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Course Name - Fundamentals of I.T
& Programming

CCA-101: FUNDAMENTALS OF IT AND PROGRAMMING.
ASSIGNMENT-2.

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

Ans: A computer has four main components

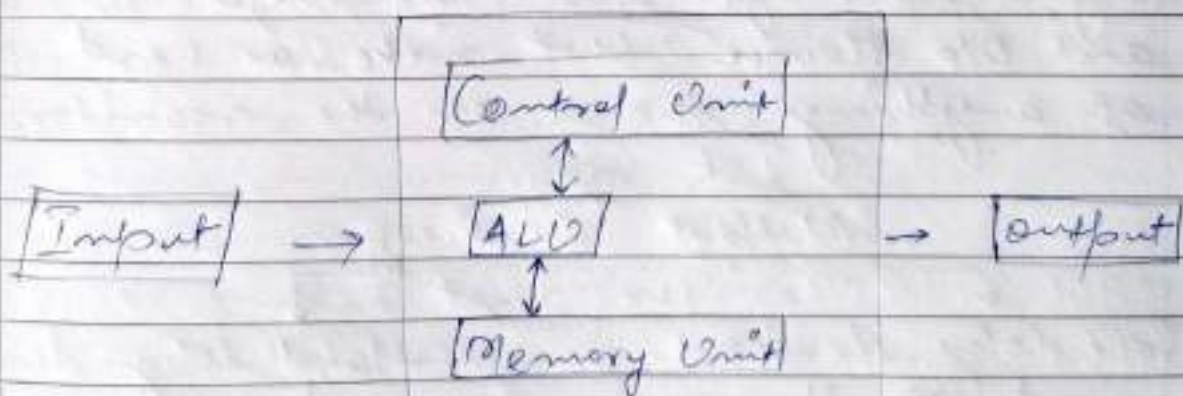
1. Input Unit
2. The central processing unit or CPU.
3. The primary memory and
4. Output Unit.

Input Unit: The devices to input information such as keyboard, and mouse.



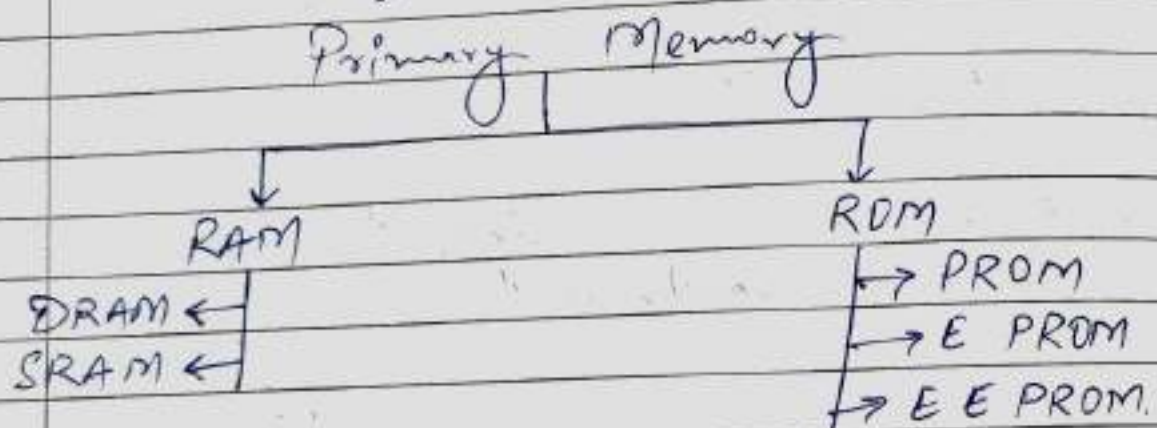
{Mouse}

CPU: Central processing Unit. The CPU is further broken up into ALU, control unit and instruction unit.

