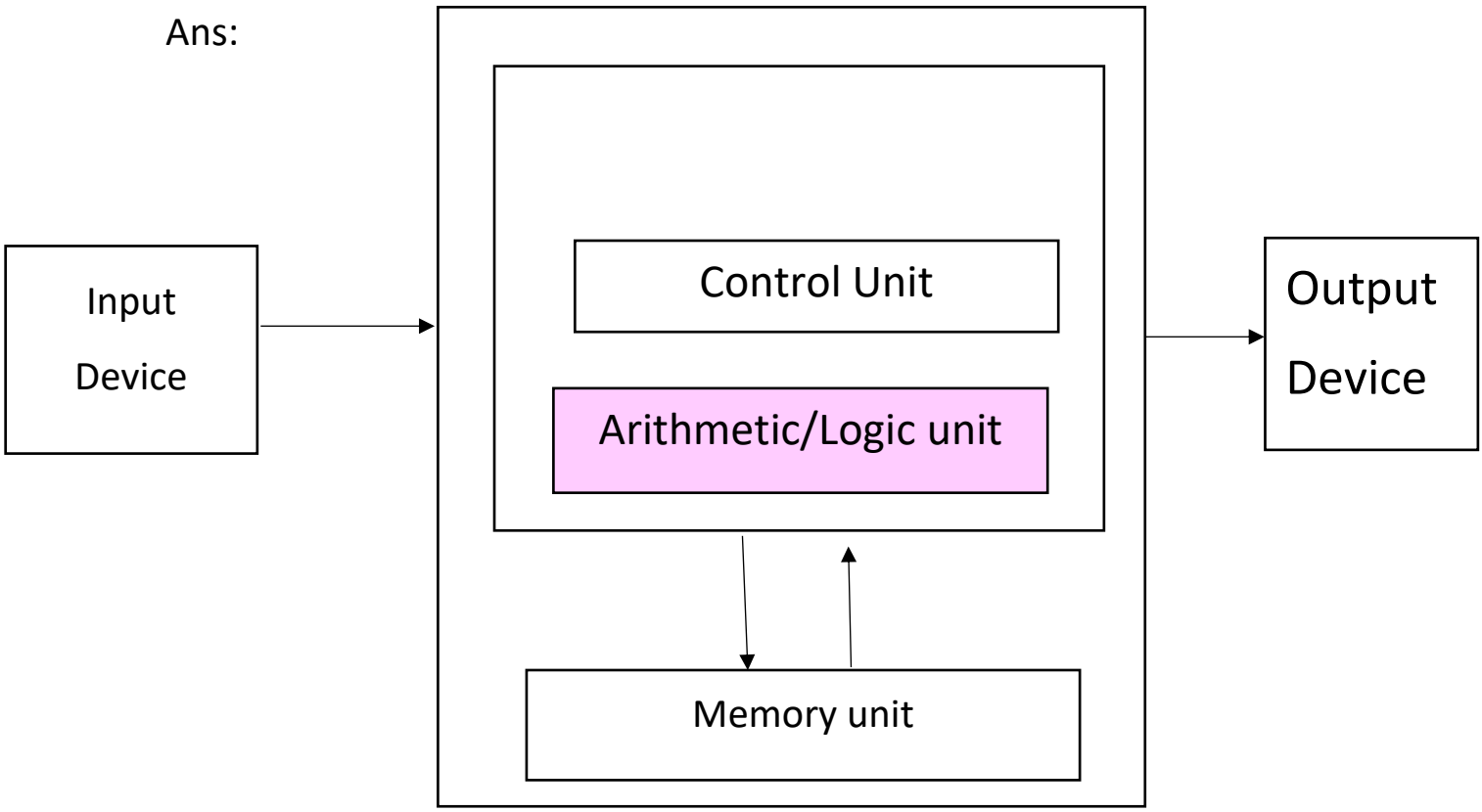
CCA-101: Fundamentals of IT & Programming

Assignment-1

Q1: What are the four fundamentals parts of computer? Explain it With the help of diagram.

Ans:



Four Fundamental Parts of Computer are:

Input Devices: Computer system 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 between people and computer systems.

Central Processing Unit (CPU): 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 units is the collection of storage **units** or devices together. The memory unit stores the binary information in the form of bits.

