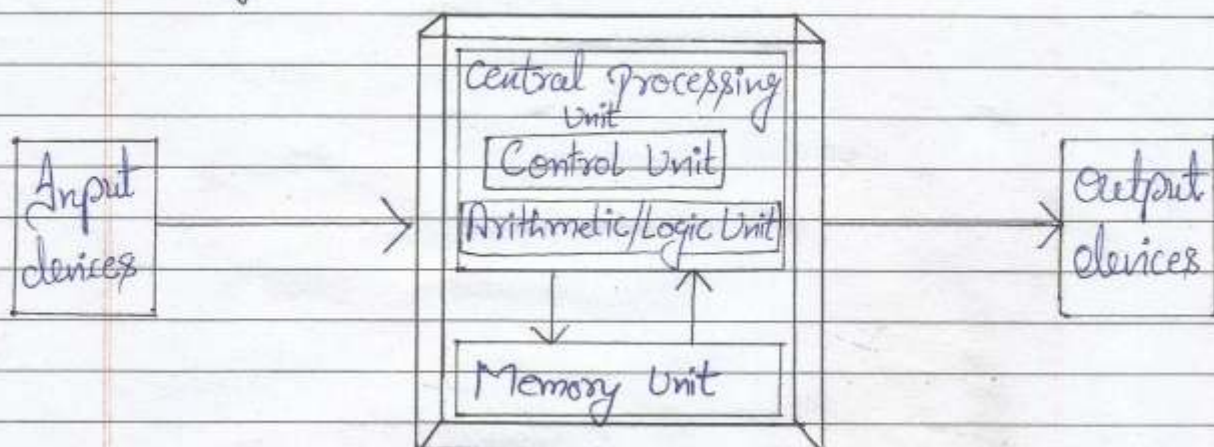


CCA-101: Fundamentals of IT & Programming
Assignment-1

Q.1 What are the four fundamental parts of Computer? Explain it with the help of diagram.

Ans:-1 The four fundamental parts of Computer are-

1. Input device
2. C.P.U
3. Output device
4. Memory unit



Input device:- Computer systems 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 (C.P.U):- 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 unit is the collection of storage units or devices together. The memory unit stores the binary information in the form of bits.

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

Ans:-2 Based on Size and Capacity, Computers are classified.

- a) Super Computer
- b) Mainframe Computer
- c) Mini Computer
- d) Micro Computer

Super Computer:- i) Super Computer are the most powerful & Physically the largest by size.

- (ii) These are systems designed to process huge amounts of data.
 - (iii) The fastest Super-Computers can perform over one trillion calculations in a second.
 - (iv) Super Computers have thousands of processors. Because of their extraordinary speed, accuracy & processing power, Super Computers are well suited for solving highly complex problems & huge amounts of calculations.
- Ex:- JAGUAR, ROAD RUNNER etc.

Mainframe Computer:- (i) Mainframe Computers are very large often filling an entire room and can process thousands of millions of instructions per second.

- (ii) In a mainframe environment, users connect to the mainframe through the many terminals wired to the mainframe.
- (iii) Mainframes are capable of supporting hundreds of thousands of users simultaneously.
- (iv) Some of the functions performed by a mainframe include - flight scheduling, reservations & ticketing for an airline etc.

Ex:- IBM mainframe Z13, IBM System Z9 mainframe

Mini Computer:- (i) Mini Computers are much smaller than mainframe.

- (ii) These computers are also less expensive.
- (iii) Sometimes referred to as midrange server or midrange computer.
- (iv) They are typically larger, more powerful and more expensive than the desktop computer.
- (v) Midrange computers are usually used by small and medium sized businesses as their servers.
- (vi) Users connect to the server through a network by using desktop computers.

Ex:- Apple iPad, CDC 160A

Micro Computer:- (i) Micro Computers are the most frequently used type of computer.

- (ii) It is also known as personal computer.
- (iii) A microcomputer is a small computer system designed to be used by one person at a time.

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

Ans: 3 Generation:- The term 'generation' refers to major developments in electronic data processing.

