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Sub. :- Computer

Chapter 1 :- Fundamentals of IT And Programming

Assignment :- 1

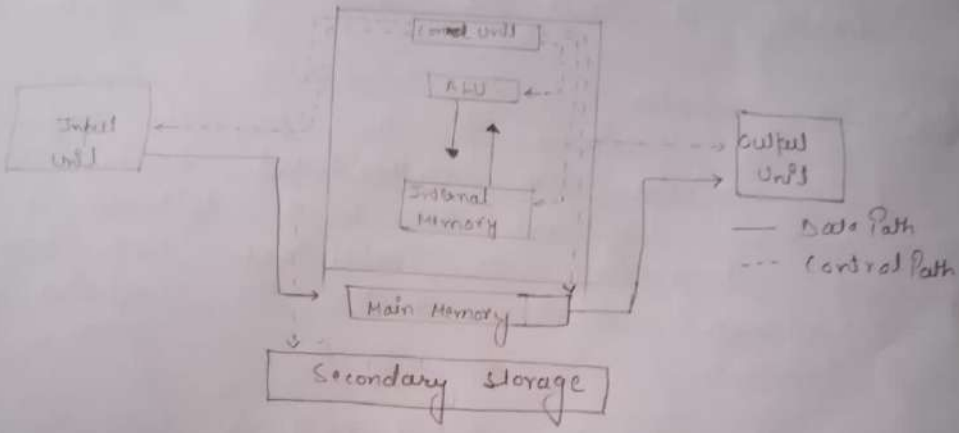
Q1. What are the four fundamental parts of computer? Explain it with the help of diagram.

Ans:- The computer is the combination of hardware and software Hardware is the physical component of a computer like mother board, memory devices, monitor, keyboard etc. while software is the set of programs or instructions. Both hardware + software together make the computer system function.

Input device:- Input unit is used to feed any form of data to the computer, which can be stored in the memory unit for further processing.
e.g keyboard, mouse etc.

Central processing Unit:- (CPU) :- CPU is the major component which interprets and executes software instructions. It also control the operation of all other components such as memory, input and output units. It accepts binary data as input, process the data according to the instructions and provide the result as output The CPU has three components which are control unit, Arithmetic + logic unit (ALU) + Memory Unit.

(i) Arithmetic + logic Unit:-
The ALU is a part of the CPU where



Components of a Computer.

Minicomputers :-

Minicomputers are much smaller than mainframes. These computers are also less expensive. Sometimes referred to as Midrange server or Midrange computer.

They are typically large, more powerfull & more expensive than desktop computers. Midrange computers are usually used by smaller & medium - sized bisuness as their server. Users connect to the server through a network by using desktop computers

Example Apple iPad, CDC 160A.

Microcomputers :-

Microcomputers are the most frequently used type of computer.

It is also known as Personal computer (PC) A microcomputer is a small computer system designed to be used by one person at a time. Example Desktop computers, laptops.

→ In 1984, Apple introduced the Macintosh
→ Microprocessors also moved out to the desktop computers.
→ Fourth generation computer also covered the development of Graphical user interface (GUIS), mouse + handheld devices.

Discuss about the classification of computer based on size & capacity?

Computers classification:-

Computers are classified on different parameters such as storage capacity, processing speed and componend (CPU) used in computers. Depending upon the components used and features of different computers, they are classified into four groups. Microcomputers, Minicomputers Mainframe computers & Super computers.

Super Computer:-

Super computer are the most Powerful & Physically the largest by sizes.

These are system designed to process huge amount of data.

The fastest supercomputer can performs over one trillion calculations in a second. Super computer have thousands of processors.

Example JAGUAR, ROADRUNNER etc.

Mainframe computer:-

Mainframe computer are very large often filling an entire room & can process thousands of millions of instructions per second.

In a mainframe enviroment, users connect to the mainframe through the many terminals wired to the mainframe.

Mainframes are capable of supporting hunderds to thousands of users simultaneously.

Example: IBM Mainframe Z13, IBM System z9 mainframe

various computing function as performed on data. The ALU performs arithmetic operations such as addition, subtraction, multiplication division

Control Unit:- The control unit controls the flow of data between the CPU, memory & I/O devices. It also controls the entire operation of a computer.

Output Unit:- An output unit is any hardware component that conveys information to users in an understandable form.
Example: Monitor, Printer etc.

