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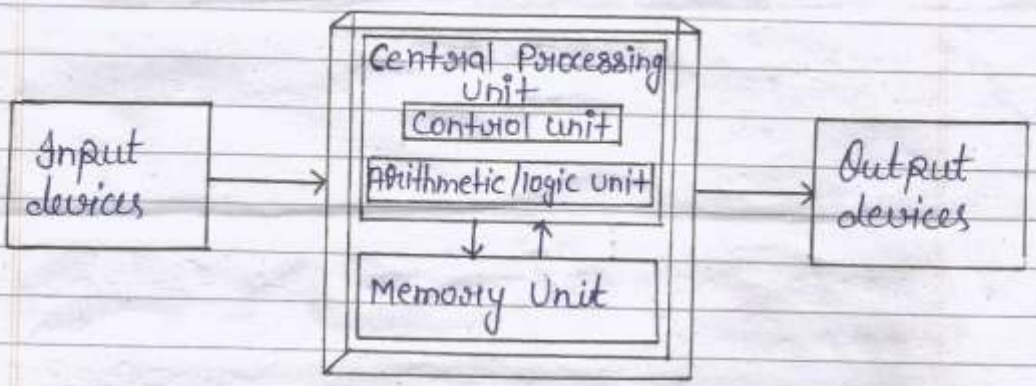
CCA-101: Fundamentals of IT & Programming

Assignment - 1

Ques-(1) What are the four fundamental parts of Computer? Explain it with the help of diagram.

Ans- The four fundamental parts of Computer are -

1. Input device
2. C.P.U
3. Output device
4. Memory Unit



Input devices :- Computer Systems use many devices for input purpose. Input devices include the mouse, input pen, touch screen and microphone regardless of the type of device used, all are Components for interpretation and Communication blw people and Computer Systems.

Central processing Unit (C.P.U) :- It is the brain of the Computer without this unit Computer unable to process.

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

Memory Unit :- A memory unit is the Collection of Storage units or devices together. The memory unit stores the binary information in the form of bits.

Ques-(2) Discuss about the classification of Computers based On size and Capacity.

Ans- Based On Size and Capacity, Computers are classification

1. Super Computer
2. Mainframe Computer
3. Mini Computer
4. Micro Computer

(1.) Super Computer :- (1.) Super Computer are the most powerful & physically the largest by size.
(2.) These are systems degined to process huge amounts of data.
(3.) The fastest Super-Computer Can perform over one trillion Calculations in a second.
(4.) Super Computers have thousands of processors. Because of their extraordinary speed, accuracy and processing power, Super Computers are well suited for solving highly Complex problems & huge amounts of Calculations.
Example :- JAGUAR, ROAD RUNNER etc.

(2.) Mainframe Computer :- (1.) Mainframe Computers are very large often filing an entire room and can process thousands of millions of instructions per second.
(2.) In a mainframe environment, users connect to the mainframe through the many terminals wired to the mainframe.
(3.) Mainframes are capables of supporting hundread of thousand of users simultaneously.
(4.) Some of the functions performed by a mainframe include - flight scheduling, reservation & ticketing for an airline etc.
Example - IBM Mainframes Z13, IBM System Z9 Mainfram

(3.) Mini Computer :- (1.) Mini Computers are much smaller then mainframes.
(2.) These Computers are also less expensive.
(3.) Sometimes referred to as midrange & server or midrange Computer.
(4.) They are typically larger, more powerful and more expensive the desktop Computers.
(5.) Midrange Computers are usually used by small and medium sized businesses as their Servers.
(6.) Users Connect to the server through a network by using desktop Computers.
Example - Apple ipod, CDC 160A

(4.) Micro Computer :- (1.) Micro Computers are the most frequently used type of Computer.
(2.) It is also known as Personal Computer.
(3.) A MicroComputer is a small Computer System designed to be used by one person at a time.

Ques-(3) What is the meaning of Computer generation? How many Computer generations are defined? What technologies were/are used?