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

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

1) **Super computers:** They have thousands of processors. Because of their extraordinary speed, accuracy and processing power, supercomputers are well suited for solving highly complex problems and huge amount of calculations.
   e.g. JAGUAR, ROADRUNNER etc.

2) **Mainframe computers:** they are very large often filling an entire room and can process thousands of millions of Instructions per second. They are capable of supporting Hundreds to thousands of users simultaneously. Functions Performed by mainframes include flight scheduling,
   Reservations and ticketing for an airline etc.

3) **Minicomputers:** they are much smaller than mainframes. They are typically larger, more powerful and more expensive then desktop computers. Users connect to the server through a network by using desktop computers.
   e.g. apple I pod, CDC 160A.

4) **Microcomputers:** they are the most frequently used type of computers. It is also known as personal computers.
   e.g. desktop computers, laptop

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

Ans: Generation in computer technology is a change in technology of a computer which were being used.

There are four computer generation such as 1st generation, 2nd generation, 3rd generation and 4th generation.

In the first computer system, vacuum tubes were used.

Transistors are used in the second generation.

Integrated circuit technology were used in the third generation.

In the fourth generation microprocessors are used.

Q4: Differentiate between Volatile & Non- Volatile memories

Ans:

Volatile memory	Non- volatile memory
1. It is a computer storage that only maintains its data while the device is powered.	1. It is a type of computers memory that has the capability to hold saved data even if the power is turned off.
2. E.g. RAM	2. E.g. ROM, hard disk, floppy disk, etc.
3. Primary memory has limited storage capacity and is volatile.	3. Secondary memory provides permanent storage of data and in bulk quantity.

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

Ans: **System software:** It is a type of software that is designed to run a computer's hardware and application programs. Software like operating systems, compilers, editors and drivers etc. come under this category. A computer cannot function without the presence of system software.

Application software: It is a software created for specific purpose used by end users. It can be called an application or simply an app.

Examples: word processors, accounting app etc.

Open source software: It is a type of computer software in which source code is 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.

E.g. the Linux operating system.

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

Ans: "Yourself"

My name is Nandarani. I am 21 years old. I love to sing and dance. I am a student of science at IMPHAL COLLEGE, IMPHAL, MANIPUR. Current I am learning computer CCA course at RGI TRAINING INSTITUTION.

<u>The steps involved are:</u>

1. We click the Microsoft office button.
2. We select new. The new document dialog appears.
3. We select blank document under the blank and recent section. It will highlighted by default.
4. We click create. A new blank documents appear in the word window.
5. To save the document, we click again the Microscope office button.
6. We select save as ⟶ word document. The save as dialog box appears.
7. We select the location where we want to save the document using the drop down menu.
8. We enter the file name "yourself" for the document.
9. We click the save button.

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”.

Ans: **Steps to change the font style:**

1. We select the text we want to modify.
2. Left click the drop down-down arrow next to the font style box on the home tab. The font size drop-down menu appears.
3. We move cursor over the various font sizes. A live preview of the font size will appear on the document.
4. Left click the font size we want to use. The font size will change in the document.

Steps to change the font size

1. We select the text we want to modify.
2. Left click the drop-down arrow next to the font size box on the home tab. The font size drop-down menu appears.
3. We move cursor over the various font sizes. A live preview of the font size will appear on the document.
4. Left click the font size we want to use. The font size will change in the document.

Steps to change the font color

1. We select the text we want to modify.
2. Left click the drop-down arrows next to the font color box on the home tab. The font color menu appears.
3. We move cursor on various font colors. A live preview of the color will appear in the document.
4. Left click the font color we want to use. The font color will change in the document.

Steps to highlight the line

1. We select the line that reads “needs to get IMS’s address”
2. We click the highlight command and select yellow color in the font group on the home tab.

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.

Ans: **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

The steps involved are:

1. We click the Microsoft office button.
2. We select new. The new document dialog box appears.
3. We select blank document under the blank and recent section. It will be highlighted by default.
4. We click create. A new blank document appears in the word window.
5. We create the given documents from the question
6. We select the text “MS word” and change the font size by clicking on the font size box on the home tab.
7. We select the text “MS word” to change the font the font color into red by clicking on the font color menu.
8. We select the text word processor and underline it by clicking the underline command in the font group home tab.

