CCA-101: Fundamentals of IT & Programming

Assignment -1

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

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

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

Q4: Differentiate between Volatile & Non- Volatile memories.

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

Q6. a) Create a file in MS-word to insert a paragraph about yourself and save it with file name "**yourself**". Describe all steps involved in it.

Q6 b) Write steps regarding followings

- To change the font style
- To change the font size
- To change the font color
- To highlight (in yellow) the line that reads "need to get IMS's address".

Q7. Create a file in MS-Word for the following document and save it with file name '**ms_word**'. Describe all steps involved in it.

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**

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

Equations

$X_2 + Y_5 = 30$

$Z^1 + Q^4 = 50$

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

Q9. Create a file in MS-word that convert existing highlight text to table as shown below and save it as file name 'text_to_table'. Describe all steps involved in it.

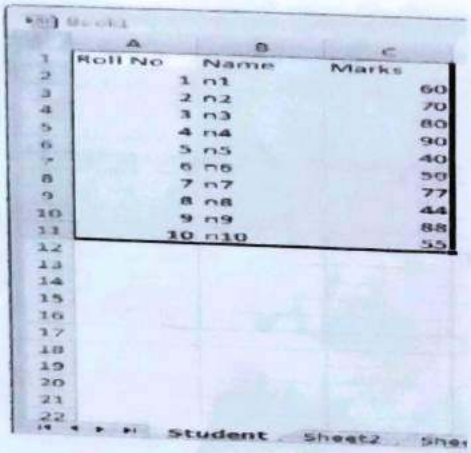
Select the text you want to convert
Select the **Insert** tab
Click on **Table** command. A dialog box appears
Click on **Convert Text to Table, a new** dialog box appears
here set number of columns
Click on OK Finally Selected text convert in a table

⇩

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

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

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



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

- the sum of the marks using AutoSum in a range of cells (C2:C11)
- average of the marks in a range of cells (C2:C11)
- highest marks in a range of cells (C2:C11)
- minimum marks in a range of cells (C2:C11)

Q13 a) Describe various steps involved in the following

- To modify column width of a worksheet
- *To modify the row height* of a worksheet
- *To delete rows and columns* of a worksheet

Q13 b) Describe following terms in the worksheet

- Absolute reference and relative reference in formula
- Cell address

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

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

- Open a Blank presentation
- Save the presentation as Lab1.pptx

- Add a Title to the first slide: the name of your college
- Type your first name and last name in the Subtitle section
- Add a New Slide which has a Title and Content

Q15. Write steps for creation of a set of PowerPoint slides that demonstrates your skill to use the tools of PowerPoint. It should include the following things

- Title slide &bullet list
- Inserting Excel Sheet
- Clip art and Text
- Slide show effects