The Generation of Computers -

- | | |
|-----------------------|---------------------------|
| (1) First Generation | (Vacuum tubes) |
| (2) Second Generation | (Transistors) |
| (3) Third Generation | (Integrated Circuit) |
| (4) Fourth Generation | (Microprocessors) |
| (5) Fifth Generation | (Artificial Intelligence) |

First Generation:- (1940-1956)

Computers of this generation used vacuum tubes. ENIAC was the first generation electronic computer. These computers were large in size and required constant maintenance. It used mercury delay lines for storages. The first commercial production of stored electronic computer was UNIVAC (Universal Automatic Computer). During this period, computer programming was mainly done in machine language. Assembly language was introduced during early fifties. Ex:- UNIVAC, EDSAC, ENIAC, EDVAC

Characteristics of first Generation Computer:-

- Batch processing.
- Slow input and output operations.
- Vacuum tube circuit.
- Poor reliability

Second Generation:- (1956-1963)

Computer this generation used transistors. Which were small or in size so size of Computer became small. A transistor is made of a semiconductor material whose principal part is silicon. It requires more less power and produces less heat.

Characteristics of Second Generation Computer:-

- (a) Greater reliability and speed.
- (b) Transistor replaced by vacuum tubes.
- (c) Faster than first generation.
- (d) Required less power to operate.

Ex:- IBM-1401, NCR 304.

Third Generation:- (1964-1971)

Computers of this generation used integrated Circuits (ICs). These Computers were 10000 times faster than first generation Computers. Batch processing and times sharing came into picture during third generation. Many high level languages like BASIC, COBOL etc were developed during this period.

Ex:- IBM-360, IBM-370, ICL-2900 etc.

Characteristics of Third Generation Computer:-

- (a) Increased reliability and speed.
- (b) Faster than previous generation Computers.
- (c) Transistors replaced by integrated circuit.
- (d) Development of mini computer.

Fourth Generation:- (1971 - Present)

Computers of this generation used large scale integration (LSI) and very large scale integration (VLSI) techniques.

This period was a period of active research and development in many areas of Computer. With VLSI technology microprocessors (up) came into existence. A microprocessor chip contains an entire central processing unit on a single silicon chip.

Ex:- DEC 10, APPLE II, PUP II

Characteristics of fourth generation Computer:-

- (a) Microprocessor used.
- (b) Large scale and very large scale integrated circuits.
- (c) Increased Costs of software.
- (d) Development of microcomputer.

Fifth Generation:- (Present & Beyond)

The fifth generation computers combine hardware and software to produce human intelligence.

Characteristics of future generation of Computers:-

- (a) Decreasing Costs of software.
- (b) Decreasing Costs of hardware.
- (c) Organic chip.
- (d) Artificial Intelligence.
- (e) High Speed processing technology.

Q.4 Differentiate between Volatile & Non-Volatile memories.

Ans:-4 Primary / Volatile memory:- The Primary memory is kept on Silicon chips and is fixed to the circuit board. It is also called Internal memory. Primary memory is two types:-

- (a) RAM Random Access Memory
- (b) ROM Read only Memory

Secondary / Non-Volatile memory:- The Secondary memory is used to store data for a longer period of time. Also, called the external memory, it is required because the primary memory is not sufficient to store large amount of information.

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

Ans:-5 System Software:- It is a Collection of Program that performs tasks related to the operation and performance of the Computer system itself. They act as a bridge between the hardware and the application software. System software is two types-

- a) Operating System Software
- b) Utility System Software

Ex:- Windows XP, Windows Vista etc.
Calculator, MS-Points etc.

2. Application Software:- Application Software refers to software designed and developed to perform specific tasks viz word processing software, computation and data processing software web designed software's, photo editing software's, media players etc.

Ex:- Word processor, accounting application a web browser, an e-mail client, media player etc.

