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## CCA - 101: Fundamentals of IT & programming assignment - 1

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

Ans. Basic components of computer  
Input unit.

Output Unit.

Memory Unit.

Control Unit.

Arithmetical and Logical Unit.

### • Input Unit

A Computer will only respond when a Command is given to the device. These Commands can be given the input devices. For example: Using a Keyboard we can type things on a Notepad and the Computer processes the entered data and then displays the same on the Screen. The data entered can be in the form of numbers, alphabet, images, etc. we enter the information using an input device, the Processing units convert it into Computer understandable languages and the final output is received by a human - understandable language.

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- Output Unit

When we Command a Computer to perform a task, it reverts for the action performed and given us a result. This result is called output. There are various output devices connected to the computer.

The most basic of which is a monitor. Whatever we write using a keyboard or click using a mouse, is all displayed on the monitor.

Thus, the output unit gives us the final result. Once the entire processing is done within the mechanism of a device.

For example: when we visit an A.T.M, we enter your details like language, pin, amount to be withdrawn, etc. and then the final money reach the cash of machine is our outcome. In this case, the cash dispensed acts as an output unit.

- Memory Unit

When we enter the data into the computer using an input device, the entered information immediately gets saved in the memory unit of the central processing unit (CPU). Because of the presence of some existing programming the Memory Unit transmits the data further to the other parts of the CPU.

Similarly, when the output of our command is processed by the computer, it is saved in the memory unit before giving the output to the user.

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### • Control Unit

This is the Core Unit which manages the entire functioning of the Computer device. It is one of the most essential components of the Computer System.

The Control Unit collects the data entered using the input, leads it on for processing and once that is done, receives the output and presents it to the user. It can be said to be the Centre of all processing actions taking place inside a Computer device.

Basically, the instructions taken, interpretation of entered data, issuing signals to execute the data and then finally retrieving the data is all done in Control Unit.

### • Arithmetic & Logical Unit

As the name suggests, all the mathematical calculations or arithmetic operations are performed in the Arithmetic and Logical of the CPU.

It can also perform actions like a comparison of data and decision-making actions. The ALU also comprises circuits using which addition, subtraction, multiplication, division and other numerical based calculations can be performed.

2. Discuss about the classification of Computers based on Size and Capacity.

One can classify the Computer System in the following three classes:

1. Computer on the Basis of Size and Capacity include Super, Mainframe, Mini Computer.

2. Computer on the Basis of Purposes include General Purpose and Special Purpose.
3. Computers on the Basis of Hardware Design and Data Handling include Analog Digital, and Hybrid Computer.

3. What is the meaning of Computer generation? How many Computer generations are defined? What technologies were / are used?

Generation in Computer terminology is a change in technology a Computer is / way being used.

Initially the generation term was used to distinguish between varying hardware technologies.

Nowadays generation includes both hardware and Software, which together make up an entire Computer System.

There are five Computer generations known till date. Each generation has been discussed in detail with their time period and characteristic. In the following table, approximate dates against each generation has been mentioned, which are normally accepted.

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Following are the main five generations of computer.

| S. No | Generation & Description                                                                 |
|-------|------------------------------------------------------------------------------------------|
| 1     | First Generation<br>The Period of first generation 1946-1959 Vacuum tube based.          |
| 2     | Second Generation<br>The Period of Second generation : 1959-1965 Transistor based.       |
| 3     | Third Generation<br>The Period of third generation : 1965-1971 Integrated Circuit based. |
| 4     | Fourth Generation                                                                        |

1 Differentiate between Volatile & Non-Volatile memories.

|          |                                                                                                                                                                                                                                                          |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Basic | it is type of Computer memory that stores the data temporarily. it requires a continuous electric current to maintain its saved data.<br>it is also a type of Computer memory that data permanently. it retains the data in even when the power is gone. |
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|                    |                                                                     |                                                                         |
|--------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------|
| Persistence        | The data in volatile memory is not permanent                        | The data in volatile memory is permanent                                |
| Speed              | it is faster than non-volatile memory.                              | it is slower than volatile memory                                       |
| Storage            | it has less storage capacity.                                       | it has high storage capacity.                                           |
| Data transfer      | Data transfer in volatile memory is easier.                         | Data transfer in non-volatile memory is                                 |
| Impact             | Volatile memory has a high impact on the performance of the system. | Non-volatile memory has a low impact on the performance of the system.  |
| Read and write     | in volatile memory both read and write operations can be performed. | in non-volatile memory, only a read operation can be performed.         |
| Cost               | Volatile memory is expensive per unit size.                         | it is less expensive.                                                   |
| Position of memory | The chips of volatile memory are kept in the memory slot.           | while chips of the non-volatile memory are embedded on the motherboard. |
| CPU Access         | in volatile memory the processor has direct access to data.         | in non-volatile memory the processor has indirect access to data.       |

