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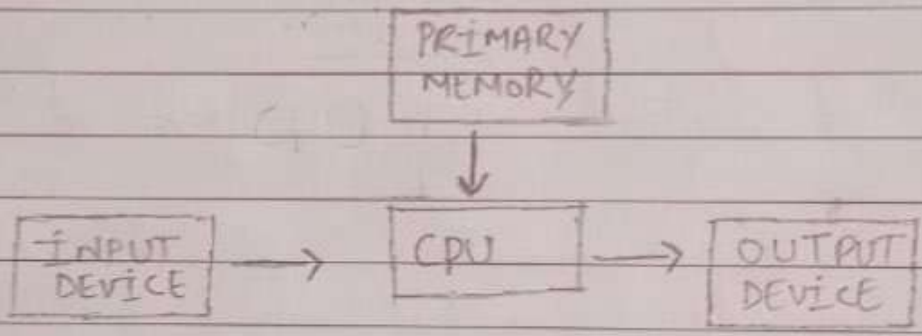
FUNDAMENTIAL OF IT & PROGRAMMING

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

Ans// A Computer has four main components: The Central processing unit or CPU, the primary memory, input units and output units.



Q2// Discuss about the classification of computers based on sized and capacity.

Ans// On the basis of size there are four types of computer. They are minicomputer, microcomputer, main frame computer and super computer.

Q3// What is the meaning of computer generation? How many computer generation are

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defined? What technologies were/are used?

Any Generation in computer terminology is a change in technology a computer is/was 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 systems.

The evolution of digital computing is often divided into generations.

Each generation is characterized by dramatic improvements over the previous generation in the technology used to build computers, in terms of the internal organization of computer and programming languages.

→ FIRST GENERATION Vacuum tubes (1940-1956)

- The first computer systems used vacuum tubes for circuitry and magnetic drums for memory.
- These computers were very expensive to operate.

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- Computers of this generation consumed a lot of electricity.
- First generation computers 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 punched cards and paper tape, and output was displayed on printouts.
- First computers generated a lot of heat, which was often the cause of malfunctions.

EXAMPLES:

- The UNIVAC (Universal automatic computer)

The UNIVAC was the first commerical computer delivered to a business client, the U.S. Census bureau in 1951

- ENIAC (Electronic numerical integrator and computer) computers.

→ SECOND GENERATION Transistors (1956-1963):

- Transistors replaced vacuum tubes in the second generation of computers.

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- The transistor was far superior to the vacuum tubes allowing computers to become smaller, faster, cheaper, more energy-efficient and more reliable than their first generation predecessors.
- Second-generation computers still relied on punched cards for input and 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, which drastically increased the speed and efficiency of computers.~~
- The development of the integrated circuits was the hallmark of the third generation of computers.
- Transistor were replaced by integrated circuits, which drastically increased the speed and efficiency of computers.
- Instead of punched cards and printouts, users (integrated) interacted with third generation computers through keyboard and monitors.

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• Computers for the first time became accessible to a mass audience because they were smaller and cheaper than their predecessors.

→ FOURTH GENERATION Microprocessors (1971 - Present)

• The microprocessor brought the fourth generation of computers as thousands of integrated circuits were build into a single silicon chip
• What in the first generation filled an entire room could now fit in the palm of the hand.
• In 1981 IBM introduced its first computer for the home user
• In 1984, Apple introduced the macintosh.
• Microprocessors also moved out to the desktop computers.
• Fourth generation computers also covered the development of graphical user interface (GUIS), mouse and handheld devices.
• Quantum computation and nano technology will radically change the face of computers in years to come
• The goal of fifth-generation computing is

to develop devices that respond to natural language input and are capable of learning and self organization.

Q44 Different between volatile and Non volatile memories.

Ans 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 powered-off.

Q54 Distinguish among system software, application software and open source software on the basis of their features.

Ans SYSTEM SOFTWARE :=> System software automatically starts running once the system is turned on and stops when the system is shut down.

- APPLICATION SOFTWARE :-> Application software runs as and when the user (specific) request it. Application software is user specific and it is not needed to run the system on

the whole. System software is endowed with a general purpose.

• OPEN SOURCE SOFTWARE :→ Open source software (OSS) is provided under a license that allows users to access, change and improve its source code for their purposes.