Memory Unit:- The memory unit is of two types which are primary memory & secondary memory. The primary memory is used to temporarily store the programs (the) and data when the instructions are ready to execute. The secondary memory is used to store the data permanently. Primary Memory is volatile, that is, the content is lost when the power supply is switched off. The Random Access Memory (RAM) is an example of a main memory.
The secondary memory is non-volatile, that is, the content is available even after the power supply is switched off. Hard disk, CD-ROM & DVD ROM are examples of secondary memory.

Differentiate between Volatile & Non-Volatile memories?

Primary Memory / Volatile memory
Volatile memory is a computer storage that only maintains its data while device is powered.
Example :- RAM (Random Access Memory) is volatile. When we are working on a document, it is kept in RAM & if the computer loses power, your work will be lost.

Secondary Memory / Non-volatile memory
Non-volatile memory is a type of computer memory that has the capability to hold saved data even if the power is turned off.
Example :- Read only memory (ROM) Hard disk, floppy disk etc.

→ The transistor was far superior to the vacuum tube allowing computers to become smaller faster, cheaper, more energy efficient & more reliable than first generation predecessors.

→ Second generation computer still relied on punched cards for input & printouts for output. Second generation computers moved from binary machine language to symbolic or assembly language.

Third Generation (Integrated Circuits) (1964-1971)

→ The development of the integrated circuits was the hallmark of the third generation of computers.

→ Transistors were replace by integrated circuits which drastically increase the speed & efficiently of computer.

→ Instead of punched cards & printouts users interacted with third generation computers through keyboards & monitors.

→ Computer for the first time became accessible to a mass audience because they were smaller & cheaper than their predecessors.

Fourth Generation (Microprocessor) 1971 - Present

→ The microprocessor brought the fourth generation of computers as thousands of integrated circuits were built into a single silicon chip.

→ What in the first generation filled an entire room could now fit in the plam of the hand.

→ In 1981, IBM introduce it the first computer for the home user.

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

b) Write steps regarding following.

- To change the front style
- The basic steps to change the front of a text in a document are given below.
- Select the text you want to modify.
- Select the home tab & locate the front group.
- Click the drop down arrow next to find front style box.
- Front style menu appears.
- With a left click select the desired front style.
- If you want to change the front to bold or italic click the 'B' or 'I' item in the format (base). bar.

- To change the font size.

1. Select the text or cells with text you want to change. To select all text in a word document press Ctrl + A.

Click the format tab under Text box tools & then type or select a point size in the front size list [10].
For example select 10.

Distinguish among system software, application software & open source software on the basis of their features.

System Software

It is a type of software that is designed to run a computer's hardware & application programs. Software like operating system, compilers, editors & drives etc come under this category. A computer cannot function without the presence of system software.

If we think of the computer system as a layered model, the system software is the interface b/w the hardware & users application.

Application Software :-

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

Example :- word processor, accounting application a web browsers, an email client & media player etc.

Open Source Software :-

It is a type of computer software in which source code is released under a license in which the the copyright holder grains users rights to study, change & distribute the software to anyone & for any purpose.

Q 3. What is the meaning of computer generation? How many G.n are defined, what technologies were / are used.

Ans Generation in computer terminology is a change in technology a computer is/was being used. Initially, the generation term was used to distinguish the varying hardware technologies. Nowdays generation includes both hardware & software, which together make up an entire computer system.

First Generation Vaccum Tubes (1940-1956)

⇒ The first computer system used vaccum tubes for circuitry & magnetic drums & memory.

⇒ These computers were very expensive to operate.

⇒ Computers of this generation consumed a lot of electricity.

⇒ First generation computer relied on machine language, the lowest level programming language understood by computers to perform operations. They could only solve one problem at a time. It would take operators days or even weeks to set up a new problem.

Input was based on punch cards & paper type, tape & output was displayed on printouts.

⇒ First computers generate a lot of heat, which was often the cause of malfunction.

Eg The UNIVAC

Second Generation (Transistors) (1956-1963)

Transistors replace vaccum tubes in a second generation of computer.

2. Select a cell below or to right of the numbers for which you want to find the smallest / number.

3. On the home tab in the editing group click the arrow next to autosum / click min (calculate the smallest) or Max (calculate the largest) + then press Enter.

Q13) Describe various steps involved in the following
a) To modify column width of a worksheet
b) To modify / the row hight of a column
c) To delete rows / + columns of a worksheet.

Select the column that you want to change
On the home tab, in the cells group, click format.
On the cell size, click column width
In the column width box type the value that you want
/ Click ok.