Ans- Generation :- The term "Generation" refers to major developments in electronic data processing

The generation of Computer -
1. First Generation (Vaccum tubes)
2. Second Generation (Transistors)
3. Third Generation (Integrated Circuit)
4. Fourth generation (Microprocessors)
5. Fifth generation (Artificial Intelligence)

(1.) First Generation Computer (1940 - 1956) :- Computers of this generation used vaccume tubes. ENIAC was the first generation electronic Computer. These Computers were large in size and required Constant maintenance. It used mercury delay lines for storages. The first Commercial production of Stored electronic Computer was UNIVAC (Universal Automatic Computer). During this period, Computer programming was mainly done in machine language. Assembly language was introduced during early fifties. Examples - UNIVAC, EDSAC, ENIAC, EDVAC

Characterstics of first generation Computer :-

(I) Batch processing.
(II) Slow input and output operations.
(III) Vaccum time Circuit.
(IV) Poor reliability

(2.) Second generation Computer (1956 - 1963) :- Computer this generation used transistors. which were small or in size so size of Computer became small. A transistor is made of a semiconductor material whose principal part is silicon. It requires more less power and produces less heat.
Example - IBM - 1401, NCR 304.

Characteristics of Second Generation Computer :-

(I) Greater reliability and speed.
(II) Transistors replaced by vaccum tubes.
(III) faster than first generation.
(IV) Required less power to operate.

(3.) Third generation Computer (1964 - 1971) :- Computers of this generation used integrated Circuits (ICS). These Computers were 10000 times faster the first generation Computers. Batch processing and time Sharing Came into picture during third generation. Many high level languages like BASIC, COBOL etc. were developed during this period.
Example - IBM - 360, IBM - 370, ICL - 2900 etc.

characteristics of third generation Computers :-

(I) Increased relaibility and speed.
(II) faster then previous generation Computers.
(III) Transistors replaced by integreated Circuit.
(IV) Development of mini Computer.

(4.) Fourth generation Computer (1971 – present) :- Computers of this generation used large scale integration (LSI) and very large scale integration (VLSI) techniques.

This period was a period of active research and development in many areas of Computer with VLSI technology microprocessors (up) Came into Existence A microprocessors chip Contains an entire Central processing unit on a single silicon chip.

Example – DEC 10, APPLE II, PUP 11

Characteristics of fourth generation Computers :-

(I) Microprocessor used
(II) Large scale and very large scale integrated circuits
(III) Increased Costs of software.
(IV) Development of microcomputer.

(5.) Fifth generation Computer (Present & Beyond) :- The fifth generation Computers Combine hardware and software to produce human intelligence.

Characteristics of future generation Computer :-

(I) Decreasing Costs of Software.
(II) Decreasing Costs of hardware.
(III) Organic chip.
(IV) Artificial Intelligence.
(V) High speed processing technology.

Quss-(4) Differentiate between Volatile & Non-volatile memories.

Ans- Primary Memory (Volatile) :- The primary memory is kept on silicon chips and is fixed to the circuit board. It is also called Internal memory. Primary memory is of 2 types-

(a) RAM - Random Access Memory
(b) ROM - Read Only Memory

Secondary Memory (Non-volatile) :- The secondary memory is used to store data for a longer period of time. Also called the external memory, it is required because the primary memory is not sufficient to store large amount of information.

Ques-(5) Distinguish among System Software, application software and open source Software on the basis of their features.

Ans-(1) System Software :- It is a Collection of program that performs tasks related to the Operation and performance of the Computer System itself. They act as a bridge between the hardware and the application Software.
System Software is two types-

(a) Operating System Software
(b) Utility Software

Example - window XP is operating system or Calculator is utility.

(2.) Application Software :- Application Software refers to Software designed and developed to perform specific tasks viz. word processing Software's, Computation and data processing Software web designing Software's, photo adding Software's, media player etc
Example - Word processor, accounting application a web browser, an email client, media player etc.

(3.) Open Source Software :- It is a type of Computer Software in which Source Code in released under a license in which the Copyright holder grants users rights to Study change and distribute the Software to anyone and for any purpose.
Example - Linux Operating System

Ques-(6) (a) Create a file in MS-word to insert a paragraph about yourself and save it with file name 'yourself'.

Ans- Create a New file in MS-word :- • Click the start button.

- Click the MS-Office.
- Choose file -> New from the menu bar.
- Press CTRL+N on the keyboard. (Shortkey)

Start → MS-offic → MS-word → open file new → file name

our file name is 'yourself'.doc

Insert a paragraph :- Suppose we write the paragraph in MS-word. We can easily move the paragraph in right side, left side and centre by using right alignment, left alignment, Centre alignment and Justify alignment.

Save a file :- • Click the save button on the toolbar.
• Select file > Save with the file name of 'Yourself' from the menu bar.
• Press CTRL+S on the keyboard.

Describe all steps involved in it.

(b) write steps regarding following-

▶ To change the font style :- Font is the look and shape of the letters of the text.

Step :-(1) Select the text to change the font style.

Step :-(2) Click the home tab.

Step :-(3) click the drop-down list arrow [▼] on the font button [Calibri Body] from the font group.

