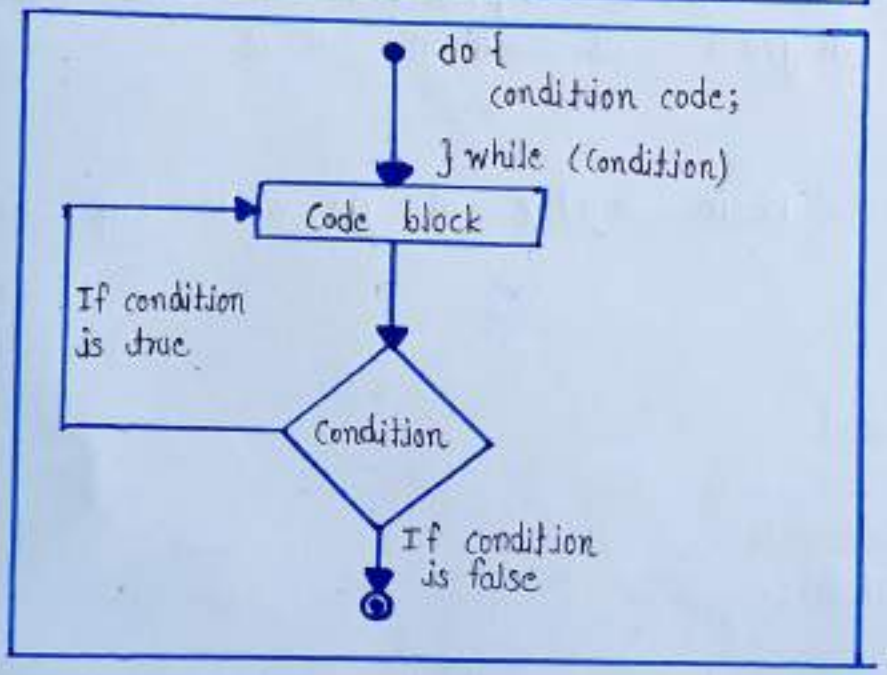
```
do
{
single statement
      or
block of statements
} while (Condition);
```

This code can be represented in the form of a folow diagram as shown below.

c)


While (Condition)
{
Condition Code;
}
Condition
If condition is true
Code block
If condition is false

d)


do {
condition code;
} while (Condition)
Code block
If condition is true
Condition
If condition is false

Q 20: Find the output of the following program segments

a)

```
# include <stdio.h>
int main()
{
 int i;
 for (i=1;i<2;i++)
 {
  printf("IMS Ghaziabad\n");
 }
}
```

b)

```
# include <stdio.h>
int main()
{
 int i = 1;
 while (i<=2)
 {
 printf("IMS Ghaziabad\n");
 i=i+1;
 }
}
```

c)

```
# include <stdio.h>
void main()
{
int a=10, b=100;
if (a>b)
printf("Largest number is %d\n",a);
else
printf("Largest number is %d\n", b);
}
```

Ans →

a)

```
# include <stdio.h>
int main()
{
 int i;
 for (i=1; i<2; i++)
 {
 printf("IMS Ghaziabad\n");
 }
}
```

Output :
IMS Ghaziabad

b)

```
# include <stdio.h>
int main()
{
 int i=1;
 while (i<=2)
 {
 printf("IMS Ghaziabad\n");
 i=i+1;
 }
}
```

Output:
IMS Ghaziabad
IMS Ghaziabad

c)

```
# include <stdio.h>
void main()
{
int a=10, b=100;
if (a>b)
printf("Largest number is %d\n",a);
else
printf("Largest number is %d\n",b);
}
```

Output:
Largest number is 100