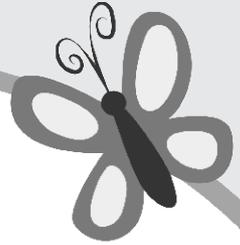


Teacher's Manual

GRADE
7
MIDDLE
STAGE

Tanqiri AI

Computer



MASTERMIND

Computer -7



1. Computer Virus

- A. 1. (a); 2. (c); 3. (b); 4. (a); 5. (b)
- B. 1. T; 2. F; 3. T; 4. F; 5. T
- C. 1. Malware; 2. Spyware; 3. Executable; 4. Man-made 5. Pen drives
- D. 1. Computer viruses are small software programs that are designed to spread from one computer to another to interfere with the computer operations. A computer virus can corrupt or delete important data on your computer, use your email or some other program to spread itself to other computers, slow down your computer, or even erase everything on your hard disk.
2. There are various types of computer virus and they can be classified in terms of the ways they attack, origin, the types of files affected, or the places they hide in.

Some of them are :

- ❖ Resident viruses : These are permanent viruses which reside in the RAM. These virus are able to interrupt all operations that the system executes. They corrupt programs and files on the system that are closed, opened, renamed, or copied.
 - ❖ File infectors : This virus affects the executable files or programs. When you run these programs, the virus will get activated. Most of the existing viruses belong to this category.
 - ❖ Boot viruses : These viruses infect the boot sector of the hard disks or floppy drives. computer is unable to boot in infected by this virus.
3. Generally, computer virus infects and spreads from one

computer to another through transferring infected data using e-mail, flash drives, or other sources. To prevent virus attack, follow the given tips :

1. Every PC should be equipped with some anti-virus program.
 2. Always scan the pen drive before copying files.
 3. Do not install pirated software.
 4. Scan the hard disk twice a month.
 5. Take the back up of important files everyday.
 6. Use Internet and e-mail attachment very carefully.
- 4. Trojan Horse :** Trojan horse is a simple program that pretends to be a useful application whereas it always does something destructive—mostly it damages a computer, like erasing a disk. It is not self replicating. It can spread only when it is copied to another system.
- Worm :** Worm is a special type of virus program that copies and multiplies itself by using computer networks and security due to heavy consumption of system memory of network bandwidth.
- Spyware :** Spyware is a type of malware that covertly gathers user's information through the user's internet connection without his or her knowledge usually for advertising purpose. Spyware applications are typically bundled as a hidden component of freeware or shareware programs that can be downloaded from the Internet.
5. Antivirus software are computer programs which are designed to identify, prevent and remove viruses from a computer. They perform the following tasks in a computer:
- ❖ Scan the computer files to look for known viruses matching definitions from virus dictionary.
 - ❖ Identify suspicious behaviour from any computer program which might indicate infection.



2. Formulas and Functions in Excel 2016

- A.** 1. (a); 2. (c); 3. (c); 4. (b); 5. (c)
- B.** 1. T; 2. F; 3. T; 4. T; 5. T
- C.** 1. =; 2. Constants; 3. Concatenation; 4. Cell reference
5. Functions
- D.** 1. Formulas are equations that perform calculation on values in your worksheet. You can make your own equation to perform certain calculation, e.g. $5 + 2 * 3$. This formula multiplies 2 by 3 and then adds 5 to the result. To make it different from number entry we start typing a formula with an equal sign (=).

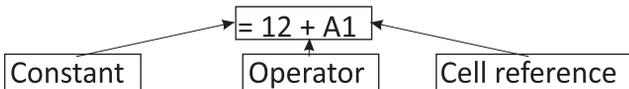
For example : $= 5 + 2 * 3$

The equal sign tells Excel that the succeeding characters constitute a formula. Following the equal sign are the elements to be calculated (the operands), which are separated by calculation operators. Excel calculates the formula from left to right, according to a specific order for each operator in the formula.

2. A formula in Excel contains the following elements

- ❖ Cell References : They are the addresses of the cells containing values to be used in calculation such as A1 (Single cell) or A1 : B2 (Range of cells).
- ❖ Operators : They specify the type of operation you want to perform such as +, – or *.
- ❖ Constants : They are the numbers or text values that can be entered directly in a formula such as 12 or “Joseph”.
- ❖ Functions : They are built-in formulas in Excel.