Step :-(4) Choose the font type from the list and click it to apply.

▶ To change the font size :- Font size refers to the size of a letter or character.

Step :-(1) Select the text to change the font size.

Step :-(2) Click the home tab.

Step :-(3) Click the drop list arrow on the font size button [24 ▼] in the font group.

Step :-(4) Choose the font size from the list and click it to apply.

▶ To change the font Colour :- You can apply different Colour to the text.

Step :-(1) Select the text to change the font Colour.

Step :-(2) Click the home tab.

Step :-(3) Click the drop down list arrow on font Colour button [A ▾] in font group. A Colour palette appears.

Step :-(4) Choose the Colour you want from the palette and click it to apply.

▶ Highlighting (in Yellow) the line that reads "need to get IMS's address."
To place a coloured bar over the text to make it prominent is known as highlighting the text.

Step :-(1) Select the text to highlight.

Step :-(2) Click the home tab.

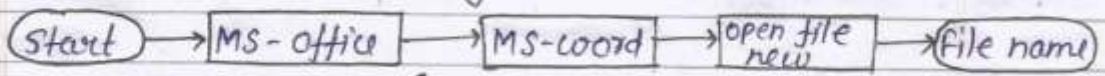
Step :-(3) Click the drop down list arrow on the text highlight Colour button [ab ▾] in font group
A Colour palette appears.

Step :-(4) Choose the Yellow Colour from the palette and click it to apply.

"need to get IMS's address".

Ques-(7) Create a file in MS-word for the following document and save it with file name 'ms-word'. Describe all steps involve in it.

Ans- Create a new file :-
- Click the new file button on the toolbar.
- Choose File > New from the menu bar.
- Press Ctrl+N (shortkey)



Our file name is ~~yourself~~ 'MS-word'.doc

Save a file :-
- Click the save button on the toolbar.
- Select file > Save with the file name of 'MS-word' from the menu bar.
- Press Ctrl+S on the keyboard.

Q-8 Create a file in MS-word for the following document and save it with file name 'Equations'. Describe all steps involved in it.

Equations -

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

Ans- Create a file :-
- click the new file button on the toolbar.
- Choose File > New from the menu bar.
- Press Ctrl + N (short key)

Save a file :-
- Press on 'Start' button.
- Click the MS-office.
- Click the Microsoft word.

Click the 'file' button.

Save the file and file name is 'Equations'.

Equations -

$$X_2 + Y_5 = 30$$

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

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

Ques-(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". Describ all step's involve in it.

Ans- Create a new file :- • Click the New file button on the toolbar.

- Choose file > New from the menu bar.
- Press Ctrl+N (Shortkey)

text - to - 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 appear
Here set number of Columns.	Click on ok Finally selected text Convert in a table.

Save a file :- • First we create a new file and then we create a table.

- You may select a part of text or the whole text, according to your choice. To select text, you can use both mouse and keyboard.
- Press Ctrl+S ~~key~~ key.

Our file name is text-to-table.doc

Ques-(10) Create a file in MS-word to insert a table in the document. Describe all steps involved in it.

Ans- Create a file :- • Click the New file button on the toolbar.

- Choose file > New from the menu bar
- Press ctrl+N (shortkey)

Insert a table :- Step :-(1) Click the Insert tab.

Step :-(2) click the table [ ] from the tables group.

Step :-(3) Select the no. of columns and rows by dragging the mouse over the small boxes.

This inserts a table with the specified number of Columns and rows.

The Cursor is placed in the first cell. You can enter text in the cells. To move from one cell to another use the tab key or the Arrow keys.

CLASS VII

S.No.	Name	Roll No.	Marks
1.	Praerna	6	280
2.	Sonu	9	294
3.	Suresh	16	305
4.	Yashita	19	309
5.	Megha	20	325

Insert this Row

Column Cell Row

Our file name is class VII.doc

Qus-(11) Create a following worksheet in MS-Excel and save it with the name 'book 1'.

Ans- Create a table in MS-Excel :-

book 1

A	B	C
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

The name of our file is book 1 . xls.

Save in MS-Excel :- • Click On file menu.

