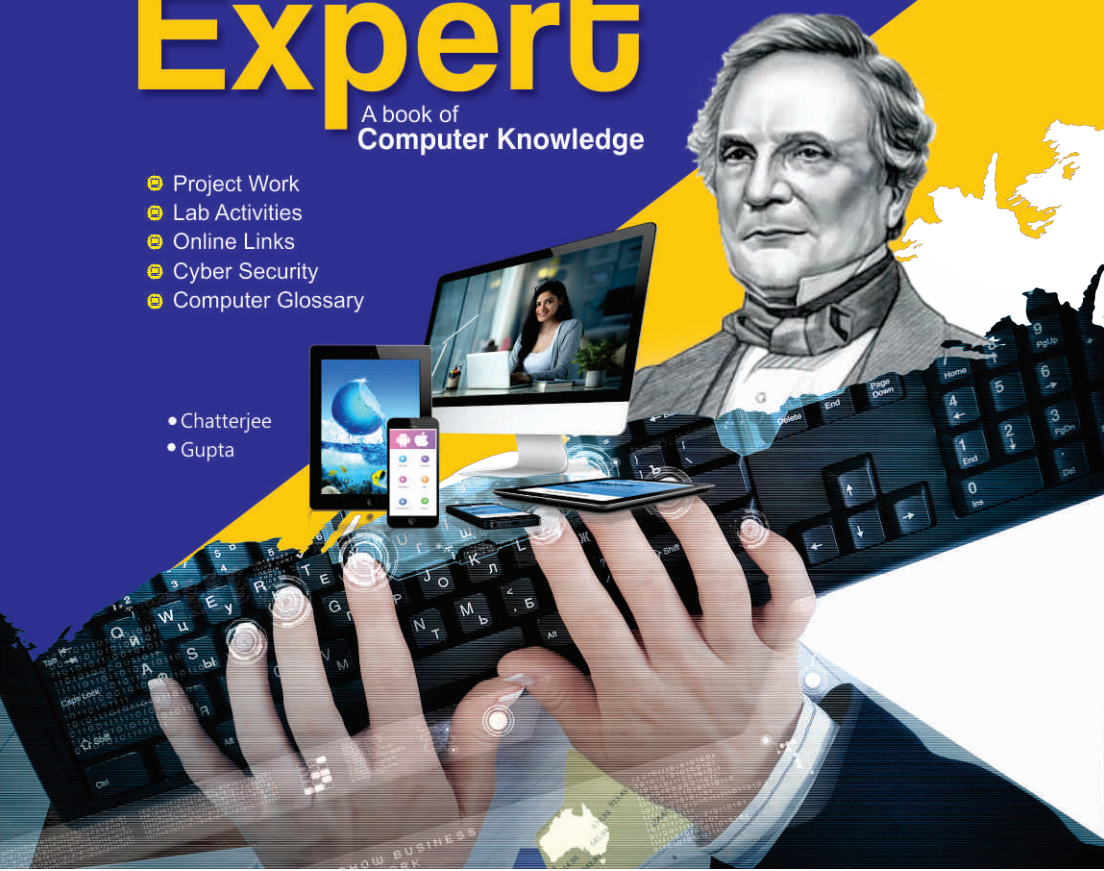# Teacher's Manual

Teacher's Manual

FLYING
BOOKS

Computer Activity
Book Based on
Windows 10

Computer
Expert

A book of
Computer Knowledge

- Project Work
- Lab Activities
- Online Links
- Cyber Security
- Computer Glossary

- Chatterjee
- Gupta

Computer-6

1   Computer Language

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

B. **1.** Language; **2.** program; **3.** high speed, low memory; **4.** programming; **5.** 4GLs

C. **1.** T; **2.** F; **3.** F; **4.** F; **5.** T

D. **1.** A programming language is a special type of language that we can use to give instructions to the computer.

   2. Machine language is the only language that a computer understands.

   3. Machine Language (First Generation) : It is the only language that a computer understands. It is expressed in binary form, i.e., '0' and '1' where 0 means 'Off' state and 1 means 'On' state.

   Assembly Language (Second Generation) : The Assembly language is close to the Machine language but in assembly language, binary operation codes are replaced by the Mnemonics.