For example :



3. We can assign multiple cells to a formula by creating a reference or a range. Use of a range saves a lot of time. For example, if we want to calculate the sum of columns or rows, it is always better to define a range.

Step 1: Type the data, click on the cell B10 and type the formula =SUM (B2 : B9).

Step 2: Press the Enter key. The sum value will be displayed in the cell B10.

4. The cell address in the formula is known as the cell reference. For example, A1, B6, etc., where A denotes the Column name and 1 denotes the Row number. With references, you can use the data from different parts of the worksheet. There are three types of cell references :

Relative Reference

When you create a formula, references to a cell or ranges are usually based on the position relative to the cell. When you copy or move the formula to other cells, the reference cell automatically gets changed. For example, if the formula in A3 is = A1 + A2 and when you copy the formula from A3 to B3, Excel automatically changes the reference to match the location of cells, i.e., = B1 + B2.

Absolute Reference

Absolute reference is used when we do not want to change the address of the cell on copying the formula to another cell. To make absolute reference of a formula, add dollar (\$) sign before the column and row number. = \$A\$1 + \$A\$2 is an example of Absolute Reference.

Mixed Reference

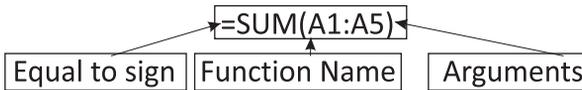
It is a combination of Relative and Absolute reference. In this type of reference, either row or column has to remain fixed. \$A1 + A\$2 is an example of Mixed Reference.

5. Structure of a Function

A function in Excel has three parts.

1. Equal to sign (=) : All functions must start with an equal to sign.
2. Function Name : It is the name of function that help us in specifying the type of operation to be performed on the values.
3. Arguments : The cell references containing values passed to a function to be used for calculations are called arguments. Arguments can be numbers or text values. The arguments are always written between opening '(' and closing ')' parentheses as shown below.

Example :



3. Creating Charts in MS Excel

- A.** 1. (b); 2. (b); 3. (c); 4. (b); 5. (c)
- B.** 1. F; 2. F; 3. T; 4. T; 5. F
- C.** 1. Insert; 2. Bar; 3. Pie; 4. X-Axis; 5. Legend
- D.** 1. A chart has various components:-

Data Table : It refers to the set of data values from which the chart is derived.

X-Axis : It is the horizontal axis of the chart, also known as the category axis.

Y-Axis : It is the vertical axis of the chart, also known as the value axis. The value of each data point is plotted on this axis.

Chart Title : It is usually placed at the top of the chart and helps the user understand what information the chart represents.

Axis Title : It is the title given to an axis. A 2-D chart has two axes (x and y) and a 3-D chart has three (x, y, and z).

Chart Area : It refers to the area within which all chart components are placed. It is often surrounded by a border.

Plot Area : It is the rectangular area bounded by the two axes. The x-axis and the y-axis define the two sides of the rectangular plot area in 2-D charts.

Legend : It identifies the data series. A unique color or pattern is assigned to each data series to make it easier to distinguish it visually.

Gridlines : These are lines that run across the plot area from each category on the x-axis and from each value on the y-axis. You can choose whether to display them or not. They make it easier to identify the value of each data point on a chart.

Data Label : A label that provides additional information about a data point on a chart.

2. A column chart is used to depict comparisons among different items of data or changes in data trend over a period of time. In this type of chart, values are represented on the vertical axis whereas categories are represented on the horizontal axis.

A bar chart displays the comparisons among individual items as sets of horizontal bars. A bar chart is similar to a column chart except that in this type of chart, the values are represented on the horizontal axis whereas categories are represented on the vertical axis.

3. Pie Chart

A pie chart is used to plot only one data series. It is a diagram in the shape of a circle, divided into triangular sections that represent percentages of different quantities that add up to 100%. This type of chart is particularly useful when you want to show the relationship of individual items to the sum of all items in the series.

Doughnut Chart

A doughnut chart is similar to the pie chart except that it can be used to plot more than one data series. Data series is represented by individual rings. Each section on a ring displays the contribution of an individual item to the total of all items in a particular series.

4. To create a chart in Excel, follow the given steps

Step 1 : Create a new worksheet with the data.

Step 2 : Select the range of cells containing the data (including the column titles and the row labels) to be plotted on the chart.

Step 3 : Click on the Insert tab and go to the Charts group.

Step 4 : Select the desired chart category, for example, Column and select the suitable chart sub-type (for example, "Clustered" column) from the displayed choices. The chart appears on our worksheet.