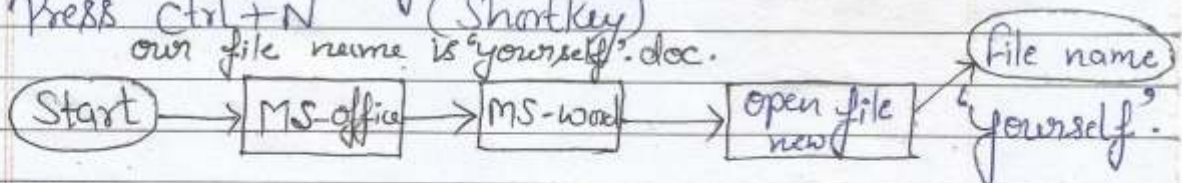
3. Open Source Software:- It is a type of Computer software in which source code is released under a license in which the Copyright holder grants users right to study, change and distribute the software to anyone else for any purpose.

Ex:- Linux operating system

Q. 6 @ Create a file in MS-word to insert a paragraph about yourself and save it with file name 'yourself'.

Ans-6 Create a new file:- click the New file button on the toolbar.

- Choose file > New from the menu bar.
 - Press Ctrl+N (Shortcut)
- our file name is 'yourself'.doc.



Suppose we write the paragraph in MS-word. We can easily move the paragraph in right side, left side and Centre by using right alignment, left alignment, Centre alignment and justify alignment.

Save a file:-

- Click the Save button on the toolbar.
- Select file > Save with the ^{file} name of yourself from the menu bar.
- or • Press Ctrl+S on the Keyboard.

Describe all Steps involved in it.

b) Write steps regarding following -

To Change the font Style -

- Font is the look and shape of the letter of the text. There are many fonts available in MS-Word.

Step 1:- Select the text to change the font style.

Step 2:- Click the home tab.

Step 3:- Click the drop-down list arrow  on the font button [Calibri Body] from the font group.

Step 4:- Choose the font type from the list and click it to apply.

To Change the font Size -

Font Size refers to the size of a letter or character.

Step 1:- Select the text to change the font size.

Step 2:- Click the home tab.

Step 3:- Click the drop down list arrow on font size button [12] in the font group.

Step 4:- Choose the font size from the list and click it to apply.

To Change the font Color -

You can apply different color to the text. To colour the text, follow the given steps.

- Step 1:- Select the text to change the font colour.
Step 2:- Click the Home tab.
Step 3:- Click the drop down list arrow on font colour button [A ▼] in font group. A colour palette appears.
Step 4:- Choose the colour you want from the palette & click it to apply.

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

To place a coloured bar over the text to make it prominent is known as highlighting the text.

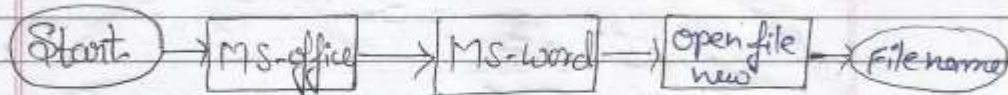
- Step 1:- Select the text to highlight.
Step 2:- Click the home tab.
Step 3:- Click the drop down list arrow on the text highlight colour button [AB ▼] in font group. A colour palette appears.
Step 4:- Choose the yellow colour from the palette and click it to apply.

"need to get IMS's address"

Q.7 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:-7 Create a new file:- Click the new file button on the toolbar.

Choose file > New from the menu bar.
Press Ctrl + N (Short Key)



Our file name is 'ms-word'.doc.

Save a file:-

- Click the save button on the toolbar.
- Select file > Save with the file name of 'ms-word' from the menu bar.
- Press Ctrl+S on the keyboard.

Q.8 Create a file in MS-Word for the following document and Save it with file name 'Equations'. Describe all steps involved in it.

Equations:-

$$X_2 + Y_5 = 30$$

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

$$A_2 + B^0 = X_2 + Y^0$$

Ans:-8 Create a new file:-

- Click the New file button on the toolbar.
- Choose file > New from the menu bar.
- Press Ctrl+N (Shortkey)

Save a file:-

Press on 'Start' button.

Click the MS-Office.

Click the Microsoft Word.

Click the 'file' button.

Save the file and name of file is 'Equations'.