   4. • 4GLs are more programmer friendly than earlier generations of languages.

     • 4GLs allow efficient use of databases and data processing.

     • 4GLs allow a user to add specific system logic to existing code.

     • 4GLs help to produce full systems with options like data structures, reports, and even program-specific logic.

   5. Interpreter : Translator program is used to convert a high level language program into machine language. An Interpreter translates line by line, executes the instruction and then repeats the procedure for the remaining instructions. Interpreter programs are preferred for beginners and are slow in execution speed.

Compiler : Compiler is a translator program, used to convert a high level language program into machine language. A Compiler translates the whole program at once, i.e., it generates the object code for the program along with the list of errors. The execution speed of a compiler is faster as compared to an interpreter.

2   Operating System– Windows 10

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

B. **1.** 2015; **2.** icons; **3.** taskbar; **4.** bookmarks; **5.** Virtual Desktop

C. **1.** F; **2.** F; **3.** T; **4.** F; **5.** T

D. **1.** It appears at the bottom left corner of the Taskbar. When you click this button, a lists of options appears. This list is called the Start menu.

   2. The File Explorer program, previously known as Windows Explorer, has been given a noticeable look in Windows 10. There are plenty of new tools though the basic layout and functionality will be familiar to anyone who has used Windows XP or later.

   3. • Open the Settings window from the Start Menu.

     • In the settings window, point to your favourite settings (Network & Internet) and right-click.

     • On the small menu that appears, select Pin to Start.

     • Click Yes on the screen to confirm the action. After this, you will see the Network & Internet app directly in the Start Menu.

   4. • Click the Start button.

     • Choose Power, Windows will display options to Sleep, Shut down and Restart.

- Select Shut Down to shut down the computer.
5. One of the new features of Windows 10 is the addition of Virtual Desktops. This allows you to have multiple desktop screens where you can keep open windows organised.

To add a virtual desktop, follow these steps:
- Click Task View on the Taskbar.
- Click the "New desktop" option on the lower-right corner. You can access or delete the new Desktop by clicking Task View again.

3 Advanced Features of MS Word 2016

A. 1. (c); 2. (b); 3. (c); 4. (b); 5. (c)
B. 1. Insert; 2. Esc; 3. Mail Merge; 4. main document; 5. Mailings
C. 1. T; 2. T; 3. F; 4. F; 5. F
D. 1. Headers and footers are parts of a document that contain special information such as the document title, company logo, any photo, page numbers and the total number of pages, etc.
   2. To insert a Header an Footer :
   Step 1 : Click on the Insert tab.
   Step 2 : Click on the Header or Footer option in the Header & Footer group. A gallery of header or footer design appears.
   Step 3 : Select the header or footer design you want. The outline of header or footer entry box appears at the top or bottom of the page. The Design tab also appears on the Ribbon.
   Step 4 : Click on the placeholders or Content Controls and type the desired information to be inserted as header or footer. The Content Controls are enclosed in square brackets.

Step 5 : After adding the header or footer, click Close Header and Footer option on the Design tab or press the Esc key. You will notice that the header and/or footer appears at the top and/or bottom of the page.
3. Mail Merge feature is used to combine a data source with the main document. It saves our time and energy to send letters at multiple addresses.
4. The three main stages during the mail merge process are creating data source, creating main document and merging the data source with the main document.
5. Step 1 : To create a new data source, click on Create under Type a new list. The New Address List dialog box opens. Fill the details of the recipients. The fields you do not require can be left blank.
   Step 2 : Click on New Entry to get the blank form for the next recipient.
   Step 3 : After typing all the entries, click on OK.
   Step 4 : The Save Address List dialog box appears. Give a name to the list and save it.
   Step 5 : The Mail Merge Recipients dialog box shows the data you have entered. You can edit the details in it, if required. Then you can move to the next step in the Mail Merge Wizard.
   Step 6 : Write your letter is Step 4 of 6. Write the letter in the active window. To add recipient information in it, click its location in the letter and then click on the required options from the Mail Merge task pane. The selected fields will appear between '<<' and '>>' symbols in the main document.