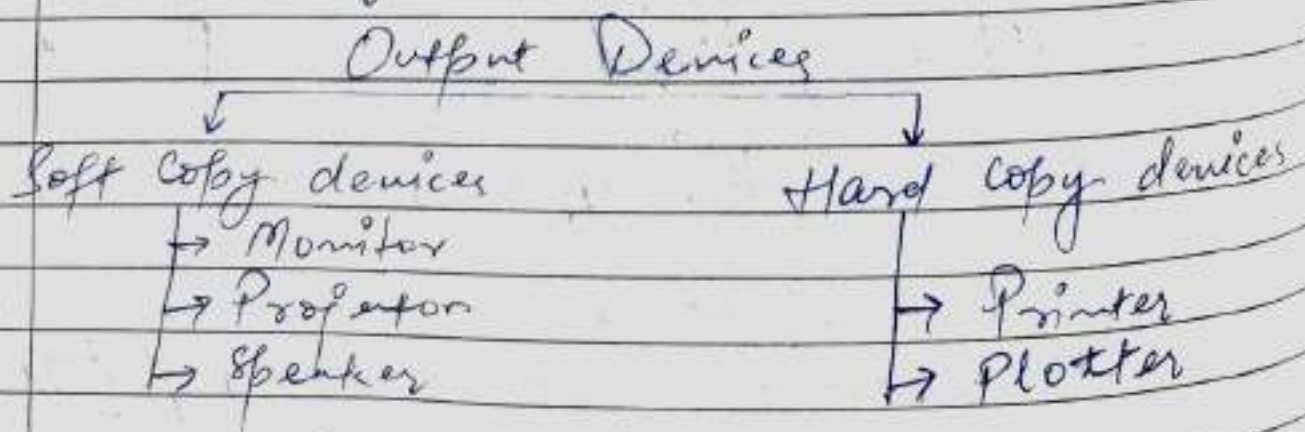


{CPU}

Primary / Main Memory: Primary memory is the computer memory that is directly accessible by CPU. It is comprised of DRAM and provides the actual working space to the processor. It holds the data & instructions that the processor is currently working on.



Output Device: An o/p device is any peripheral that receives data from a computer, usually for display, projection, or physical reproduction.
 e.g; the image shows an inkjet printer an o/p device that make a hard copy of anything shown on the monitor.



Q2 Discuss about the classification of computer based on size and capacity?

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

- Super computers
- Mainframe computers
- Mini Computers
- Micro Computers

Super Computers

A super computer is a computer with a high level of performance compared to a general-purpose computer. Performance of a supercomputer is measured in floating pt. operations per second (FLOPS) instead of million instructions per second (MIPS).

Mainframe Computers

A mainframe is a large integrated machine with a lot of memory, a lot of storage capacity, and a lot of high-end processors. For such a large functioning it has a lot of computational power in comparison to normal computer systems.

Mini Computers

MiniComputer, computer that was smaller, less expensive, and less powerful than a mainframe or supercomputer but more expensive and more powerful than a personal computer. Minicomputer where

used for scientific and engineering computations, business transaction processing, file handling, and database management.

Micro Computer

A micro computer is a complete computer on a small scale, designed for use by one person at a time. An antiquated term, a microcomputer is now primarily called a personal computer (PC), or a device based on a single-chip microprocessor. Common microcomputers include laptops and desktop.

Q3 What is the meaning of computer gen. How many computer Gen. are defined? Which technologies were/are used?

Ans Computer gen. is classification of computers into different groups according to their manufacturing date, memory device, hardware and S/W technologies used in them. There is five gen. of computer.

1st Gen.

The period of First gen. was from 1946 - 1959. The first computers of first gen. used vacuum tubes as the basic components for memory and circuitry for CPU. These tubes, like electric bulbs, produced a lot of heat and the installations used to fuse frequently.

2nd Gen.

The period of Second gen. was from 1959-1965. In this gen., transistors were used that were cheaper, consumed less power, more compact in size, more reliable and faster than the first gen. machines made of vacuum tubes.

3rd Gen.

The period of third gen. were computer that emerged due to the development of the integrated circuit (IC). They were the first steps toward computers as we know them today. Their main feature was the use of integrated circuits, which allowed them to be shrunk down to be as small as large toasters.

4th Gen.

The period of 4th (fourth gen). was from 1971-1980. Computers of fourth gen. used very large scale integrated (VLSI) circuits. VLSI circuits and other circuit elements with their associated circuits on a single chip made it possible to have microcomputers of fourth generation.

5th Gen.

The fifth Gen. computer system (FGCS) was an initiative by Japan's Ministry of International Trade and Industry (MITI), begun in 1982, to create computers using massively parallel

computings and logic programming. It was to be the result of a govt. / industry research project in Japan during the 1980's.

Q4 Different b/w volatile and non-volatile memories?

Ans

Volatile Memory	Non-Volatile Memory
① Volatile memory is the type of memory in which data is lost as it is powered off.	Non-volatile memory is the type of memory in which data remains stored even if it is.
② It is faster than non-volatile memory.	It is slower than volatile memory.
③ RAM is an example of volatile Memory. (Random Access Memory.)	ROM (Read only Memory) is an example of non-volatile memory.