The main benefits of software with a publicly available source code are:

- Flexibility.
- Stability.
- Security and reliability.
- Easier evaluation.
- Better support
- Possible savings.

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 following:

○ To change the font style
○ To change the font size

① To change the font color
② To highlight (in yellow) the line that reads 'need to get IMS's address"

Ans: Step 1: Open MS word on your system.
Step 2: Click on the new file when you open the word file when the dialog box appears.
Step 3: Once this click on blank doc. under the recent section, it will get in bold or highlighted by default.
Step 4: Click on the create a new blank doc. will open.

Ans(b):- To change the font size:

1. Select the text you want to modify.
2. Click the drop down arrow next to the font size box on the Home tab. A drop down menu appears.
3. 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.

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• To change the font style:

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.
6. If you want to change the font to bold or italics click the 'B' or 'I' icons on the formal bar.

• To change the font colour:

1. Select the text that you want to change.
2. On the Home tab, in the font group, choose the arrow next to font colour; and then select a colour. You can also use the formatting options on the mini toolbar to quickly format text. The mini toolbar appears automatically when you select text.

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• To highlight (in yellow) the line that reads next to get's MS's address".

1. Click the Home tab
2. In the font group click the text highlight button.
Word is now in highlight mode.
3. Drag the mouse over the text you want to highlight. The text becomes highlighted - just as if you used a highlighter on regular paper but far neater.
4. Click the text highlighter button again to return the mouse to normal operation.
Or press the Esc key to exit highlight mode.

Q2) 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 commerical word processor develop. MS word is application software, which is capable of

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

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Ans Click the file tab to access backstage view, choose Export, then select change file type.

Select a file type, then click save as. The save as dialog box will appear.

Select the location where 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 and save it with file name 'equation'. Describe all steps involved in it.

Q9 Create a file in Ms-word for the following document all steps involved in it.

Equation

$X_2 + Y_2 = 30$

$2^3 + 0^9 = 50$

$A + B^8 = X_3 + Y^8$

Ans 1. Open word and select file > new

2. In the search for online templates box, enter a search word like letters, resume, or invoice, or select a category under the search box like business, Personal or education.

3. Click a template to see a preview
4. Select create.
5. Select a file type then click save as.
6. Enter a file name (equations) and click save.

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

Ans To convert text to a table or a table to text, start by clicking the show/Hide paragraph mark on the Home tab so you can see how text is seperated in your document.

Convert text to a table

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1. Insert separator character - such as Commas or tabs - to indicate where to divided the text into table columns.
2. Use paragraph marks to indicate where you want to begin a new table row.

In this example the tabs and paragraph marks will produce a table with 3 columns and 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 the numbers of columns and rows you want. Under autofit behaviour, choose how you want your table to look. Word automatically chooses a width for the table columns. if you want a different columns width, choose one of these options.

Under seperate text at choose the separator character you used in the text.

5. Click OK the text converted to a table should look something like this:

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

Ans// 1. Open a blank word document
2. In the top ribbon, press insert
3. Click on the table button
4. 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
5. The table will now appear on the page after it as necessary. Standard features like bold, italic, and underline are still available These items may be helpfull for creating headings or calling out certain items in the table

B.)

Q11. Create a following worksheet in MS. excel and save it with "book 1".

Ans// 1. Right click the worksheet name tab.
2. Click select move or copy.
3. Click on the move selected sheets to book drop-down menu. Select (new book)
4. Click ok your 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 qu. no 10.
- The sum of 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 cell (C2:C11).

Ans:- In a worksheet tap the first empty cell after a range of cells that has numbers or tap and drag to select the range of cells you want to calculate (C1:C11) Tap autosum. Tap sum.

- Click a cell below the column 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 autosum > average, and then press Enter.

- Select a cell below or to the right of the numbers for which you want to find the

smallest number.
2. On the Home tab, in the editing group, click the arrow next to autosum, click min (calculate the smallest) or Max (calculates the largest) and then press ENTER.

Q13 (a) i) escribe 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 • 1. Select the column 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.

• 1. Select the row 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

• 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 and shift up, delete cells and shift left, delete rows or delete columns.

Q13(b) Describe following terms in the worksheet:

• Absolute reference and relative reference in formula
• Cell address

Ans (b) • 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, remain constant no matter where they are copied.