Step 7 : Click on Address Block in the Mail Merge task pane. The Insert Address Block dialog box appears. Select the required options by clicking on the check boxes and click on OK.

Step 8 : Now click on Next : Preview your letters, 5 of 6. This will allow you to see the letters one after another by clicking on the icon. You can make changes to the letters by going back step by step. You can even exclude recipients if you want.

Step 9 : Finally, to merge the document to the data source, click on Next: Complete the merge. This is the last step. In this step, you have the option to either Print the letters or Edit individual letters.

Step 10 : Give the document a name and save it by clicking on the Save As option in the File menu.

4   Enhancing a Presentation

A. **1.** (a); **2.** (c); **3.** (b); **4.** (a); **5.** (d); **6.** (a)

B. **1.** Animation; **2.** microphone; **3.** Video clips; **4.** play; **5.** Rehearse timing; **6.** three

C. **1.** T; **2.** F; **3.** T; **4.** ; **5.** T; **6.** F

D. **1.** An animation is a visual effect added to the objects on a slide (including text, pictures, shapes and so on) or to the slide as a whole.

2. Slide transitions control how your presentation moves from one slide to another. Slide transitions can be very useful to enhance your presentations. They grab the audience's attention and make a presentation visually appealing.

3. Click on the slide to which you want to add an audio

clip of recorded sound. Make sure a microphone is connected to your computer. Follow these steps.

Step 1 : Click on the Insert tab.

Step 2 : Click on the down arrow under the Audio option in the Media group.

Step 3 : Click on the Record Audio option. The Record Sound dialog box appears.

Step 4 : Type a name for the audio recording.

Step 5 : Click the Record button to start recording.

Step 6 : Click the Stop button when you're finished recording. You can click the Play button to listen to the recording.

Step 7 : Click OK. The audio file gets inserted in the slide.

4. Video clips can also be added from any CD-ROM.

Step 1 : Select the Insert tab. Click on the Video drop-down list in the Media group and select the Video on My PC option.

Step 2 : The Insert Video dialog box appears on the screen. Select the required clip. Click on the Insert option.

Step 3 : The Format and Playback tabs appear whenever you click on the inserted video. You can format the inserted video by clicking on the Format tab and selecting various formatting options from it.

Step 4 : Click on the inserted video clip and select the Play button below the video clip. The video will start playing. The timeline next to the Play button will begin to advance. Click anywhere on the timeline to jump to any part of the video.

5. Rehearse Timings is a useful feature that helps us to

practice presenting the slide show. Using this feature, we can save the most appropriate timings needed to go through each slide and animation in the presentation during a slide show. These timings can then be used to run the slide show automatically for the audience.

6. While designing and running a presentation, the following points should be kept in mind :
   - Slides should be of a consistent design throughout the presentation.
   - Use graphics and pictures to make the presentation attractive.
   - Remove unnecessary information and graphics.
   - Use contrasting background and text colours.

5   Microsoft Excel 2016

A. 1. (b); 2. (a); 3. (c); 4. (a); 5. (b); 6. (a)

B. 1. header; 2. editing; 3. Cell; 4. Formula Bar; 5. Auto Fill; 6. Ctrl + X

C. 1. T; 2. F; 3. F; 4. F; 5. F; 6. T

D. 1. **Worksheet :** It is a work area made up of horizontal rows and vertical columns wherein you enter and work with data. When you open Excel, single worksheet is displayed. You can add more worksheets as and when required. An Excel worksheet contains 16,384 columns and 1,048,576 rows.

   Workbook : It is a collection of multiple worksheets stored under a single file name. When you save an Excel worksheet, you are actually saving a workbook. The Excel workbook is saved with the extension .xlsx.

Selection	Steps
2. To select a range of adjacent cells	• Click the first cell of the range and then drag to the last cell to highlight all the cells in between.
	• To select a large range of cells, select the first cell in the range, hold down the Shift key and then click the last cell of the range.
To select non-adjacent cells or cell ranges	Select the first cell or cell range. Hold down the Ctrl key and select the second cell or range of cells. Repeat these steps to select more cells or cell ranges if needed.

3. Using Drag and Drop Method

   Step 1 : Select a cell or a range of cells. Position the mouse pointer at the edge of the selected cells.