Q5 Distinguish among system software app s/w and open source s/w on the basis of their features?

Ans

System Software

System s/w is a type of computer program that is designed to run a computer s/w and application programmes. If we think of the computer system as a layered model, the

system s/w is the interface b/w the h/w and user applications. The O.S (operating system) is the best-known example of System Software.

Application Software

An application s/w program (application or app for short) 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. Word processors, media players, and accounting s/w are examples.

Open Source Software.

Open-Source s/w (OSS) is computer s/w that is released under a license in which the copyright holder grants users the rights to use, study, change, and distribute the software and its code to anyone, and for any purpose.

Open-source s/w may be developed in a collaborative public manner.

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-1. Open word. Or if word is already open, select file > new.

2. In the search word for online templates box, enter a search word like letter, resume, or invoice or, select a category

under the search bar like business, Personal, or Education.

3. Click a template to see a preview.

4. Select create.

b) Write steps regarding following:

1) To change the font style.

Ans Select the text you want to modify.

2) To change the font size.

Ans Select the home tab and locate the font group.

3) To change the font color.

Ans Click the drop-down arrow next to font style box.

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

Ans If you want to change the font to bold or italic, click the 'B' or 'I' icons on the format bar.

Q7 Create a file in MS-word for the following documents and save it with file 'MS-word'. Describe all steps involved in it.

MS-word

MS-word is a widely used commercial word processor developed by Microsoft.

- Creating
- Editing
- Saving
- Printing any type of document.

Creating

- Ques 1 Click the Microsoft office button/file tab.
- 2 Select New. the new document dialog box appear.
3. Select blank document, It will be high file by default.
4. A new blank document appears in the word window.
5. Now you can create document by inserting text.
6. Finally save document.

Editing

1. Click the Edit. tab.
2. Select the text you want to edit.
3. Using the tool in the edit toolbar, change the required formatting including. font style, paragraph, alignment, list formatting, and indentation option.

Saving

- To save doc. using save as command.
1. Click the Microsoft office button/file tab.
 2. Select save as-word document.
 3. Select the location where you want to save the doc. using the drop-down menu.
 4. Enter a name for the doc.
 5. Click the save button.

Printing only type of document

1. Select File Print.
2. To preview each page, select the forward and backward arrow at the bottom of the page. If the text is too small to read,

use to zoom slider at the bottom of the page to enlarge it.

3. Choose the no. of copies, and any other options you want, and select the print button.

Q8 Create a file in MS-word for the following document and save it with the file.

Name 'equations'. Describe all steps involved it.

Eg, Eq.

$$x_2 + y_5 = 30$$

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

$$A_2 + B^6 = x_2 + y^8$$

- Ans Select Insert > equation or Press Alt+=
2. To use a built-in formula, select Design > equation
 3. To create your own, select Design > eq. ink equation
 4. Use your finger, stylus, or mouse to write your equation.
 5. Select insert to bring your equation into the file.

Q9

Ans 1. Select the text and make sure its properly formatted.

Word will insert a new column when a tab character is found, so make sure that columns are separated by tabs.

2. Click the insert tab.
3. Click the table button.
4. Select convert text to table.

If the text was formatted right, some of the options in this dialog box should already be filled in otherwise, set the no.s of columns & rows, & how to separate the text into columns.

5. (optional) customize Autofit behavior.
6. Click ok.

The selected text is automatically turned into a table.

Q10

Q10 ① Open a blank word document.

2. In the top ribbon, press insert.
3. Click on the table button.
4. Select the no. of columns and rows you need, or click insert table & a dialog box will appear where you can specify the no. of columns & rows.

5. The blank table will now appear on the page after it as necessary. Standard features like bold, italics, and underline are still available.

These items may be helpful for creating headings & calling out certain items in the table.

Q11 ② Create a following worksheet in MS-Excel and save it with name 'book 2'.

- Ans. 1. Right-click the worksheet name tab.
2. Click select move and copy.
3. Click on the move selected sheet to book drop-down menu selected (newbook).
4. Click Ok your new workbook opens with your moved worksheet.
5. Click file & save, in your new workbook.

The Sum of the marks using Autosum is

Q12 (a) a range of cells (C₂:C₁₁).

Ans. To sum a column of numbers select the cell immediately below the last number in the column. To sum a row of nos, select the cell immediately to the right.