5. The Axis Title option allows you to add titles along the x-axis and the y-axis.

❖ To add a title to the x-axis, click Axis Titles > Primary Horizontal. The x-axis title text box will appear. Double-click on it and change the title to Name of the Candidate.

❖ To add a title to the y-axis, click Axis Titles> Primary Vertical. They y-axis title text box will appear. Double-click on it and change the title to Marks.



4. Control Statements in QBasic

A. 1. (c); 2. (c); 3. (b); 4. (c)

B. 1. T; 2. T; 3. F; 4. T; 5. F

C. 1. GoTo; 2. False; 3. True; 4. Step 5. Exit

D. 1. Conditional statements specify whether a particular task will be performed based on a specific condition. The program control is transferred to execute the task based on the result

of the condition.

The conditional statements used in QBasic are :

❖ GOTO statements

❖ IF...THEN, IF...THEN....ELSE, IF...THEN.....ELSEIF
Statements

2. The IF....THEN Statement is the most basic conditional statement and it is used to check conditions. If the condition is true then the statements written between IF...THEN and END IF are executed.

For example, the following program prompts the user to enter age. It displays the message “You are allowed to vote” if the age is more than or equal to 18.

REM A program to check the age for voting.

```
CLS
```

```
PRINT “Enter your age :”
```

```
INPUT Age
```

```
IF Age >= 18 THEN
```

```
PRINT “You are allowed to vote”
```

```
END IF
```

Here, if the input given by the user is greater than or equal to 18, then the line. “You are allowed to vote” is printed. If the condition is false, there will be no message on the screen.

3. A GOTO statement is referred to as unconditional transfer control. It is used to transfer the program control from one statement to another in a program.

Syntax : GOTO <Instruction>

For example : GOTO Start :

In the above mentioned statement, GOTO transfers the control to statement with the label, “Start:”.

4. In computer programming, a loop is used to repeat a block of statements a number of times.

There are three statements that let us execute loops in QBasic :

- ❖ WHILE...WEND
- ❖ DO...LOOP
- ❖ FOR...NEXT

5. Do while loop is executed as long as the specified condition is true. This loop first executes the block of statements then checks the conditions.

Do until loop is similar to the Do while loop, but the only difference is that the execution of the loop continues as long as the condition is false.



5. Introduction to Flash CS6

- A. 1. (b); 2. (a); 3. (b); 4. (c); 5. (b)
- B. 1. F; 2. T; 3. T; 4. F; 5. F
- C. 1. Pen; 2. Shift; 3. Pencil; 4. Paint Bucket Tool; 5. Library
- D. 1. Adobe Flash Professional CS6 is an authoring tool that you can use to create animations, games videos and interfaces that responds to user interaction. In general, individual projects created with Flash Professional are called applications (or SWF applications), even though they might only contain basic animation. You can make media-rich applications by including pictures, sound, video and special effects.
2. The main parts of an Adobe Flash CS6 window are followings :
- The Stage is the white area in the center of the screen. It is the place where graphics, text and video clips are placed and the movie is created.
- The Timeline is used to set the sequence of content in the

movie. It is divided into frames. The layers created in our Flash document also appears on the timeline.

The Tools Panel contains the tools used to select object on the stage, create text elements and draw vector graphics.

The Property Inspector is responsible for displaying the properties of any selected object. It also allows us to modify the settings of the objects.

The Library Panel is used to store media elements and symbols of a project. The panel is used to manage the project's elements.

The Work Area is the space around the stage that is used for drawing objects and then later put on stage.

3. This tool is used to draw rectangles and square of different types. To draw rectangle follow the given steps.
 - Step 1 : Select the Rectangle Tool from Tool panel.
 - Step 2 : In the Property Inspector Panel, select the Stroke colour, Fill color, Stroke height and Stroke style.
 - Step 3 : Click on the stage and drag the mouse pointer diagonally with the left button pressed to draw a rectangle.
 - Step 4 : Release the mouse button to make the rectangle visible on the stage.
 - Step 5 : To draw the rounded rectangle, specify rounded corners by clicking the Round Rectangle modifier and type in a corner radius value in the property Inspector.
 - Step 6 : Now, draw a rectangle on the stage. We will get a rounded rectangle with the specified corner settings.
4. Line Tool is used to draw straight line but pencil tool allows us to draw freehand lines just as we draw using a real pencil.
5. The Paint Bucket Tool is used to fill with a colour or gradient within an enclosed area, while the Ink Bottle Tool is used to change colour, style and thickness of existing lines in a figure.