- Select the whole text.
- Press ctrl+s (Short key)

Quss-(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 cell (C2:C11) –

S.No.	Name	class	Roll No.	Mark's	Hindi	Eng.	Math's	S.S.T	Sci.	Computer	Total
1.	Prerna	6	6	600	82	95	85	80	79	97	Σ=518
2.	Sonu	8	9	600	75	86	88	90	82	89	Σ=510
3.	Suresh	9	16	600	89	90	83	72	88	92	Σ=514
4.	Megha	10	20	600	91	72	90	85	80	95	Σ=513

Cell = C2 ↓ Cell = C11

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

S.No.	Name	class	Roll No.	Mark's	Hindi	English	Math's	S.S.T	Sci.	Computer	Average
1.	Prerna	6	6	600	82	95	85	80	79	97	86.33
2.	Sonu	8	9	600	75	86	88	90	82	89	85
3.	Suresh	9	16	600	89	90	83	72	88	92	85.67
4.	Megha	10	20	600	91	72	90	85	80	95	85.5

Cell = C2 ↓ Cell = C11

▶ Highest Marks in a range of cells (C2:C11)

S.No.	Name	class	Roll No.	Mark's	Hindi	Eng.	Math's	S.S.T	Sci.	Computer	Total
1.	Prerna	6	6	600	82	95	85	80	79	97	Σ=518

▶ Minimum Mark's in a range of Cells (C2:C11)

S.No.	Name	class	Roll No.	Mark's	Hindi	Eng.	Math's	S.S.T	Sci.	Computer	Total
2.	Sonu	8	9	600	75	86	88	90	82	89	Σ=510

Ques-13) (a) Describe various steps involved in the following-

Ans- ▶ To modify Column width of a worksheet -

- Resize a Column in a similar manner by dragging the line to the right of the label corresponding to the Column one want to resize (modify).
- Click the Column label and select Format -> Column -> Width from the menu bar to enter a numerical value for the width of the Column.

▶ To modify Row ~~width~~ height of a worksheet -

- Resize are a row by dragging the line below the label of the row one would like to resize (modify).
- Click the row label and select Format -> ROW -> Height from the menu bar to enter a numerical value for the height of the ROW.

▶ To delete rows and columns of a worksheet -

- Select the data in the Column or a row that you want to delete.
- Click on edit menu and select delet option. This deletes the data in the selected cell.

(b) Describe following terms in the worksheet.

Ans- ▶ Absolute reference and relative reference in formula-

- A reference identifies a cell or a range of cells on a worksheet and tells Microsoft Excel where to look for the values or data you want to use in a formula. With references, you can use data contained in different parts of a worksheet in one formula or use the value from one cell in several formulas. You can also (reference) refer to cells on other sheets in the same workbook, to other workbooks, and to data in other programs. References to cells in other workbooks are called External References. References to data in other programs are called remote references. Depending on the task you want to perform in Excel, you can use either relative cell references, which are references to cells references that always refer to cell in a specific location. If a dollar sign precedes the letter and /or number, such as A1 the Column and/or row reference is absolute. Relative references automatically adjust when you copy them, and absolute references don't.

▶ Cell address – A cell reference or cell address, is an alphanumeric value used to identify a specific cell in a spreadsheet. Each cell reference contains one or more letters followed by a number. The letters or letter identify the Column and the number represents the row.

Ques-(14)(a) what tools are available to Customize over power-point presentation?

Ans-(14)(a) • Title Bar :- The title bar generally appears at the top of the screen. The Title bar displays the title of the current presentation.

• Menu Bar :- The menu bar displays the menu. You use the menu to give instructions to Power Point.

• Status bar :- The status bar generally appears at the bottom of the screen. It displays the number of the slide that is currently displayed the total number of slides and the name of the design template in use or the name of the background.

• Outline (bar) Tab :- The Outline tab displays the text Contained in your presentation.

• Slides Tab :- The slides tab displays a thumbnail to view the slide in slide pane.

(b) Write the steps for the following action for Creation of power point presentation.

▶ Open a Blank Presentation —

Step :-(1) Click the office button.

Step :- (2) Click the new option from the drop down list.

Step :- (3) Click Blank and recent presentation option from the left pane.

Step :- (4) Click the Blank Presentation option

Step :- (5) Click Create button.
A new presentation with a blank slide opens up on the screen as shown.

- Save the Presentation as lab.1 pptx —

Step :- (1) Click the Office button.

Step :- (2) Click the save option. The save as dialog box appears.

Step :- (3) Type the Lab.1 pptx.

Step :- (4) Click the save button.

- Add a title to the first slide: the name of your College—
As we know, a power point presentation is a Collection of many slides. we can create additional slides. These slides, when displayed in sequence, form a presentation. So we have to prepare the slides first, in order to prepare a presentation. when a Blank presentation is created, a slide appears on the screen with two placeholders.

Step:-(1) Click inside a placeholder to enter text. The Cursor appears.