2. Autosum is in two locations: Home & Auto-sum and formulas & Autosum.

3. Once you create a formula, you can copy it to other cells instead of typing it over & over.

e.g. if you copy the formula in cell B¹² to cell C₁₂, the formula in cell B¹² to adjust to the new location & calculates the numbers in C₂:C₁₁.

4. You can also use autosum on more than one cell at a time.

e.g. you could highlight both cell B¹² & C₂, click autosum and total both columns at the same time.

5. You can also sum numbers by creating a simple formula.

b) Average of the marks in a range of cells (C2:C11).

Ans 1. Click a cell below the column or to the right of the row, of the numbers for which you want to find the average.

2. On the Home tab, click the arrow next to Autosum > Average, and then press enter.

c) Highest marks in a range of cells (C2:C11).

Ans In a blank cell, type "= MAX C"

2 Select the cells you want to find the largest number from.

3 Close the formula with an ending parent - braces.

4 Hit enter and the largest number from your selection will populate in the cell.

d) Minimum marks in a range of cells. (C2:C11).

Ans Select the cell C2 and write the formula:

2 = MIN (C2:C11) press enter on your keyboard.

3 The function will return, B.

4 B is the minimum value in the range (C2:C11).

Q13 a) Describe various steps involved in the following.

① To modify column width of a worksheet.

Ans Select the column or columns that you want to change.

2. On the home tab, in the cells group, click format.

3. Under cell size, click column width.

4. In the column width box, type the value that you want.

5. Click ok.

② To modify the row or height of a work-sheet.

Ans Select the row or rows that you want to change.

2. On the home tab, in the cells group, click format.

3. Under cell size, click Row height.

4. In the Row height box, type the value that you want, and then click ok.

③ To delete rows and columns of a worksheet.

1. Select the cells, rows or columns that you want to delete.

2. Right-click and then select the appropriate delete option.

e.g; Delete cells and shift up, Delete cells & shift left, Delete Rows or delete columns.

(b) Describe the following terms in the worksheets.

① Absolute reference and relative reference in formula.

Ans. Select the cell that contains the formula.

2. In the formula bar select the reference that you want to change.

3. Press F4 to switch between the reference types.

② Cell Address.

Ans. A cell is the intersection of a row and a column. Columns are identified by letter (A, B, C) while rows are identified by nos (1, 2, 3). Each cell has its own name or cell address based on its column and row.

In this e.g. the selected cell intersects column C & row 5, so the cell address is C5.

Q14 (a) What tools are available to customize our power point presentation?

Ans ① Templates & themes.

② Slide layouts

③ Flowcharts

3. Font

12. Iconcharts

4. Colours Themes

13. Radials

5. Icons

14. Progress Bars

6. Shapes

15. Animation

7. Stock Photos

16. Transitions

8. Charts and Graphs

17. Interactivity

9. Maps

18. Audio

10. Tables.

19. Video.

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

① Open a blank presentation.

Ans ① Select the file tab to go to Backstage view.

2. Select new on the left side of the window. then click blank Presentation.

3. A new presentation will appear.

② Save the presentation as Lab 1. pptx.

Ans ① Create a blank presentation.

2. Save a presentation.

3. Apply a Design.

4. Compare presentation views.

5. Format text.

6. Insert Smartart.

7. Insert & Modify Shapes.

8. Edit and Duplicate Slides.

③ Add a title to the first slide: the name of your collage.

Ans ① Select the slide whose layout you will change so that it can have a title.

2. Click Home > layout.

3. Select title slide for a standalone title page or select title and content for a slide that contains a title and a full slide text box.

Many other layout options include titles too. Pick the ones that's best suited, for your presentation.

1. Select the click to add title text box. Enter your title for that slide.

④ Type your first name and last name in the subtitle section.

Q2 Using your mouse and cursor, click inside of the top textbox.

② Using your keyboard, type the name of the animal you have been researching class.

3. Using your mouse and cursor, click inside of the bottom textbox.

4. Using your keyboard, type your first and last name, click enter, and type your teacher's name.

⑤ Add a new slide which has a title and context.

Q3 ① Click the "Home" tab in the Ribbon.

2. Then click the "new slide" button in the "slides" button groups.

3. Alternatively, to add a new slide with a different slide layout.

4. Click the "home" tab in Ribbon.

Q15 ② Title slide and bullet list?

Title slide.

Q4 The title slide is the first slide of a presentation. It usually contains a title and a subtitle of all the slides in a presentation, the first slide is one of the most important, as the title slide generally sets the tone.