6. More on Flash CS6

- A.** 1. (b); 2. (c); 3. (c); 4. (a)
- B.** 1. T; 2. T; 3. T; 4. T; 5. T
- C.** 1. Instance; 2. Libraries; 3. File; 4. Playhead 5. Symbols
- D.** 1. A symbol is a graphic image, animation, or button that is stored along with a movie. It can be inserted in the movie as many times as you want, i.e., symbols are reusable graphics.
2. The steps to convert an existing drawing into a symbol are :
1. Select the Selection (Arrow) Tool.
 2. Draw a selection area around the object on the Stage to select it.
 3. Select Modify → Convert to Symbol. The Convert to Symbol dialog box appears.
 4. Type a Name for the symbol.
 5. Select the type of symbol from the options Movie clip, Button, or Graphic. Here, we have selected Graphic.
 6. Click OK. The symbol now gets added to the Library panel.
3. The Timeline is a fixed pane below the stage. It provides you with the space to work with the frames. It arranges the frames in the proper order in which they will get played during the animation.
4. Frame-by-frame animation involves creating each frame of the animation. It gives accurate results, but is time consuming as each frame has to be drawn. Therefore, it is mostly used in complex animations where each frame shows a change. Let us consider an example to understand it.
5. In motion tweened animations, we only specify the first and the last keyframes. Flash automatically fills the frames between the two. Before we implement motion tweened on an object, we have to convert the object into a symbol.

Shape tweening is used to change the shape of one object into another. Shape tween does not work if the object is converted into symbol. We can create a wonderful morphing effect by using Shape Tween.



7. Introduction to HTML

- A. 1. (a); 2. (b); 3. (b); 4. (b); 5. (c)
- B. 1. T; 2. T; 3. F; 4. F; 5. F
- C. 1. Web contents; 2. HTML elements; 3. web browser;
4. <TITLE>; 5. <P>
- D. 1. HTML stands for Hyper Text Markup Language. HTML is the most widely used language to design web contents for the Internet. It is a complete code package that allows the users to create web page that contain both text and graphics. It is a simple mark-up-language that describes the structures and behaviour of the web document. All the web browsers are designed to understand and interpret this language.
2. A tag comprises of text enclosed in angle brackets < >. All tags have their own attributes and default values. Each tag in HTML follows specific rules known as syntax. These tags are not case sensitive. Tags are also known as elements.
3. **Container Elements** : In HTML, tags that include both start and end tag are called container tags. These tags wrap around the text in our document, and provide a block to the text. These hold in or contain the text in between the two tags.

For example : <TITLE> HTML Tags </TITLE>

Empty Elements : All other tags in HTML, fall into the other category, called empty tags. These tags have only a start tag and no end tags. The reason is that empty tags do not act on blocks of text.

For example : <HR> horizontal tag. It draws a line across the width of our document.

4. Line Break Tag

This tag is used to create a line break in a page. These breaks are significant while writing a long text. We can introduce a line break into our HTML document with the help of
 tag.

SYNTAX

5. This tag defines the body contents of our web page i.e., text, graphics, link etc.

Following is the simplest HTML code written in HTML editor (Notepad).



8. Overview Python

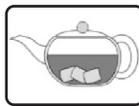
- A. 1. (c); 2. (b); 3. (c); 4. (a); 5. (c)
B. 1. (T); 2. (T); 3. (T); 4. (T); 5. (T)
C. 1. high-level; 2. instructions; 3. 1991; 4. two; 5. .py
D. 1. Python is a widely used general purpose, high level programming language. It was created by Guido van Rossum in 1991 and further developed by the python software foundation. It was designed with an emphasis on code readability, and its syntax allows programmers to express their concepts in fewer times of code. It is used to design web applications, mobile applications, desktop applications, robotics and performing scientific computing. It consists of three steps– Input, Processing, and Output. Have you ever tried to make a cup of tea. Let us see the process of making tea by following the given steps :

INPUT



An electric kettle is filled with water
The kettle is plug into the electrical socket
The 'on' switch is pressed

PROCESS



Tea bags are placed in the tea pot.
The water in the kettle boils.
The boiling water is poured into the tea pot and the tea 'brews'.