Step:-(2) Type 'the name of your college'. After you finish typing the text, click outside the placeholder.

- Type your first name and last name in the Subtitle section —

Type first name — Courses

Last name —
- B.Sc
- B.Com
- B.A

- Add a new slide which has a title and Contents — At the top of the screen, in the lower button bar you will see a New Slide 'button'.

When you move your Cursor arrow over the button you will see that a Microsoft Help text box appears that says: New slide. Click-on the New slide button to create your next slide.

A new slide will appear in the Center section of your screen. It will resemble the slide at the top of the next page.

Contents :- File name - the name of your College.

Teacher's Name	Subject
Sohan Sharma	Science
Mukesh Saxena	Math's
Riya verma	Hindi
Amit Kumar	English

Ques-(15) 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-

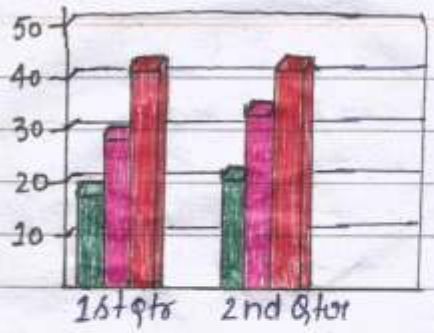
Ans- ▶ Title slide & bullet list -

Title slide (bar) :- The title bar generally appears at the top of the screen. The Title slide (bar) displays the title of the Current.

Bullet list :- Most of the text you enter on slides appears as bulleted - or possibly numbered items.

MS- Office
- MS-word
- MS-Excel

▶ Inserting Excel sheet - • Click the Insert chart button on the Standard Toolbar.
- A Sample data sheet and Corresponding bar chart will appears on your slide.
- To Create your own chart, you can replace the data in the sample data sheet with your own.



		A	B
		1st Qtr	2nd Qtr
1	East	20.4	27.4
2	West	30.6	38.6
3	North	45.9	46.9

▶ Clip art and text :- clip art is a collection of pictures or image, Such as photoshop or Microsoft word.

text :- • Select Insert > text Box from the menu bar and draw the text box keeping the left mouse button.

• select Tools > options from the menu bar and clicking the Edit tab.

▶ Slide Show Effects :- • It often refers to a microsoft Power Point Presentation.

• The Continuous displays of a folder of images on the Computer

Ques-(16) What is the difference between Machine language and high level languages?

Ans-

Machine language	High level languges
1.) The machine language is the language directly understood by the Computer.	A high level languag Contains statements that are much like English & Math's.
2.) This language use two Symbols i.e. '0' and '1' is therefore called a Binary language	High level language program are easier to Code, modify and debug.

3:) Any other language is first Converted into machine language	High level language is first Convert into maching language by COMPILER.
4:) It is also known as Ist Generation language of Computer.	It is also known as IIIrd Generation language of Computer.

Ques-(17) Discuss about different data types of C-programming languages-

Ans- Char :- The most basic data type in C. It stores a single 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 no. (number with (number with floating point value).

Double :- It is used to store decimal no. (numbers with floating point value) but its range of values is high in Comparision to float.

Ques-(18) Find the Output of the following expressions.

Ans-(a) $X = 20/5 * 2 + 30 - 5$

$X = 4 * 2 + 30 - 5$

$X = 8 + 30 - 5$

$X = 38 - 5$

$\boxed{X = 33}$ Answer

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

$Y = 30 - 40/10 - 6 + 10$

$Y = 30 - 4 - 6 + 10$

$Y = 40 - 4 - 6$

$Y = 40 - 10$

$\boxed{Y = 30}$ Answer

(c) $z = 40 * 2 / 10 - 2 + 10$

$z = 40 * 0.2 - 2 + 10$

$z = 8 - 2 + 10$

$z = 18 - 2$

$\boxed{z = 16}$ Answer

Ques-(19) Describe the syntax of the following statements -

Ans-(a) If-else statement :-

If statement can be followed by an optional else block of statement, which executes 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 (expression 1 ; expression 2 ; expression 3)
{
Block of statements
}
```

(c) while loop :-

Basic syntax of while loop is as follows-

```
While (Condition)
    Single state
OR
While (Condition
{
block of statements-
}
```

(d) do... while loop

do... while is just like a while loop except that the test Condition is checked at the end of the loop rather than the start. This has the effect that the body of the loop are always executed at least once.

Basic syntax of do... while loop is as follows-

```
do
{
 single statements
      or
 Block of statements
} while(condition);
```

Ques:-(20) Find the Output of the following program segments-

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
10