- ① Click Home > Layout.
- ② Select title slides for a standalone title type.
- ③ Select title and content for a slide that contains a title and a full slide text box.

② Bullet list

- Ans ① On the left-hand side of the powerpoint window.
- ② Click a slide thumbnail that you want to add bulleted or numbered text to.
 - ③ On the slide, select the lines of text in a text placeholder or table that you want to add Bullets or numbering to.
 - ④ On the home tab. in the Paragraph group click Bullets or Numbering.

Part - ②

Q16 what is the different b/w Machine language and high level language?

Ans ① Machine language: A machine lang. the only lang. that a computer directly understands, it is usually written in 0 (zero) and ones (1). A program instruction in machine lang. may look something like this 110010010.

② High level language: A high level language is a programming lang. that uses English and mathematical symbols. like +, -, %, and many more its instructions.

Q17 Discuss about different data type 'C' programming language?

Ans: There are some common data types in C programming language.

- ① Int — used to store an integer value
- ② Char — used to store or single character.
3. Float — used to store decimal no's with single precision.
4. Double — used to store decimal no's with double precision.

e.g;

```
#include <stdio.h>
int main c;
```

```
{
```

```
// datatypes
```

```
int a = 10;
```

```
char b = 'S';
```

```
float c = 2.88;
```

```
double d = 28.888;
```

```
printf("integer datatype: %d/n", a);
```

```
printf("Character datatype: %c/n", b);
```

```
printf("float datatype: %f/n", c);
```

```
printf("double datatype: %lf/n", d);
```

```
return 0;
```

```
}
```

O/p ① integer datatypes: 10

② Char datatypes: S

③ Float datatypes: 2.880000

④ Double float datatypes: 2.888000.

Q18 Find the output of the following expression?

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

$$x = \frac{20}{5} * 2 + 30 - 5$$

$$x = 4 * 2 + 30 - 5$$

$$x = 8 + 30 - 5$$

$$x = 8 + 25$$

$$\boxed{x = 33}$$

Hence, the value of x is 33 Ans.

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

Ans $y = 30 - 4 + 6 + 10$

$$y = 30 - 0$$

$$\boxed{y = 30}$$

Hence, the value of y is 30 Ans.

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

Sol. $z = 40 * \frac{2}{10} - 2 + 10$

$$z = 8 - 2 + 10$$

$$z = 8 + 8$$

$$\boxed{z = 16}$$

Hence, the value of z is 16 Ans.

Q19 Describe the Syntax of the following statements?

a). If - else statement.

```
#include <iostream>
using namespace std;
int main ()
{
    int number;
    cout << "Enter an integer:";
    cin >> number;
    if (number > 0) {
        cout << "you entered a positive
        integer:" << number << endl;
    }
    else if (number < 0)
    {
        cout << "you entered a negative
        integer:" << number << endl;
    }
    else
    {
        cout << "This line is always
        printed";
        return 0;
    }
}
```

O/p

Enter an integer;

(b)
Ans

For loop

```
#include <stdio.h>
int main ()
{
    int p;
    for (i = 0; i < 10; i++)
    {
        printf ("Hello world");
    }
    return 0;
}
```

O/p

10 times write hello world.

c). while loop

Ans

```
#include <stdio.h>
int main ()
{
    int i = 0;
    while (i < 10)
    {
        printf ("Hello world");
        i++;
    }
}
```

O/p

10 times ~~to~~ write Hello world.

d). do-while loop:

```
#include <iostream>
using namespace std;
int main ()
{
    int i = 1;
    do
    {
        cout << i << " | n";
        i++;
    } while (i <= 10);
}
```

O/p

1 to 10 Ans

Q20 Find the output of the following program segments.

a)

```
#include <stdio.h>
int main ()
{
    int i;
    for (i = 1; i < 2; i++)
    {
        printf("I'm's Cyhaxiaband/n");
    }
}
```

O/p I'm's Cyhaxiaband.

b)

```
#include <stdio.h>
int main ()
```

```
{
    int i = 1;
    while (i <= 2)
```

```
{
    printf ("IMS Ghaziabad\n");
    i = i + 1;
```

```
}
```

```
}
```

O/p Two times write IMS Ghaziabad

c).

```
#include <stdio.h>
void main ()
```

```
{
    int a = 10, b = 100;
```

```
    if (a > b)
```

```
        printf ("larger no. is %d\n", a);
    else
```

```
        printf ("larger no. is %d\n", b);
```

```
}
```

O/p larger number is b.