OUTPUT



The 'brewed' tea is poured into tea cup.
Milk is added.
The tea is consumed.

2. Python is a general-purpose, high-level programming language which is :

- ❖ Easy to code.
- ❖ Support for GUI
- ❖ Object-Oriented Approach.
- ❖ High-level Language
- ❖ Integrated by Nature
- ❖ Highly Portable
- ❖ Highly Dynamic
- ❖ Support for other language
- ❖ Extensive Array of Library

All these features make Python a popular language.

Some popular applications which are designed using python are :



3. Python has two basic modes : script and interactive. The normal mode is the mode where the scripted and finished .py files are run in the Python interpreter.

Interactive mode is a command line shell which gives immediate feedback for each statement, while running previously fed statements in active memory. As new lines are fed into the interpreter, the fed program is evaluated both in part and in whole.

- ❖ In Interactive mode, the statements are executed line by line giving the output instantaneously.
- ❖ Script mode is used to create and edit programs which are executed as a file and can be saved for later use.

4. While creating programs in Python, you may require some storage location to hold the values to be used later. Whenever we need these values, we can draw these values from the storage and use them for processing. These locations that are used to store values in memory are known as variables. A variable can store only one data value at a time. When a new value is stored in a variable, its

previous value gets overwritten.

When you are specifying any variable name, you need to follow certain rules:

- ❖ A variable name must start with an alphabet (capital or small) or an underscore (_).
- ❖ A variable name can consist of alphabets, digits, and underscore. No other character is allowed.
- ❖ A Python keyword cannot be used as a variable name.
- ❖ Space is not allowed in a variable name.

Examples of some valid variable names are :

staffid, staff_ address, minvalue, max_val, age 1980, a45r

5. The examples of some invalid variable names :

Invalid Variable Name Reason

Book Name	Space is not allowed.
90Price	Variable name cannot start with a digit.
Book.Price	Dot is not allowed.
Book@Author	Special characters are not allowed.
min	'min' is a keyword in Python, so it cannot be used as a variable name.



9. AI : Artificial Intelligence

- A.** 1. (c); 2. (c); 3. (c); 4. (a); 5. (c)
- B.** 1. F; 2. T; 3. T; 4. T; 5. F
- C.** 1. computer science, 2. John MC Carthy, 3. ASIMO, KISMEI
4. General AI, 2. new technology
- D.** 1. The word 'Artificial Intelligence' is made up of two terms 'Artificial and Intelligence'. Artificial Intelligence is the art and science of developing machines intelligent like humans.
2. The concept of AI began in 1950s. John McCarthy is after regarded as the "Father of AI".
3. Deep blue was a groundbreaking chess-playing computer developed by IBM. It gained global fame for being the 1st computer system to defeat a reigning world chess

champion, Garry Kasparov in a standard chess match under tournament conditions.

4. We need AI because it helps solve complex problems, enhances efficiency, and unlocks a new possibilities across various domains.
5. (a) A theoretical form of AI that surpasses human intelligence in all aspects, including creativity, problem solving and decision making.
(b) The highest level of AI, where machines can understand their own existence, emotions and thought processes.
(c) Refers to AI systems than can temporarily store data and use it to make decisions.
(d) Also known as weak AI, it is designed for specific tasks and cannot perform beyond its predefined function.
6. (i) AI reduces humans errors by performing calculations and data analysis with precision.
(ii) AI analysis large datasets objectively, providing unbiased and logical decisions.
(iii) AI automates repetitive tasks, saving time and resources.



Periodic Test Paper - I

- A.** 1. (c); 2. (c); 3. (b); 4. (c); 5. (c); 6. (b); 7. (a); 8. (c)
- B.** 1. (T); 2. (F); 3. (T); 4. (T); 5. (T); 6. (F); 7. (F); 8. (T)
- C.** 1. Legend; 2. pendrive; 3. Constants; 4. Functions; 5. X-Axis; 6. Legend; 7. False; 8. Exit
- D.** 1. To convert a decimal number into a binary number, follow the given rules :
- Step 1: Divide the given decimal number with the base 2.
- Step 2: Write down the remainder and divide the quotient again by 2.
- Step 3: Repeat the step 2 till the quotient is zero.
- Write the remainders obtained in each step in the reverse

order to form the binary equivalent of the given decimal number i.e. placing the Least Significant Digit at the top and Most Significant Digit at the bottom.