   Step 2 : Notice that the pointer changes from a white cross symbol to move pointer symbol.

   Step 3 : Drag the selected cell or a range of cells to a new destination, and release the mouse button. The data will be moved to a new location.

4. The steps to change the contents of a cell completely are :

   Step 1 : Select the cell to be edited.

   Step 2 : Type in the new data into the cell.

   Step 3 : Press the Enter key or the Enter button on the Formula Bar to accept the changes.

5. The steps to insert a new row are :

   Step 1 : Click on the row heading to select the row above which you want to insert the new row.

   Step 2 : Click on the arrow next to the Insert option in the Cells group on the Home tab. A drop-down list is displayed.

Step 3 : Click on the Insert Sheet Rows option.
The selected row is shifted down and a new row is inserted at its place.

6. Excel provides a wonderful feature for copying cell contents. The Auto Fill is the easiest method to fill data in cells automatically.

Step 1 : Type January in cell B1.

Step 2 : Position the pointer at the lower right corner of the cell.

Step 3 : The mouse pointer changes into a thin black "+" cross.

Step 4 : Hold down the left mouse button and drag the fill handle up to cell B5. Release the button.

Step 5 : The months February to May would appear in the cells B2 to B5.

6   Algorithms and Flowcharts

A. 1. (b); 2. (c); 3. (b); 4. (b); 5. (a)

B. 1. looping; 2. flowchart; 3. two; 4. oval; 5. flow lines

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

D. 1. Algorithm is a set of sequential steps to solve any logical or a mathematical problem. Algorithm is always written in simple language and precise manner so that anyone can understand the steps.

2. A flowchart is a diagrammatic representations of steps to be taken to solve a problem. Program flowcharts shows the sequence of instructions in a single program or subroutine.

3. Repeating a set of instruction till a specific condition is fulfilled is known as looping.
A loop is characterized by two things :
   • Condition and
   • Counter whose value is increased or decreased

Let us consider an example of looping in a flowchart. Consider the given flowchart that displays the word 'Programming' five times.

The value of Count (counter) is initiated to one. It gets incremented by one every time it displays the word 'Programming'. The process of displaying the word and incrementing Count is continued as long as value of Count is less than or equal to 5 (condition). This is known as a loop. The loop comes to an end when the value of Count becomes 6.
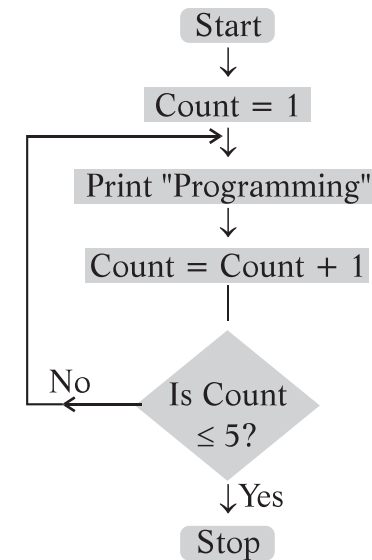
4. A Decision box is used to test conditions and take decisions. A condition can either result in a Yes/No or True/False. A Decision box is represented by a diamond shape.

5. A Process box is used to show actions or processes such as addition and subtraction. A Process box is represented by a rectangle.

A. **1.** (c); **2.** (d); **3.** (c); **4.** (c); **5.** (a)

B. **1.** program; **2.** constant; **3.** character set; **4.** numeric value; **5.** BEDMAS rule

C. **1.** T; **2.** F; **3.** F; **4.** T; **5.** F

D. **1.** QBASIC which stands for Quick Beginner's All Purpose Symbolic Instruction Code.

2. A variable is a location in the memory, which has been assigned a name, and is used to store data temporarily. It continues to hold the value until another value is assigned to it.

There are two types of variables :

1. Numeric Variables, **2.** Alphanumeric Or String Variables

3. **Numeric Constants :** Any numeric value, either an integer or a real number, positive or negative is called a numeric constant.

Alphanumeric Or String Constants : A set of characters is called a String. An alphanumeric or string constant consists of a sequence of characters, A-Z, a-z, 0-9 and certain special symbols, like % ? # & * ( ) ; : " ' /, etc., enclosed in double quotes.