1. Select the row that you want to change
2. On the home tab, in the cells group click format.
3. On the cell size, click row height.
4. In the row height box, type the value that for want + then click ok

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

c To change the front colour.
1. select the text that you want to change
2. On the home tab, in the front group, choose the arrow next to front colour & then select a colour

c To highlight (in yellow) the line that reads need to get MS address".
To highlight text.
1. Click the following tab.
2. In the front group click the text highlight button word is now in highlight mode.
3. Drag the mouse over the text you want to highlight.
4. Click the text highlight button again to return the mouse to normal operation

Q7) Create a file in MS word for the following document as save it with file name ms-word Describe all steps involved in it.

MS word

MS word is a widely used commerical word processor develop MS word is application software which is capable of
- Creating
- Editing
- Saving &
Printing of type of document.

the numbers of columns + rows you want. Under into fit behavior, choose how you want table to fit Word automatically choose a width for the table columns if you want a different columns width, choose one of these options

Under separate text at choose the separator character you used in the text

click ok the text convert to a table should look something like this:

Create a file in M.S word to insert a table in the document Describe all steps involved Ans.

1. Open a blank word document
2. In the top ribbon press insert
3. Click on the table button.

Either use the alignement to select the numbers of columns + rows you want, of click insert table a dialog box will appear where you can specify. The number of columns + rows.

The table will now appear on the page after it as message standard features like bold, italic, + underline are still available. These items may be helpfull for creating headings or calling for certain items in the tables

Q9 Create a file in MS word that convert existing highlight text in table as shown below and save it by 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 the convert text to table, a new dialog box appears have set numbers of columns.
Click on ok finally selected text convert in a table.

Ans To convert text to a table or a table to text. Stand by clicking the show/hide paragraph mark on the home tab so you can see how text is separated in your document.

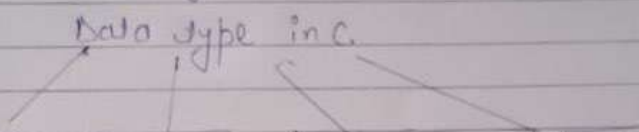
Convert text to a table.

1 In text separator character - such as comma or tabs to indicate where to divided to text into table columns.
2 Use paragraph marks to indicate where to divide want it being a new table row.
In this example the tabs & paragraph marks will produce a table with 3 columns & 5 & 2 rows
3. Select the text that you want to convert and the click Insert → Table → convert text to table.
4 In the convert text to table box, choose the option you want.
Under table size make sure the numbers match

Discuss about different data type of C programming language.

Data Types in C

A data type specifies the type of data that a variable can store such as integer, floating, character etc.



There are the following data types in C language.

Types	Data Types
Basic Data Type	int, char, float, double
Derived Data Type	array, pointer, structure, union
Enumeration Data Type	enum
Void Data Type	void.

Click the file tab to acess backstage view, choose export then select change file type.
Select a file type, then click save as.
The save as a dialog box will appear

Select the location whose you want to export the document enter a file name (MS word) then click save.

Q8) Create a file in MS word for the following document & save it with file name. equation. Describe all steps involved it.

Equation

$$X_2 + Y_2 = 30$$
$$23 + d^4 = 50$$
$$A_2 + B8 = X3 + Y8.$$

Ans:- 1. Open word & select file > new.
2 On the search for online templates box, enter a search word like, letters, resume, or invoice or select a category under the search box like Gamm Personal or education.
click to Template to see a preview.
Select create.
Select a file type then click save as.

In this example the table & paragraph marks will produce a table with 3 columns & 5 & 2 rows.
Enter a file name (Equation) & click save

Right click and then select the appropriate delete option for example, delete cells + shift up delete cells + shift left delete rows or delete columns

Q13(b) Describe following terms in the worksheet.
- Absolute reference + relative references in formula.
- Cell address

Ans) Relative + absolute reference behave differently when copied + filled to other cells. Relative references change when a formula is copied to other cells.
- Absolute references on the other hand remains constant no matter where they are copied.
- A cell reference or cell address is a combination of a column letter + a row number that identify a cells on a worksheet.

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

Ans a) Visme.
- Haiku deck
- Canva
- powtoon
- Prezi.
- Pitcherific
- Slide
- Video scribe

Q14 b) Write the steps for the following action for of powerpoint presentation.
- Open a blank presentation
- Save the presentation as (abc.pptx)
- Add a title to the first slide the name of your college
  Type your first name + last name in the sub-title
- Add a new slide which has a title + contact.

Ans) select the file tab to go to back storage view
- select new on the left side of the window then click blank presentation

- Select the slide whose layout you will change so that it can have a title.
- In microsoft powerpoint 2007 select powerpoint options the option you can customize are grouped into categories that you can see in the left pane. The default category is general. Fill your name & initial under personalize your copy of MS office.