• A cell reference or cell address is a combination of a column letter and a row number that identifies a cell on a worksheet.

Q14(a) What tools are available to customize our powerpoint presentation:

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Ans(a) · Vyme.
· Haiku deck
· Pitcherific
· Canva
· Slide camp
· Powtoon
· Video Scribe
· Prezi

Q14(b) Write the steps for the following action for creation of powerpoint 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 sub-title section.
· Add a new slide which has a title and content

Ans(b) · 1. Select the file tab to go to backstage view.
2. 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.

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• In microsoft powerpoint 2007 Select powerpoint options The options you can customize are grouped into categories that you can see in the left pane. The default category is General. Fill your name and initial under personalize your copy of MS office.

2 In powerpoint for windows, you can add closed captions or subtitles to videos and audio files in your presentations. Adding closed captions makes your presentation accessible to a larger audience, including people with hearing disabilities and 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 standalone title page or select title and content for a slide that contains a title and a full slide text box.
4. Select the click to add title text box.

Q15 Write steps for creation of a set of powerpoint slides that demonstrates your skill to use

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the tools of powerpoint. It should include the following things.

5. Title slide & bullet list.
- Inserting Excel sheet
- clip art and text.
- Slide show effects.

Ans/1. A title slide sets the stage for your whole presentation. With simple, clear graphics and customizable design your title slide sets the stage for the rest of your presentation. A title slide is typically a part of most types of presentations, including: The introduction slide to any presentation.

2. A bullet slide collects information in list forms. If you're making a single point on a slide, leave the bullet out.

- Hold down SHIFT, and then select the same number of existing sheet tabs of the worksheets that you want to insert in the open workbook. For example, if you want to three new worksheets. Select three sheet tabs of existing worksheets. On the Home tab, in the cells group, click insert, and then click insert sheet.

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• clip art is a collection of media files that microsoft includes with the powerpoint application. On the insert tab, in the images group, click Online pictures.

• A powerpoint slideshow (PPT) is a presentation created on software from microsoft that allows users to add audio, visual and audio/visual features to a presentation.

Q16 Difference b/w machine language and High level language

Ans

High-level language	Low-level language
it is easy debug	it is difficult to debug.
it is less memory efficient i.e. it consumes more memory in comparison to low-level languages.	it consumes less memory.

Q17 Discuss about different types of C programming languages.

Ans C Programs.

- Fibonacci Series
- Prime number
- Palindrome number
- Factorial
- Armstrong number
- Sum of digits
- Reverse number
- Swap two numbers without using third variable.

Q18// Find the output of the following expressions

(a) X=20/5*2+30-5 (b) Y=30-(40/10-16)+10 (c) Z=40*2/10-21/10

Ans// (a) x=33 (b) Y=30 (c) Z=16

Q19// Describe the syntax of the following statements

(a) if-else statement (b) for loop (c) while loop (d) do-while

Ans// (a) if condition 1 evaluates to true, the code block 1 is executed. if cond. 1 evaluates to false, then cond. 2 is evaluated. if condition 2 is true, the code block 2 is executed, if cond. 2 is false, the code block 3 is executed.

Ans(b) // Emp. For loop need not contains any initialization, condition and incre/decrement sections. All are optional break breaks the For loop.

Ans(c) // Syntax; while (condition) {statement(s);}
Here statement (s) may be a single statement or a block of statements. The condition may be any expression, and true is any nonzero value. The loop iterates while the cond. is true.

Ans(d) // The syntax is; do {statement} while (condition);
First the statements are executed, then the cond. is tested; if it is true, then the entire loop is executed again. The loop exits when the test is performed and gives a false result.

e.g.20 // Find the output of the following programs segments

1.

```
#include <stdio.h>
int main()
{
  int i;
  for (i=1; i<2; i++)
```

Answer // OUTPUT

↓

IMS GHAZIABAD

```
{
Print f(" IMS Ghaziabad \n");
}
}
```

2.

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

Answer OUTPUT

IMS GHAZIABAD
IMS GHAZIABAD

3.

```
# include <stdio.h>
void main()
{
int a=10, b=100
if (a>b)
Print f(" largest no. is %d\n", a);
else
Print f (" largest no. is %d\n", b);
```

Ans OUTPUT

Largest no. is "b"