4. When many operators are used in an expression, what will be the order of execution? In general, the expression is evaluated from left to right, but there are some other hierarchy rules that decide the order of calculation. Similar to BODMAS rule is applicable in maths, BEDMAS rule is applied to QBASIC expressions as follows :

B	Brackets	( )
E	Exponentiation	^
D	Division	/
M	Multiplication	*
A	Addition	+
S	Subtraction	−

5. It is used to display any message or result on the screen. Any text written in double quotes is printed as such. Anything written without quotes is treated as a program components and its value will be displayed.

Syntax : PRINT "Message"

Print <Variable Name>

Example :

PRINT "Welcome to the World of BASIC Programming."

It will display the message, Welcome to the World of BASIC Programming.

PRINT A

It will display the value stored in the variable A.

PRINT

It will leave a blank line.

8 Introduction to Flash CS6

A. **1.** (b); **2.** (c); **3.** (a); **4.** (b); **5.** (c)

B. **1.** New; **2.** Adobe Flash; **3.** polygon, star; **4.** Brush; **5.** Lasso

C. **1.** T; **2.** T; **3.** T; **4.** F; **5.** T

D. **1.** Animation is the technique of creating an illusion of movement by rapidly displaying a sequence of still images (with slightly varying positions/postures).

2. Adobe Flash is a popular animation software used for creating animations, games and even full length animation movies complete with sound and special effects. Flash is specially suitable for creating

animations for websites since the size of a flash movie is very small which makes them easy to upload and download.

3. To create a new document, follow these steps :

   Step 1 : Click on File and then New.

   Step 2 : New Document dialog box appears.

   Step 3 : The New Document dialog box displays the file types you can create in Flash Professional.

   Step 4 : Click on the ActionScript 3.0 file type, if it is not already selected.

   Step 5 : Click on OK.

   Step 6 : The Adobe Flash new document window appears on the screen.

   Now you are ready to work with the master document, which uses the file extension .fla and thus called FLA file.

4. The Paint Bucket tool fills enclosed areas with colour. It can fill empty areas and change the colour of already painted areas.

   Step 1 : Select the Paint Bucket tool.

   Step 2 : Choose a fill colour from the color tool box.

   Step 3 : Click the shape or enclosed area that you want to fill.

5. The Line Tool works exactly the same way as the Line tool in graphics software.

   The Pencil tool allows us to draw freehand lines just as we draw using a real pencil.

9 Internet Services

A. **1.** (c); **2.** (c); **3.** (b); **4.** (a); **5.** (b)

B. **1.** 1969; **2.** e-mail; **3.** modem; **4.** web browser; **5.** compose

C. **1.** T; **2.** T; **3.** T; **4.** F; **5.** T

D. **1.** The World Wide Web (WWW or W3) is a system of interlinked hypertext documents accessed via the Internet. With a web browser, one can view web pages that may contain text, images, videos and other multimedia and navigate between them via hyperlinks.

2. Social networking is possible in person, especially in the workplace, universities, etc. This is because most high schools, colleges or workplaces, the internet is filled with millions of individuals who are looking to meet other people, to gather and share first-hand information.

3. The first thing we need to connect to the Internet is a computer. Other than the computer, we also need a few more things.

   1. Modem, **2.** Telephone Line, **3.** ISDN Line, **4.** Internet Service Provider (ISP), **5.** Web Browser

4. E-Mail stands for Electronic Mail. It is a facility on Internet to compose, store, send, and receive messages to any part of the world. The convenience, simplicity, and affordability of sending mails on Internet has totally changed the correspondence system.

5. To attach a file to an e-mail, follow these steps :

   Step 1 : Click on the Attach a file icon on the toolbar at the bottom of the Compose window.

   Step 2 : The Open dialog box will appear.

   Step 3 : Browse through your files, and select the file you would like to attach.

   Step 4 : Click on the Open button. The file gets attached to your mail. Now click on the Send button.