Part -2

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

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

Q18. Find the output of the following expressions

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

Q19. Describe the syntax of the following statements

a) If – else statement b) for loop c) while loop d) do-while loop

Q20. 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);
}
```

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

Q1 What are the four fundamental Parts of Computer? Explain in with the help of diagram.

Ans **Four fundamental parts**

1. Input unit
2. output unit
3. Central Processing unit [CPU]
4. Memory unit / Storage unit.

Input unit → Input units are all the devices you use to feed information to the Computer, such as a Keyboard, mouse, a hard drive. these devices, in essence bring data from the "outside world" into your Computer.

Output unit → Output units are the devices is used to transmit a Computer's data between devices or client. The bulk of Computer output data designed for people

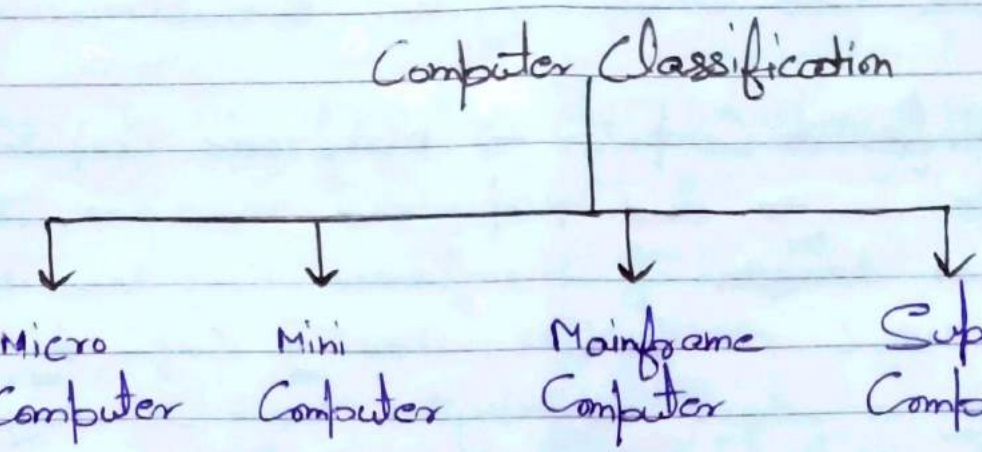
is in audio or video format. Such as Monitors, Printers, Microphones, Projectors and headphones.

Central Processing Unit [CPU] → CPU is Considered as the brain of the Computer. it performs all types of data processing operations. it stores data, intermediate results, and instructions. it Controls the operation of all parts of the Computer. CPU itself has three components. i) Control unit ii) ALU (Arithmetic logic unit)

Memory or Storage unit → Once the CPU Converts a specific set of a Computer program instructions into machine Code it stores that machine Code in primary storage or memory. The machine Code will be treated as either data or instructions. the CPU fetches data and instructions from memory, uses an instruction to manipulate the data, and then sends the result and the next set of instructions back to memory.

Q2 Discuss about the classification of Computer based on Size and Capacity.

Ans



Micro Computer → You can see such Computers at home like laptop, desktop, Smartwatches, tablets. All Computer's Components of a microprocessor are on a single integrated circuit chip. the microprocessor based Computer are called third genration Computers, they were invented in the 1970's.

Mini Computer → Mini Computer were introduced in the 1960s. they were faster than micro Computers. Basically these Computers were mainly multi-user systems. where many users work on the systems. Generally these types of Computers had larger memories and greater storage capacity. you can see such Computers at the billing Counters of malls or large

institutions. minicomputer was a multi user system which means more than one user could use this system simultaneously.

Mainframe Computer → Mainframe Computers 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. Generaly they handle huge volumes 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 database has to be maintained.

Super Computer → Super Computer is biggest fastest computer. The processing capabilities of super computer lies in the range of GIPS2. word length 64-128 or may be in 256 or 80. The memory capacity of super computer is in some gigabytes or in terabytes. these computers are specifically designed for scientific applications like weather forecasting,

Encryption decryption of passwords, Testing for nuclear weapons, Scientific research of earth.

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

As The modern Computer took its shape with the arrival of your time. it had been around 16th century when the evolution of the Computer started. the intial Computer faced many changes, obvisously for the betterment. it Continuously improved itself in terms of speed, accuracy, size, and price to urge the form of the fashionable day Computer. This long period is often Conveniently divided into the subsequent phases called Computer generations.

There are five generations of the Computer.

1) First generation (1940-1956)
2) Second generation (1956-1963)
3) Third generation (1964-1971)
4) Fourth generation (1971 - 20
5) Fifth generation

1) First generation → The first generations of Computers used Vacuum tubes as a major piece of technology. Vaccum tubes were widely use in Computers from 1940 through 1956. Some of the first generation Computers took up an entire room. The ENIAC is a great example of the first generations of the Computer.

2) Second generation → In the 1956s, transistors replaced tubes and used magnetic cores for memories (IBM 1401, Honeywell 800). Size was reduced and reliability was significantly improved. See IBM 1401 Honeywell.

3) Third generation → Third generation of Computers used the first integrated circuits (IBM 360, CDC 6400) and the first operating System and database managment systems.