Equation:-

$$X_2 + Y_5 = 30$$

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

$$A_2 + B^0 = X_2 + Y^0$$

Q.9 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.

Ans: 9 Create a file:-

- Click the new file button on the toolbar.
- Choose file > New from the menu bar.
- Press $\text{ctrl} + \text{N}$ (ShortKey)

text-to-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 no. of Columns.	Click on OK. Finally selected text Convert in a table.

Save a file:-

- First, we have to Create a table.
- Click the option 'Select' button.

You may Select a part of text or the whole text according to your choice. To Select text, you can use both mouse and keyboard.

- Press $\text{ctrl} + \text{S}$ Key.

Our file name is text-to-table.doc.

Q.10 Create a file in MS-word to insert a table in the document. Describe all steps involved in it.

Ans:-10 Create a file:-

- Click the New file button on the toolbar.
- Choose file > New from the menu bar.
- Press Ctrl+N (Short Key)

Insert a table:- 1. Click the Insert tab.

2. Click the table [] from the tables group.

3. Select the no. of columns and rows by dragging the mouse over the small boxes.

This inserts a table with the specified number of columns and rows.

The Cursor is placed in the first cell you can enter text in the cells. To move from one cell to another, use the tab key or the Arrow keys.

CLASS V

S.No	Name	Roll No.	Marks
1.	Preema	6	280
2.	Sonu	9	294
3.	Suresh	16	309
4.	Yashita	19	300

our file name is CLASS V. doc

Q.11 Create a following worksheet in MS-excel and save it with name 'book 1'.

Ans:-11 Create a table in MS-excel-

A	B	C
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

The name of our file is book1.xls.

- Click on file menu.
- Select the file (whole text)
- Save Press.

or Press ~~ctrl~~ ctrl+S button (Key)

Q.12 Calculate the following things of a range (C2:C11) of data in the worksheet (Created in question 10).

Ans: 12. The sum of the marks using Autosum in a range of cells (C2:C11) —

S.No	Name	Class	Rollno.	Marks	Hindi	Eng.	Maths	S.S.T	Sci.	Comp.	Total
1.	Rano	7	011	600	82	90	85	80	80	98	515
2.	Ayush	8	101	600	75	86	88	92	83	82	506
3.	Priya	9	172	600	89	84	83	73	85	80	494
4.	Neha	10	123	600	92	75	90	86	75	96	514

C2 C11

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

S.No	Name	Class	Rollno.	Marks	Hindi	Eng.	Maths	S.S.T	Sci.	Comp.	Aver. Total
1.	Rano	7	011	600	82	90	85	80	80	98	85.8
2.	Ayush	8	101	600	75	86	88	92	83	82	84.2
3.	Priya	9	172	600	89	84	83	73	85	80	82.3
4.	Neha	10	123	600	92	75	90	86	75	96	85.6

• Highest marks in a range of cells (C2:C11) —

S.No	Name	Class	Rollno.	Marks	Hindi	Eng.	Maths	S.S.T	Sci.	Comp.	Total
1.	Rano	7	011	600	82	90	85	80	80	98	515

• Minimum marks in a range of cells (C2:C11) —

S.No	Name	Class	Rollno.	Marks	Hindi	Eng.	Maths	S.S.T	Sci.	Comp.	Total
3.	Priya	9	172	600	89	84	83	73	85	80	494

Q.13 @ Describe various steps involved in the following

Ans 13 @ To modify Column width of a worksheet —
● Resize a Column in a similar manner by dragging the line to the right of the label corresponding to the Column one want to modify.

- Click the Column label and select Format > Column > width from the menu bar to enter a numerical value for the width of the Column.

● To modify the row height of a worksheet —

Resize a row by dragging the line below the label of the row one would like to modify.

Click the row label and select Format > Row > height from the menu bar to enter a numerical value for the height of the row.