Computer-7

1   Number System

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

B.   **1.** decimal; **2.** 0 and 1; **3.** bit; **4.** subtraction; **5.** eight

C.   **1.** F; **2.** T; **3.** F; **4.** F; **5.** F

D.   **1.** To convert decimal number into a binary number, follow the given rules:
- Divide the given decimal number with the base 2.
- Write down the remainder and divide the quotient again by 2.
- Repeat the step 2 till the quotient is zero.

2. Binary number system, is used by computers because a computer can understand only two states; i.e. presence and absence of the electrical pulse.

3. A binary digit, is called a bit. A series of eight bits makes a byte.

4. **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 we perform addition with decimal numbers.

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

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

5. The base of the following Number System :

Number System	Base
Decimal	10
Binary	2
Octal	8
Hexadecimal	16

2   Formulas and Functions in Excel

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

B.   **1.** mixed; **2.** formula; **3.** equals; **4.** left, right; **5.** same

C.   **1.** F; **2.** T; **3.** T; **4.** T; **5.** F

D.   **1.** A text string or a text value is a sequence of characters on which you cannot perform mathematical operations like addition, subtraction, multiplication, or division. However, you can join strings. Joining the strings is called concatenation.

2. Formulas are equations that perform calculations 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

3. A reference identifies a cell or a range of cells in a worksheet, and tells Excel where to look for the values or data you want to use in a formula. A range of cells is referenced using a colon.

A relative cell reference in a formula is based on the relative position of the cell that contains the formula, and the referenced cell.

Absolute Reference : We put a $ sign before the column letter and before the row number to make the reference absolute. An absolute cell reference in a formula, such as A1, always refer to a cell in a specific location.

Mixed Reference : A mixed reference has either an absolute column and relative row, or absolute row and relative column. We put a $ sign before the column letter or before the row number, whatever we want to make absolute.

4. In Excel, functions are defined as built-in formulas that are used to perform calculations or to return information about your spreadsheet data.
   (a) AutoSum   (b) Average ( )
   (c) Max ( ) and Min ( )   (d) Count()

5. • Operations are carried out in the order in which they occur in the formula, which is left to right.
   • Any operation contained in brackets will be carried out first, followed by any exponent (power).
   • Then follow division and multiplication operations, which are given equal importance. Whichever operator appears first in the formula is carried out first.
   • After that, addition and subtraction operations are given equal importance.

3   Creating Charts in MS Excel

A. 1. (b); 2. (a); 3. (c); 4. (b)
B. 1. Plot Area; 2. category; 3. pie; 4. Column; 5. Doughnut
C. 1. F; 2. T; 3. T; 4. F; 5. F

D. 1. Gridlines, Chart Area, Plot Area, Data Table
   2. Step 1 : Select the range of cells B3:E6 that contains the data.
      Step 2 : Select the Insert tab.
      Step 3 : Click on the Line option under the Sparklines group.
      Step 4 : The Create Sparklines dialogue box will open.
      Step 5 : As the Data Range is already selected, select the Location Range where the sparklines are displayed. Select the cells F3:F6.
      Step 6 : The sparklines will be included in the sheet as shown in figure.
      Step 7 : You can use the Design tab options for sparklines to highlight specific points by selecting the respective check boxes.
   3. A legend indicates the nature of data displayed in a chart. For example, if two data series are displayed in a chart, the legend shows what each series contains. To add Legend, choose the Legend option from the Add Chart Element drop-down list and choose the appropriate option to display a legend for a chart from the submenu.
   4. **Pie Chart :** Pie charts are used when we want to show the relationship of different parts of data to the whole data.
      Doughnut Chart : A doughnut chart is similar to a pie chart except that it can display more than one data series. A pie chart can display only one data series.
   5. Guidelines are used for vertical and horizontal lines that make it easier to read a chart.

4   More on Flash

A. **1.** (b); **2.** (d); **3.** (b); **4.** (a)

B. **1.** Frame; **2.** symbols; **3.** File; **4.** keyframe; **5.** playhead

C. **1.** T; **2.** T; **3.** T; **4.** F; **5.** T

D. **1.** The steps to convert an existing drawing into a symbol are :

Step 1 : Select the Selection (Arrow) Tool.

Step 2 : Draw a selection area around the object on the Stage to select it.

Step 3 : Select Modify > Convert to Symbol. The Convert to Symbol dialog box appears.