2. Binary Arithmetic

As a computer understands only binary code, the data given by the user is converted into binary code for processing. The processing may involve various kind of arithmetic operations, such as addition, subtraction, multiplication, division, etc on binary numbers.

Binary Addition

The technique used to add binary numbers inside the computer is very easy and simple. This is performed in the same way as you perform addition with decimal number.

The following table illustrates the addition of two binary digits :

A	B	A + B = C
0	0	0 + 0 = 0
0	1	0 + 1 = 1
1	0	1 + 0 = 1
1	1	1 + 1 = 0 with 1 (carry)

Example : Add 01101 and 10111.

In this example, two binary numerals are being added together. Starting in the right most column, $1 + 1 = 10_2$, the 1 is carried to the left and the 0 is written at the bottom of the right most column. The second column from the right is added : $1 + 0 + 1 = 10_2$ again, the 1 is carried, and 0 is written at the bottom. The third column : $1 + 1 + 1 = 11_2$. This time 1 is carried and 1 is written in the bottom row. Proceeding like this gives the final answer $(100100)_2$. written at the bottom. The third column : $1 + 1 + 1 = 11_2$. This time 1 is carried and 1 is written in the bottom row. Proceeding like this gives the final answer $(100100)_2$.

$$\begin{array}{r}
 \text{(carry)} \\
 \textcircled{1} \textcircled{1} \textcircled{1} \textcircled{1} \textcircled{1} \\
 0 \ 1 \ 1 \ 0 \ 1 \\
 + 1 \ 0 \ 1 \ 1 \ 1 \\
 \hline
 1 \ 0 \ 0 \ 1 \ 0 \ 0
 \end{array}$$

Binary Subtraction

The rules given in the table must be followed to perform binary subtraction :

A	B	A - B = C
0	0	0 - 0 = 0
0	1	0 - 1 = 1 (with borrow)
1	0	1 - 0 = 1
1	1	1 - 1 = 0

Example: Subtract 10111 from 1101110.

$$\begin{array}{r}
 1 \ 1 \ 0 \ 1 \ 1 \ 1 \ 0 \\
 - 1 \ 0 \ 1 \ 1 \ 1 \\
 \hline
 1 \ 0 \ 1 \ 0 \ 1 \ 1 \ 1
 \end{array}$$

- Formulas are equations that perform calculation on values in your worksheet. You can make your own equation to perform certain calculation, e.g. $5 + 2 * 3$. This formula multiplies 2 by 3 and then adds 5 to the result. To make it different from number entry we start typing a formula with an equal sign (=).

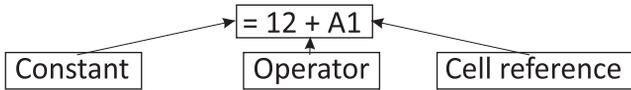
For example : $= 5 + 2 * 3$

The equal sign tells Excel that the succeeding characters constitute a formula. Following the equal sign are the elements to be calculated (the operands), which are separated by calculation operators. Excel calculates the formula from left to right, according to a specific order for each operator in the formula.

4. A formula in Excel contains the following elements

- ❖ Cell References : They are the addresses of the cells containing values to be used in calculation such as A1 (Single cell) or A1 : B2 (Range of cells).
- ❖ Operators : They specify the type of operation you want to perform such as +, – or *.
- ❖ Constants : They are the numbers or text values that can be entered directly in a formula such as 12 or “Joseph”.
- ❖ Functions : They are built-in formulas in Excel.

For example :



5. A chart has various contents

Data Table : It refers to the set of data values from which the chart is derived.

X-Axis : It is the horizontal axis of the chart, also known as the category axis.

Y-Axis : It is the vertical axis of the chart, also known as the value axis. The value of each data point is plotted on this axis.

Chart Title : It is usually placed at the top of the chart and helps the user understand what information the chart represents.

Axis Title : It is the title given to an axis. A 2-D chart has two axes (x and y) and a 3-D chart has three (x, y, and z).

Chart Area : It refers to the area within which all chart components are placed. It is often surrounded by a border.

Plot Area : It is the rectangular area bounded by the two axes. The x-axis and the y-axis define the two sides of the rectangular plot area in 2-D charts.

Legend : It identifies the data series. A unique color or

pattern is assigned to each data series to make it easier to distinguish it visually.

Gridlines : These are lines that run across the plot area from each category on the x-axis and from each value on the y-axis. You can choose whether to display them or not. They make it easier to identify the value of each data point on a chart.