9. We select the text “MS word” to change the font style into italic by clicking italic command.
10. We select the text we want to format as a list and click on the bullets command on the home tab.
11. We change the font color of the text “creating” and “saving” into blue and red resp. by clicking on the font color command, again we select the text “and” and click on strikethrough command.
12. We select the text “printing any type of document” and change the font style into bold by clicking on the font style command.
13. We save the file name as “ms-word” by clicking the Microsoft office button and select save as.
14. We select the location where we want to save the document using drop-down menu
15. We 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 in it.

Ans: Equations

$X_2 + Y_5 = 30$

$Z^3 + Q^4 = 50$

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

The steps are:

1. We create the given documents in MS-word.
2. We select the text where we want to format and click on the subscript and superscript command on the home tab
3. We save the file name as “equation” by clicking the Microscope office button and select save as
4. We select the location where we want to save the document using the drop down menu

5. We click the save button

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

Ans: <u>To convert existing text to a table:</u>

1. We select the existing highlight text that we want to convert.
2. We select the insert tab
3. We click the table command
4. We select convert text to table from the menu. A dialog box appears
5. We click ok. Then the text appears in a table.

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

Ans:

The steps are:

1. We place our insertion point in the document where we want our table to appear
2. We select the insert tab
3. We click the table command
4. We drag our mouse over the diagram squares to select the numbers of columns and rows in the table.
5. Left click our mouse and the table appears in the document.
6. We enter the text into the table

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

Ans:

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. 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)

Ans:

No	Name	Marks	Sum	Average	Maximum	Minimum
1	n1	60	654	65.4	90	40
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				

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

(a)Ans:

- 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 column 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.

B) Describe following terms in the worksheet

- Absolute reference and relative reference in formula
- Cell Address

(b)Ans:

- 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 or 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.

- Relative Reference:

It is the default cell reference in excel. It is simply the combination of column 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 example of relative cell references. Relative cell reference 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 different 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 see this simple formula:
    =A1
  - To add up the values in cells A1 and A2, you see this one:
    =A1+A2

Q14. A) What tools are available to customize our Power point presentation?

Ans: Tools available to customize our power point 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) 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

Ans:

- To open a blank presentation:
  I. Open Power point 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. 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 & bullet list
- Inserting excel sheet
- Clip art and text
- Slide show effect

Ans:

- Title slide & bullet list:
  I. Open power point 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 we 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.

Part-2

Q16. What is the difference between Machine Language and High-level language?

Ans:

Machine language	High-level language

1. A computer programming language consisting of binary instructions which a computer can respond to directly 2. It requires no translator to translate the code. It is directly understood by the computer 3. This language makes fast and efficient use of the computer.	1. It is a programming language that enables development of a program in a much more user-friendly programming context. 2. It takes additional translation time to translate the source code to machine code 3. They are programmer friendly

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

Ans: The different data types of C programming language are:

Char: The most basic data types in C. It is a single character and requires a single bite 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

Double: It is used to store decimal numbers (number with floating point value but its range of values is high in comparison to float)

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

Ans: a) X=33

b) Y=30

c) C=16

Q19. Describe the syntax of the following statements

a) If-else statement
b) For loop
c) While loop
d) Do-while loop

Ans:

a) If-else statement

If statements can be followed by an optional else block of statements, which executes when the Bootcan expression is false.

Syntax

```
If (expression)
{
True block of statements;
 }
Else
 {
Else block of statements;
  }
```

b) For loop is similar to while loop. Basic syntax of for loop is as follows:

```
For (expression 1; expression 2; expression3)
 {
 Block of statement
  }
```

In the above syntax

Expression1-initializes variables

Expression2-conditional expression as long as this condition is true, loop will keep executing.

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

c) While loop

Basic syntax of while loop is as follows

```
While (condition)
   Single statement.
```

OR while (condition)

```
{
Block of statements
}
```

d) Do-while loop.

Do while loop is just like a while loop except that the text 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 statement
   Or
Block of statements
} while (condition);
```

Q20. Find the output of the following program segments

Ans: a) IMS Ghaziabad

a)	b)	c)

#include <stdio.h>
Int main ()
{
Int I;
For (I =1; I <2; I =++)
{
Printf (“IMS Ghaziabad\n”);
}
}
	#include<stdio.h>
	Int main ()
	{
	Int I =1;
	While (I <=2)
	{
	Printf (“IMS Ghaziabad\n”);
	I = i+1;
	}
	}
		#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);
		}

b) IMS Ghaziabad

IMS Ghaziabad

c) Largest number is 100