Step 4 : Type a Name for the symbol.

Step 5 : Select the type of symbol from the options Movie clip, Button, or Graphic. Here, we have selected Graphic.

Step 6 : Click OK. The symbol now gets added to the Library panel.

2. To rotate the selected object, position the pointer over one of the four corner handles.

When the pointer changes to a curved arrow, click and drag to rotate the object.

3. Inserting a Frame or a Keyframe

The steps to insert a frame or keyframe are :

Step 1 : On the Timeline, click on a rectangular placeholder where you want to insert a frame or a keyframe.

Step 2 : Select Insert > Timeline > Frame.

Or

Select Insert > Timeline > Keyframe.

4. In motion tweening, you specify the beginning and end position of an object and Flash automatically fills the

frame in between. Usually, motion tweening works on symbols or groups of objects.

5. Layers are like transparent sheets of paper. You can draw different objects on each layer and make it appear on the stage whenever you want. Imagine that each image is a separate layer that has been drawn. They are placed on top of each other to create the illusion that everything was drawn on one sheet, but they are on separate layers.

5   Control Statements in QBasic

A. **1.** (a); **2.** (c); **3.** (c); **4.** (c)

B. **1.** loop body; **2.** step value; **3.** false; **4.** true; **5.** Exit

C. **1.** T; **2.** T; **3.** F; **4.** T; **5.** F

D. **1.** Conditional statements are used to execute a block of statements depending upon a condition. They help to control the flow of the program and hence are also known as control 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
```

3. A nested loop is a loop within a loop, an inner loop within the body of an outer loop. When the outer loop executes once, the inner loop executes to completion.

4. **Do While Loop :** This loop is executed as long as the specified condition is true. The Do While loop first executes the block of statements then checks the conditions.

Syntax:

DO

{

Statement(s)

}

LOOP WHILE Condition

Do Until Loop : This 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.

Syntax: DO UNTIL Condition

{

Statement(s)

}

LOOP

5. To end a loop prematurely, use the EXIT command, followed by either FOR or DO. Here is an example :

FOR X = 5 TO 10

PRINT X;

IF (X = 8) THEN EXIT FOR

NEXT X

The output of this program will be 5   6   7   8

6   Introduction to HTML

A. **1.** (c); **2.** (c); **3.** (b); **4.** (b)
B. **1.** HTML; **2.** attribute; **3.** tittle; **4.** two; **5.** web browser
C. **1.** F; **2.** F; **3.** T; **4.** F; **5.** T

D. 1. HTML is a language used for designing webpages. It is a language that describes the content, format and layout in which a webpage should be displayed over the World Wide Web.

2. There are two main types of HTML editors: WYSIWYG editors and text editors.

3. • <HTML>
   • <Title>
   • <Body>
   • <Head>

4. The first thing you should notice about these HTML tags, is that all tags include less than (<) and greater than (>) symbols on either side of the tags command. This is how HTML recognises tags. There are three types of tags :
   (a) Container Tags
   (b) Empty Tags
   (c) Comment Tags

5. An attribute is a special keyword used inside the tag to specify additional information about the tag and customise it.
   For example, <H1 align = "center">
   In this example, 'align' is an attribute of <H1>. It indicated that the text inside the <H1> tag is to be displayed in the center.
   Most attributes are optional and are only used when the default behaviour of a tag is to be changed.

7   Basic Tags in HTML

A. **1.** (c); **2.** (b); **3.** (b); **4.** (b); **5.** (b); **6.** (d)
B. **1.** Bgcolor; **2.** No shade; **3.** face; **4.** <I>; **5.** <P>
C. **1.** T; **2.** F; **3.** T; **4.** T; **5.** T

D. 1.

Attribute	Desciption	Example
Bgcolor	This attribute is used to specify the background colour of the webpage. If you do not use the bgcolor attribute then the default background colour of the page is white.	<BODY bgcolor="green">
Text	This attribute is used to specify the colour of the text to be displayed on the web page. If you do not use the text attribute then the default colour of the text is black.	<Body text = "red">

2. The <br> tag is an empty tag, which means it does not have a closing tag. It is used to start a new line.

To display a long piece of text on a web browser, paragraph element <P> is used, which makes a block of text as a paragraph.

3. 1.

Attribute	Desciption		Example