3) Fourth generation → The Mid to late 1970s spawned the microprocessor and personal Computer, introducing distributed processing and office automation

Coord processing query languages, report writers and spreadsheets put large numbers of people in touch with the Computers for the first time.

3> Fifth generation → The 21st Century ushered in the fifth generation, which increasingly delivers various forms of artificial intelligence (AI).

Q4 Differentiate between volatile and Non-volatile memories.

Ans

Volatile Memory	Non-Volatile Memory
1. V/m is the type of memory in which data is lost as it is power off.	1. Non V/M is the type of memory in which data remains stored even if it is powered off.
2. This Memory are stored temporarily.	2. This Memory are stored Permanently.
3. it is fasten than non-volatile memory.	3. it is slower than Volatile memory.
4. Example → RAM	4. Example → ROM

5. In V/M process can read and write.	5. In Non V/M memory process can only read.
6. Volatile Memory is more costly per unit size.	6. Non-Volatile Memory is less costly per unit size.

Q5 Distinguish among System Software, application Software and Open Source Software on the basis of their features.

Ans System Software → System Software is a type of Computer program that is designed to run a Computer's hardware and application programs. System Software is used to manage the Computer itself. It runs in the background, maintaining the Computer's basic functions so user can run higher-level application Software to perform certain tasks.

Features

1) High Speed
2) Hard to Manipulate.
3) written in a low level language.
4) Difficult to Design.

Application Software → An application Software is a Computer program designed to carry out a specific task other than one relating to the operation of the Computer itself, typically to be used by end users.

Features

1) Written in a high level language.
2) Easy to design.
3) Bigger in Size.
4) More Interactive.

Open Source Software → Open Source Software is Software with Source Code that anyone can inspect, modify, and enhance. Source Code is the part of Software that most Computer users dont ever see; it's the Code Computer programmers can manipulate to change how a piece of Software - program or application - works.

Features

1) Freedom.
2) Integrity.
3) Continuity.
4) Final thoughts.

Q6 a) Create a file in MS-Word to insert a paragraph about yourself and save it with file name "Yourself". Describe all steps involved in it.

Ans following steps

> open a MS Word
> click on the page that you want to insert
> a paragraph.
> write a paragraph about yourself.
> Press ctrl+S
> Enter file name "Yourself".
> Press Enter Key.

Q6 (b) write steps regarding followings

To change the font style
> open a MS word.
> Select the particular text, line, Paragraph.
> click the drop down arrow to the font
> box on the home tab.
click on particular font style that you want to use.

To change the font size
Select the Particular text, line or Paragraph that you want to modify.

> click the drop down arrow to the font size box on the home tab.
> click the desird font size from the menu.

To change the font Color
> Select the Particular text, line or Paragraph the you want to modify.
> click the drop down arrow in the font Color on the the home tab.
> click the Particular Color you want to use.

To highlight in yellow the line that reads "need to get IMS's address".
> write that line "need to get IMS's address".
> Select the whole line.
> click drop down arrow to display the highlight Color menu.
> click on the yellow Color.

Q7 Create a file in MS-word for the following document and Save it with file name 'MS_word'. Describe steps

MS word

MS word is a widely used Commercial word Processor

MS word is application Software, which is capable of
. creating
. editing
. Saving and
. Printing any type of document

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> write Particular Paragraph in MS word
> Select first line " MS Word "
> click the drop down arrow to the font Size box on the home tab.
> click the 24 8.
> Select " word Processor " in the second line than Press ctrl + U
> Selet "MS Word" In the Second line.
> click the drop down arrow in the font Color menu.
> click the Red Color.

> Selet " Word Processor " in the Second line
> Press ctrl + U

> Select "MS word" in the third line.
> Press ctrl + I
> click on ~~that point~~ page that you want to create a bulled list. than go to the edit menu and click on the drop down arrow in bullet and numbering in the Home tab.
> click one Style
> write all points in the document.
> Select "creating" word and click on the drop down arrow in font Color menu.
> than click "Blue Color".