Data Label : A label that provides additional information about a data point on a chart.

6. A column chart is used to depict comparisons among different items of data or changes in data trend over a period of time. In this type of chart, values are represented on the vertical axis whereas categories are represented on the horizontal axis.

A bar chart displays the comparisons among individual items as sets of horizontal bars. A bar chart is similar to a column chart except that in this type of chart, the values are represented on the horizontal axis whereas categories are represented on the vertical axis.

7. Conditional statements specify whether a particular task will be performed based on a specific condition. The program control is transferred to execute the task based on the result of the condition.

The conditional statements used in QBasic are :

❖ GOTO statements

❖ IF...THEN, IF...THEN....ELSE, IF...THEN.....ELSEIF Statements

8. A GOTO statement is referred to as unconditional transfer control. It is used to transfer the program control from one statement to another in a program.

Syntax : GOTO <Instruction>

For example : GOTO Start :

In the above mentioned statement, GOTO transfers the control to statement with the label, "Start:".



Periodic Test Paper - II

- A. 1. (c); 2. (c); 3. (c); 4. (b); 5. (b); 6. (c); 7. (a); 8. (c)**
- B. 1. (T); 2. (F); 3. (T); 4. (T); 5. (F); 6. (T); 7. (F); 8. (T)**
- C. 1. Paint Bucket; 2. Subselection; 3. Instance; 4. Playhead; 5. Attributes; 6. Head; 7. Man-made; 8. Pen drives**
- D. 1. The three node of pencil tool are :**
- ❖ Straighten, if you want Flash to straighten the lines.
 - ❖ Smooth, if you want Flash to smoothen the lines.
 - ❖ Ink, if you want the line to look as if it is drawn using ink.
- 2. Antivirus software are computer programs which are designed to identify, prevent and remove viruses from a computer. They perform the following tasks in a computer:**
- ❖ Scan the computer files to look for known viruses matching definitions from virus dictionary.
 - ❖ Identify suspicious behaviour from any computer program which might indicate infection.
- 3. Lasso Tool is a free hand selection tool. We can use this tool to select irregular shaped areas of a drawing or a part of an object. This tool has 3 options. To use this tool follow the given steps :**
- Step 1 : Click on the Lasso tool.
- Step 2 : Move the pointer over the Stage area. It change to Lasso shape.
- Step 3 : Click and drag the Lasso around the object until we reach the point where we started.
- Step 4 : Release the mouse button.

4. A symbol is a graphic image, animation, or button that is stored along with a movie. It can be inserted in the movie as many times as you want, i.e., symbols are reusable graphics.
5. Frame-by-frame animation involves creating each frame of the animation. It gives accurate results, but is time consuming as each frame has to be drawn. Therefore, it is mostly used in complex animations where each frame shows a change. Let us consider an example to understand it.
6. Attributes give us extra information about elements. They are always specified inside the start tag, and have a name-value pair.

The attributes of an element are special words that are given along with ON tag within the angular brackets, and specify additional information for that tag or command.

For example, `<hr color = "green">`

In the above case, `<hr>` is the tag for horizontal line and color is the attribute, signifying the color of the line.

7. It is used to change the appearance of the text, e.g., size, colour and style. It is a container tag. The attributes used with `` tag are listed below :

Attribute	Description	Example
Size	It specifies the size of the text.	<code></code>
Colour	It specifies the colour of the text.	<code></code>
Face	It specifies the style of the text.	<code></code>

8. Python is a general-purpose, high-level programming language which is :

❖ Easy to code.

- ❖ Support for GUI
- ❖ Object-Oriented Approach.
- ❖ High-level Language
- ❖ Integrated by Nature
- ❖ Highly Portable
- ❖ Highly Dynamic
- ❖ Support for other language
- ❖ Extensive Array of Library

All these features make Python a popular language.

Some popular applications which are designed using python are :



Olympiad Model Test Paper

- ❖ 1. (a); 2. (d); 3. (b); 4. (c); 5. (b); 6. (a); 7. (a); 9. (d); 10. (c); 11. (b); 12. (d); 13. (a); 14. (a); 15. (c); 16. (c); 17. (c); 18. (c); 19. (a); 20. (d); 21. (d); 22. (a); 23. (d); 24. (a); 25. (d); 26. (c); 27. (b); 28. (a); 29. (a); 30. (a)