● To delete rows and Columns of a worksheet —

Select the data in the Column or a row that you want to delete

Click on edit menu and select delete option. This deletes the data in the selected cell.

b) Describe following terms in the worksheet

Ans: (b). Absolute reference and relative reference in formula
A reference identifies a cell or a range of cells on a worksheet and tells Microsoft Excel where to look for the values or data you want to use in a formula. With references, you can use data contained in different parts of a worksheet in one formula or use the value from one cell in several formulas. You can also reference to cells on other sheets in the same workbook, to other workbooks and to data in other programs. References to cells in other workbooks are called external references. References to data in other programs are called remote references. Depending on the task you want to perform in Excel, you can use either relative cell references, which are references to cells relative to the position of the formula, or absolute reference, which are cell references that always refer to cells in a specific location. If a dollar sign precedes the letter and/or number, such as \$A\$1, the column and/or row reference is absolute. Relative references automatically adjust when you copy them and absolute references don't.

- Cell address— A cell address is an alphanumeric value used to identify a specific cell in a spreadsheet. Each cell reference contains one or more letters followed by a number. The letters or letter identify the column and the no. represents the row.

Q.14 @ What tools are available to Customize our Power-Point Presentation?

Ans: 14 Title bar:- The title bar generally appears at the top of the screen. The title bar displays the title of the Current Presentation.

Menu bar:- The menu bar displays the menu. You use the menu to give instructions to Powerpoint.

Status bar:- The status bar generally appears at the bottom of the screen. It displays the number of the slide that is currently displays the total no. of slides and the name of the design template in use or the name of the background.

Outline bar:- The Outline tab displays the text contained in your presentation.

Slides tab:- The Slides tab displays a thumbnail to view the slide in Slide Pane.

Q. Write the steps for the following action for Creation of Powerpoint Presentation.

- open a Blank Presentation -

Step 1:- Click the office button.

Step 2:- Click the new option from the drop down list.

Step 3:- Click Blank and recent presentation option from the left pane.

Step 4:- Click the Blank Presentation option.

Step 5:- Click Create button.

A new presentation with a blank slide opens up on the screen as shown.

- Save the presentation as Lab.1 pptx:-

Step 1:- Click the office button.

Step 2:- Click the save option. The save as dialog box appears.

Step 3:- Type the Lab.1 pptx.

Step 4:- Click the save button.

- Add a title to the first slide: the name of your College—

As we know, a powerpoint presentation is a collection of many slides. We can create additional slides.

These slides, when displayed in sequence, form a presentation. So, we have to prepare the slides first, in order to prepare a presentation.

When a blank presentation is created, a slide appears on the screen with two placeholders.

Step 1:- Click inside a placeholder to enter text. The cursor appears.

Step 2:- Type the name your College'. After you finish typing the text, click outside the placeholder.

- Type your first name and last name in the Subtitle section—

Type first name — Courses

Last name —

- B.Sc
- B.Com
- B.A

- Add a new slide which has a title and Contents—
At the top of the screen, in the lower button bar you will see a New Slide 'button'. Which looks like this.

When you move your Cursor arrow over the button you will see that a Microsoft Help text box appears that says New Slide. Click on the New Slide button to Create your next slide.

A new slide will appear in the Center section of your screen. It will resemble the slide at the top of the next page.

Contents:- File name — the name of your College

Teacher's name	Subject
Sohan Sharma	Science
Mukesh Saxena	Maths
Amit Kumar	S.S.T
Ria Verma	English
Veena	Hindi

Q.15 Write steps for Creation of a set of powerpoint Slides that demonstrates your skill to use the tools of powerpoint. It should include the following things:-

► Title slide & bullet list—

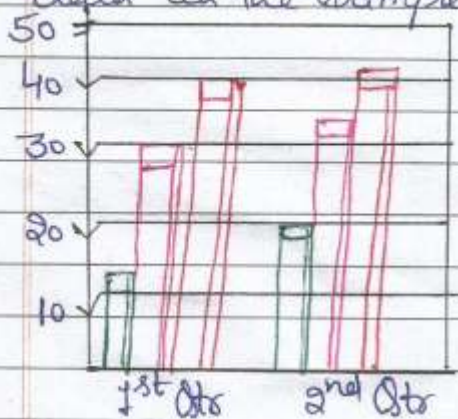
• Title slide:- The title bar generally appears at the top of the screen. The title bar displays the title of the Current presentation.