> Select "Easy" word and click on the drop down arrow in font Color menu.
> Select " and" and click Strikethrough option in the Home tab.

Q8 Create a file in MS-Word for the following document and Save it with file name "equation". Describe all steps involved in it.

Equations

$X_2 + Y_5 = 30$

$Z^3 + Q^4 = 50$

$A_6 + B^8 = X_2 + Y^8$

Ans

> Open a MS Word.
> Write " Equations" and Select this word and press ctrl+u

$X_2 + Y_5 = 30$

> Type X
> Press ctrl + =(Sigh key)
> Press 2 (Numerical key)
> Press shift +
> Type Y and than Press ctrl + = (Sigh key)
> Type 5 and than Press = (Sigh key)
> Type 30

$Z^3 + Q^4 = 50$

Press Z key and than Press ctrl + shift ++

> Press 3 (Numeric key) and than Press Shift + (Sign key)
> Press Q
> Press ctrl + Shift + +
> Press = (Sign key)
> Press 50 (Numeric key)

$A_2 + B^8 = X_5 + Y^8$

> Type A
> Press ctrl + + and than Press 2 (Numeric key)
> Press Shift + = (Sign key) than Press B
> Press ctrl + Shift + + and type 8
> Press = (Sign key) and type X
> than Press ctrl +
> Press Shift + = (Sign key) and type Y
> Press ctrl + Shift + +
> type 8 (Numeric key)

Q9 Create a file in MS. word that Convert existing highlight text to table as shown below and Save it as file name "text_to_table" Describe all steps involved in it.

Ans > Open a MS Word.
> Type a particular Paragraph.
> Select the particular words in the

Paragraph that you want to
> than Press ctrl+B.
> Select whole Paragraph that you want to Convert.
> Select click on the Insert tab and than click on table Command.
> click dialog box appears here set Number of Columns.
> than click ok.

Q11 Create a following Worksheet in MS-Excel and Save it with name "book1".

Ans > Open a MS Excel.
> click on a A1 cell and type Rollno.
> Press Enter
> Type All data in a Range of cells A2: A11 (1,2,3,4,5,6,7,8,9,10)
> Click on a B1 cell and type Name.
> And than Press Enter
> Type all data in a Range of cells B2: B11 ( )
> click on a C1 cell and type Marks.
> Press Enter
> And than Press ctrl+S and type "book1" and Press Enter.

Q13 a) Describe various steps involved in the following

> To Modify Column width of a worksheet
> To Modify the row height of a worksheet
> To delete rows and Columns of a worksheet.

Ans To Modify Column width of a worksheet.

> open a MS ~~word~~ Excel.
> Select a Column that you want to modify.
> click on a home tab.
> click on a cell group.
> Select format Column.
> Type the Column width.
> click Enter.

To Modify the Row height of a worksheet

> Select a Row that you want to modify.
> click on a Home tab.
> click on a cell group.
> Select format Row
> type the Row height and click ok.

To Delete rows and Columns of a worksheet.

> Right click on a Row and Columns that you want to delete.
> than Press Delete key and click ok.

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Q.13 Describe following terms in the worksheet

> Absolute reference and relative reference in formula

Ans Absolute Reference

> Open a MS Excel
> Select the cell that will contain the formula.
> Enter the formula to calculate the desired value.
> Press Enter on your keyboard.
> The formula will calculate and the Result will display in the cell.
> Locate the fill handle in the lower right corner of the desired cell.
> Click, hold, and drag the fill handle over the cell you want to fill.
> Release the mouse.
> The formula be copied to the Select cell with an absolute reference.
> The values will be calculated in each cell.

Relative Reference

> Open a MS Excel.
> Select the cell that you want to contain the formula.

> Enter the formulas to calculate the desired value (cell1 + cell2).
> Press Enter on your keyboard.
> The formula will be calculated and the result will be display in the cell.
> Locate the fill handle in the lower, Right Corner of the desired cell.
> Click, hold and drag the fill handle over the cells you want to fill.
> Release the mouse.
> The formula will be Copied to the Selected cells with relative references.
> The values will be Calculated in a each cell.

Cell address

A reference is a cell's address. it identifies a cell or range of cells by refering to the Column letter and row number of the cell(s). for Example, A1 refers to the cell at the intersection of Column A and row 1.

The reference tells formula one for Java to use the contents of the referenced cell(s) in the formula.

Qn a) what tools are available to customize our power point Presentation?

Ans > Changing Page Setup options.
> Changing to view in color / grayscale.
> Navigating using Presentation views.
In Normal view.
In Slide Sorter view.
In Reading view.
In Slide Show view.

Qn B) Write the steps for the following action for creation of PPTx?

> open a Blank Presentation

> Open Power point.
> Press ctrl+M

Save the Presentation as Lab 1.pptx