2. In Powerpoint for window, you can add closed captions or subtitles to videos & audio file in your presentation accessible to a large audience, including people with hearing disabilities & those who speak languages other than the one in your video.

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 stand title page or select title & content for a slide that contains a title & a full slide text box.
4. select the click to add title text box

Q15 Write steps creation of a set of Power point slides that documents demonstrates you skill to use the tools of Powerpoint. It should include the following things.

- Title slide & bullet list
- Inserting excel sheet
- clip art & Text
- Slide show effects.

Q11 Create a following worksheet in MS word & save it with "book 1"

Ans 1 Right click the worksheet move table
2 Click select move or copy
3 Click on the move selected sheets to book drop down menu. select (new book)
4 Click ok you new workbook opens with your moved worksheet
5 Click files > save in your new workbook.

Q12 Calculate the following things of a range (C2 : C11) of data in the worksheet created in q. no 11

The Sum of marks using autosum in a range of cells (C2 : C11)
- Average of the marks in a range of cells (C2 : C11)
- Height marks in a range of cells (C2 : C11)
- Minimum marks in a range of cells (C2 : C11)

Ans In a worksheet tap the first empty cell after a range of cells that has numbers for tap & drag to select the range of cells you want to calculate (C1 : C11) Tab autosums. Tap sums

- Click a cell below the columns or to the right of the row of the numbers for which you want to find the average
On the Home tab, click the arrow next to autosums > average, & then press enter.

Q 16 What is the difference b/w Machine language & High level language ?

Ans

	Machine level language	Low level language
1.	It can be considered as a programmer-friendly language	It is considered as a machine friendly language.
2	It requires a compiler/interpreter to be translated into machine code.	It requires an assembler that would translate instruction -s.
3.	It can be ported from one location to another.	It is not portable.
4.	It is easy to understand.	It is difficult to understand.
5	It is easy to debug.	It is difficult to debug
6.	It is less memory efficient, ie it consumes more memory in comparison to low level language.	It consumes less memory.

Q18. Find the output of the following expressions?

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

Sol: X = 20 ÷ 5 x 2 + 30 - 5
X = 4 x 2 + 30 - 5
X = 8 + 30 - 5
X = 38 - 5
X = 33

b) (3 marks) Y = 30 - (40/10 + 6) + 10)

Sol: Y = 30 - (40 ÷ 10 + 6) + 10)
Y = 30 - (4 + 6) + 10
Y = 30 - 10 + 10
Y = 30

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

Sol: Z = 40 x 2 ÷ 10 - 2 + 10
Z = 40 x 5 - 2 + 10
Z = 200 - 2 + 10
Z = 210 - 2
Z = 208.

Write steps for coordination of a set of powerpoint slides that demonstrates ... of powerpoint 9)
should include the following things

- Title slide
- Inserting excel shortcuts
- cut of the text
- Slide show effects

Ans

A title slide the stages for yours whole presentation with simple click graphics & customizable of design your title slide set stage for the rest of your presentation. A title slide is typically a part of most types of presentation including. The introduction slide to any presentation.

2- A bullet slide collects information in list form if you're making a single point on a slide, leave the bullet out

- Hard down SHIFT & then select the same existing sheet tabs of the work sheet that you want to insert in the open workbook for example, if you want to three new worksheet, Select three sheets tabs of existing worksheets on the home tab, in the cells group click insert, & then click insert sheet

Q. Describe the syntax of the following statements

Q19 a) if condition 1 evaluates to true, the code block 1 is executed if cond. 1 evaluates to false the cond 2 is evaluated. if condition 2 is true, the code block 2 is executed. if cond 2 is false the code block 2 is executed.

Ans 5) Exp for loop need not contains any initialization, condition & incre/decrement sections all are optional break/breaks for loop.

Ans c) Syntax: while (condition) [statment] (s) i there statment (s) may be a single statment or a block of statments. The condition may be any expression, & true is any nonzero value. The loop interates while the & is true.

Ans(f) The syntax is do [statment] while (condition) first the statments are execute then the cond. is test if it is true, then the entire loop is executed again. The loop exists when test is programed & gives a false result.

Q 2. Find the output of the following program segment

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

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

3.
```
# Include <stdio.h>
void main ()
{
int a = 10, b = 100
if (a>b)
Printf ("largest no is %d/n" a);
else
Printf ("largest no is %d/n" b);
}
```
An output
largest no is "b"