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|         |                                                                  |                                                                                      |
|---------|------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Example | Some Common examples of volatile memory are RAM and Cache memory | The Common Examples of Non-Volatile are ROM (Random Access Memory) (Hard Disk Drive) |
|---------|------------------------------------------------------------------|--------------------------------------------------------------------------------------|

Q-5 Distinguish among System Software, application Software and open Source Software on the basis of their features.

Difference between system software and application software

1. System software

This acts as an interface between the system and the application

Application software

This is designed directly from the user perspective

It is the platform that allows the various application software to run on the system

System software is generally developed in low-level lang.

This is so that the interaction between the software and hardware can be simplified and made more compatible.

is working is more automated. Once a system is turned on the system software starts working

These are independent applications which can be download and installed in the system.

Each application has a specific purpose and thus is developed with high-level languages so that the purpose can be fulfilled.

User action is required to start application software. These application can only be work when the user commands.

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These are responsible for the working of the system.

They have minimum involvement in the processing and functioning of the computer device.

They system software are installed at the time of installing the operating system. A computer device cannot work without its presence.

The application software can be installed as and when the user requires them.

It is an independent software. Once this is installed the computer will work.

This is a dependent software. Applications can only be downloaded when the operating system is installed.

Since a device cannot work without a system software, the user has to have it installed in their device.

They are designed to be user interactive, thus the application

software can be removed as and when required by the user.

Example for system software includes Android, MAC operating system, MS Windows, etc.

Example of Application software includes word processor, games, media player, etc.

Q.6a) Create a file in MS-Word to insert a paragraph about your self and save it with file name "your self". Describe all steps involved in it.

Steps to create document in MS-Word.

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- Step-1 open MS word on your system.
2. click on the new file when you open the word file when you open the word dialog box appear.
3. once this click on blank doc under the recent section, it will get in bold or highlighted by default.
4. click on the create A new blank doc will open.
5. once it is open you can write anything you want in the doc for your self.
6. You can also edit the text you have written as you can change the background color, or the text and many other things in the doc.

b) write steps regarding following.

- > To be change the style-7
- > To be change the font size-7
- > To change the font color-7
- > To highlight (in yellow) the line that reads we need to get MS's address.

Font type:-1. Select the text you want to modify.

2. Select the home tab and locate the font group.
3. click the drop-down arrow next to font style box.
4. font style menu appears.
5. with a left click select the desired font style.

Font size:-1. Select the text you want to modify.

2. Click the drop-down arrow next to your font size

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box on the home tab. A drop-down menu appears.

1. Select the desired font size from the menu. Alternatively, you can type the value you want and then press enter on your keyboard, changing the font size.

Font color:- 1. Select the text you want to modify.

2. In home tab locate the font group.
3. Click the drop-down arrow next to font color button.
4. Font color menu appears.
5. Select the desired font color with a left click.
6. Word will change the font color of the selected box.

To highlight:- The highlight doesn't necessarily need to be yellow. Click the menu button to the right of the Text Highlight button, and choose a different.

- 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.

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

Equations,

$$x^2 - x5 - 30$$

$$73 = 24 = 50$$

$$A^2 + B^2 = x^2 + y^2$$

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4. Step 1. open MS word on your system.
5. Step 2. click on the new file when you open the word file when the dialog box appear.
6. Step 3. once this click on Blank doc under the recent section, it will get in bold or highlighted by default.
7. Step 4. click on the create A new blank doc will open.
8. Step 5. once it is opened you can write anything you want in the doc for your self.
9. Step 6. click on word equations and go on home tab click on underline
10. Step 6. write the letter and go on home tab we subscript and super script.

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 text you want to convert.