• Bullet list:- Most of the text you enter on slides appears as bulleted or possibly numbered items.

- MS-Office
- MS-Word
- MS-Excel

► Inserting Excel sheet:- Click the Insert Chart button on the Standard Toolbar.

- A Sample data sheet & Corresponding bar chart will appear on your slide.
- To Create your own chart, you can replace the data in the sample data sheet with your own.



		A	B
		1st Qtr	2nd Qtr
1	East	20.4	27.4
2	West	30.6	38.6
3	North	45.9	46.9

► Clip art and text:- Clip art is a Collection of pictures or images, Such as Photoshop or Microsoft Word.

text:- Select Insert > text box from the menu bar and draw the text box keeping the left mouse button.

• Select Tools > options from the menu bar and clicking the edit tab.

► Slide Show effect:- It often refers to a microsoft Powerpoint presentation.

• The Continuous displays of a folder of images on the Computer.

Q.16 What is the difference between Machine language and high level languages.

<u>Ans:-16</u>	<u>Machine languages</u>	<u>High level languages</u>
1.	The machine language is the language directly understood by the Computer.	A high level languages Contains statements that are much like Eng. & Maths.
2.	This language uses two symbol i.e '0' and '1' is called a Binary language.	High level language are 10 time more expensive than assembly language.
3.	Other language is first Converted into machine language.	High level language Programs are easier to Code, modify and debug.
4.	It is also known as first generation language of Computer.	It is also known as third generation language of Computer.

Q.17 Discuss about different data types of C Programming languages.

Ans:-17 Char - The most basic data type in C. It stores a single character and requires a single byte 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 no. (no. with floating point value)

double - It is used to store decimal no. (numbers with floating point value) but its range of values is high in comparison to float.

Q.18 Find the output of the following expressions.

$$\begin{aligned} \textcircled{a} \quad X &= 20/5 * 2 + 30 - 5 \\ X &= 4 * 2 + 30 - 5 \\ X &= 8 + 30 - 5 \\ X &= 38 - 5 \\ \boxed{X} &= \boxed{33} \end{aligned}$$

$$\begin{aligned} \textcircled{b} \quad Y &= 30 - (40/10 + 6) + 10 \\ Y &= 30 - 40/10 - 6 + 10 \\ Y &= 30 - 4 - 6 + 10 \\ Y &= 40 - 10 \\ \boxed{Y} &= \boxed{30} \end{aligned}$$

$$\begin{aligned} \textcircled{c} \quad Z &= 40 * 2/10 - 2 + 10 \\ Z &= 40 * 0.2 - 2 + 10 \\ Z &= 8 - 2 + 10 \\ Z &= 8 + 10 - 2 \\ Z &= 18 - 2 \\ \boxed{Z} &= \boxed{16} \end{aligned}$$

Q.19 @ Describe the Syntax of the following statements.

@ if-else statement -

If ----- else statements

if statement can be followed by an optional else block of statements, which executes when the Boolean expression is false.

Syntax

if (expression)

{
true Block of statements

}

else

{
else Block of statements

}

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

for (expression 1; expression 2; expression 3)

{
Block of statements
}

- (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 is just like a while loop except that the test condition is checked at the end of the loop rather than the start. This has the effect that the body of the loop runs

always executed at least once.

Basic syntax of do...while loop is as follows-

```
do
{
Single Statements
or
Block of Statements
} while (Condition);
```

Q-20 Find the output of the following program segments -

Ans-20 a) #include <Stdio.h>
int main ()
{
int i;
for (i=1; i<=2; i++)
{
printf("IMS Ghaziabad\n");
}
}

Output
IMS Ghaziabad

b) #include <Stdio.h>
int main ()
{
int i=1;
while (i<=2)
{
printf("IMS Ghaziabad\n");
i=i+1;
}
}

Output
IMS Ghaziabad
IMS Ghaziabad

c) #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);
}

Output
100