> Press ctrl+S
> type Lab1.pptx
> Press Enter.

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

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> open a powerpoint.
> click on the first slide.
> then place your cursor in the click or add title box on the slide.
> Type Particular College Name that you want to write.

Type your first name and last name in the subtitle section

> open a power point
> click on the first slide.
> Then place your cursor in the " click to add title " box on the slide.
> type first Name and Last Name.

Add a New slide which has a title and Content

> open a Power point.
> Go to the " Home tab ".
> then click New Slide.
> click on a title and Content.

Q15 write steps for creation of a set of power point slides that demonstrates your skill to use the tools of power point. it should include the following things.

Title slide and bullet list

> Go to the MS Power point
> Click the New slide list arrow.
> Select the title slide.

Title slide and bullet list

3> on the slide Select the line outline in a text placeholder that you want to add bullets.
1> Go to Home tab.
2> In the Paragraph group click Bullets

Inserting Excel Sheet

> Go to MS Power point and click on the Insert tab.
> Than click object.
> Select create from file and click Browse.
> Select your Select file (link).
> Before you close the Insert tab than Select link and click ok.

clip art and text

> Go to MS power point.
> Click on the slide that you want to insert a clip art file.
> Go to insert tab.
> Select clip art from the image group.

> Type a word or phase that will describe the image you search for.
> Press Enter Key.
> Select "clipart" if you want only clipart result
> Select a picture you want to use.
> then click "Insert".

Slide show Effects

> Open a MS power point.
> click the slide that you want to animate
> click the animation tab.
> click the more arrow in the animation box.
> you can also add Entrance, Emphasis or exit animations.
> Select that animation you want to use
> click ok.

Q16 what is the difference between Machine Language and High Level Language?

Ans

	High Level Language	Low level Language
1)	it is Programmer faiendly language	it is a Machine faiendy language.

	High level	
2.	Language is less memory efficient.	2. low level language is high memory efficient.
3.	it is easy to understand	it is tough to understand.
4.	it is simple to debug	4. it is complex to debug
5.	it is simple to maintain	5. it is complex to maintain.
6.	it is portable it can run on any platform. it needs compiler	6. it is non-portable. it is Machine dependent. it needs assembler
7.	it is used widely for programming	7. it is not commonly used now-a-days in programming.
8.	Flexible Syntax and easy to read.	8. Superb performance but hard to write.

Q17 Discuss about different data types of C programming Language.

Ans 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 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 numbers with Single Precision.

Double: it is used to store decimal numbers with double precision

Q19 Find the output of the following expressions

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

Ans 33

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

Ans 10

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

Ans 20

Q19 Describe the Syntax of the following statements

a) if - else statement

Ans
```
if (test expression) {
    // run code if test expression is true
}
else {
    // run code if test expression is false
}
```

b) for loop

```
for (initialization; condition; increment / decrement) {
    statement; (Body of the loop)
}
```

c) while loop

```
while (condition) {
    statement (Body of the while loop)
    increment / decrement;
}
```

d) Do while loop

```
do { statement;
   }
  while ( Condition);
```

Q.20 Find the output of the following program Segment

a>

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

Ans IMS Ghaziabad

b>

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

Ans 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);
  }
```

Ans Largest number is b

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

Ans
> Open a blank word document
> In the top ribbon, Press Insert
> click on the table button
> Either use the diagram to select the number of columns and rows you need, or click Insert table and a dialog box will appear where you can specify the number of columns and rows.

Q12 Calculate the following things of a Range (C2:C11) of data in the worksheet created in question no 11:

> The Sum of the marks using AutoSum in a range of cells (C2:C11)

Ans 654

> Average of the marks in a Range of cells (C2:C11)

Ans 65.4

> Highest marks in a Range of cells (C2:C11)

Ans 90

> Minimum marks in a Range of cells (C2:C11)

Ans 44