Select in insert tab.

click on table command. A dialog box appears.

click on convert table a new dialog box appears.

Here set the number of column.

click on OK finally selected text convert in a table.

click on table command. A dialog box appears.

Here set the number of column.

click on convert text to table, a new dialog box appears.  
click on OK finally selected text convert in a table.

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

1. Place the cursor where you want the table to appear.
2. Go to insert.
3. In the tables group, select table.
4. Select Tables, then choose a table style.
5. A Pre-formatted table is inserted into the word document and the table design tab is displayed. Replace the next with your content.

Q11. Create a following worksheet in MS-Excel and save it with name book 1.

|    |     |    |
|----|-----|----|
| 2  | n2  | 7  |
| 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 work sheet created in question no

- > The sum of the marks using Auto sum in a range of cells (C2:C11)
- > Average of the marks in a range of cells (C2:C11)

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- > Highest marks in a range of cells (C2:C11)  
> Minimum marks in a range of cells (C2:C11)

| 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    |

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

➤ To modify Column width of a worksheet

1. 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.

➤ 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, for example, Delete Cells & Shift

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LP, Delete Cells & Shift Left Deletes Rows, or Delete Columns.

13 b) Describe Following terms in the worksheet.

➤ Absolute reference and relative reference in formula.

There are two types of cell references. and absolute Relative and absolute references behave differently when copied and filled to other cells. Relative references change when a formula is copied to another cell. Absolute references, on the other hand, constant no matter where they are copied.

➤ Cell address

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

Q-14 a) What tools are available to customize our Power Point Presentation?

Tools used By Pro Power Point Presentation Designers

1. Perspex, Bspex a tool used by designers to create 3D images on Power Point Presentations.
2. Pivot viewer
3. Autodesk 3DS Max ....
4. VisualBee Power Point Add-in

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5. SmartArt -
6. Animations and Transitions -
7. wordle -
8. Cocos -

14. 6) write the steps for the following action for creation of Power Point presentation.

➤ open a Blank Presentation

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.

➤ Save the Presentations as Tab 1. PPTx

1. Step 1 - click on the File to launch the Backstage view and select Save.
2. Step 2 - In the Save As dialog, type in the file name and click "Save"
3. Step 3 - The default file format is Tab 1. PPTx.

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

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

2. Click home > layout

2. 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.

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> Type your first name and last name in the subtitle section

Subtitle first name last name institutional affiliation (in original use arial 10 to write this part of the text Author's name, Paper title)

> Add a new slide which has a Title and content  
To insert a new slide in power point with a Title and content slide layout, click the home tab in the Ribbon. Then click the New Slide button in the Slides button group. Alternatively to insert a new slide with a different slide layout, click the home tab in the ribbon.

Q15 Write Steps for creation of a set of power point slides that demonstrates your slide to use the tools of power point. It should include the following things.

> Title slide & bullet list

- 1 on the view tab, in the presentation views group, click Normal.
- 2 on the left side of the power point window, click a slide thumbnail that you want to add bulleted or numbered next
- 3 on the slide, select the lines of text a text placeholder or table that you want to add bullets or numbering to.
- 4 on the home tab, in a paragraph group, click Bullets or numbering.

Q16 What is the difference between Machine languages and high level language?

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|                   |                                                                                                                        |                                                                                                                  |
|-------------------|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| Parameter Basic   | High level language<br>These are programmer language that are easy to understand debug and widely used in today times. | Low level language<br>These are machine-friendly very difficult to understand by but easy interpret by machines. |
| Ease of Execution | These are very easy to execute                                                                                         | These are very difficult to execute                                                                              |
| Portability       | These are portable from any one device to another                                                                      | A user can not port these from one another.                                                                      |

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

| Data types         | Memory Size | Range                           |
|--------------------|-------------|---------------------------------|
| Signed short int   | 2 byte      | -32,768 to 32,767               |
| unsigned short int | 2 byte      | 0 to 65,535                     |
| long int           | 4 byte      | -2,147,483,648 to 2,147,483,647 |
| signed long int    | 4 byte      | -2,147,483,648 to 2,147,483,647 |

Q18. Find the output of the following expressions

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

Ans  $x = 33$

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

Ans  $y = 30$

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

Ans  $z = 16$

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