Size	Numbers in Pixels	It is possible to set the relative size of the text by setting the size attribute of the tag. There are seven relative sizes for text, numbered from 1 to 7, where 1 is the smallest and 7 is the largest. The default size is 3.	< font size = "7" > text
Face	Font name	The face attribute of the tag is used to specify the type of font to be applied to the text enclosed between and .	 text < / font>
Color	Color name	The color attribute of the is used to specify the color of the text enclosed between and tags.	 text

4. These tags are used to define different heading levels in an HTML document. These are basically used to emphasize the text. There are six heading levels, H1 to H6. The H1 heading style displays the text in the largest size and is mainly used for main headings. The lower levels are used for sub headings and less important things. It is not essential to use these heading levels in hierarchy. These heading tags are written within the <BODY> tag of the document.

5.

Noshade	To specify that the horizontal line should appear as a solid stripe accross the page, rather than a shaded stripe.	<HR noshade>

8   Introduction to Photoshop CS6

A. **1.** (a); **2.** (c); **3.** (d); **4.** (a)
B. **1.** image editing; **2.** .psd; **3.** document window; **4.** Tool Panel; **5.** Move
C. **1.** T; **2.** F; **3.** T; **4.** F; **5.** T
D. **1.** Adobe Photoshop is a powerful application for almost any kind of image editing and creating high-quality graphics. Photoshop has so many features that it may be used professionally to edit photos or graphics.

    2. It is used to select an image or part of it in a rectangular, square, elliptical or circular shape.

      Step 1 : Click on the Rectangular Marquee Tool in the Tools palette. The cursor appears as a cross-hair sign.

      Step 2 : Place the cursor on the image. Click and hold the left mouse button and then drag out a marquee to select the required part of the picture.

      Step 3 : We will notice that a dashed border has covered the object, which we have selected as shown in the figure.

      Step 4 : Press the Delete Key on the keyboard. A Fill dialog box appears.

      Step 5 : Select Background color in the Use field and click OK. We will notice that the selected part of the image will be deleted.

    3. It is used to select an image or part of it in a rectangular, square, elliptical or circular shape.
      The Lasso tools are used to make free-hand selections in an image.

    4. Panels help you to monitor and modify your work. For example, the Layers panel and Color panel which provides context-sensitive tools to make quick updates.

    5. Copying a Part of an Image
      The Move tool allows us to quickly create a copy of our selection.

      Step 1 : Select a part of an image using any selection tool.

      Step 2 : Click on the Move tool.

      Step 3 : Hold the ALT key and click and drag selection to a different location. We will see that a copy is created for us and moved to a new location.

9   Computer Virus

A. **1.** (d); **2.** (b); **3.** (a); **4.** (d)
B. **1.** malicious code; **2.** spread, replicate; **3.** viruses; **4.** backdoor; **5.** pirated
C. **1.** F; **2.** F; **3.** T; **4.** F; **5.** T
D. **1.** A virus is a small infectious agent that replicates only inside the living cells of other organisms. A computer virus is a program or piece of code that is loaded onto your computer without your knowledge and runs against your wishes.

    2. Viruses can be classified by their infection targets into the following types : 1. Boot Viruses, 2. Program Viruses, 3. Macro Viruses

      Boot Viruses : These viruses infect the boot record or master boot record. They replace the boot record that is responsible for loading the Operating System in the computer memory by copying it elsewhere. Boot virus becomes active at the time of booting the machine. Examples are Disk Killer, Stoned Virus, etc.

      Program Viruses : These viruses infect executable files,

programs, such as those with extension, like .com, .exe, .ovl, .drv, .sys, etc. These programs get loaded in the computer memory during execution. The virus becomes active in the computer memory by replicating itself and infecting files on the disk. Examples are Sunday, Cascade, etc.

3. The proper knowledge of viruses can keep your computer protected from the malicious attack of the viruses.

The following are the main causes of a computer virus :

Infected Flash Drives Disks : Flash drives and disks are the main cause of spreading viruses.

Email Attachments : Many viruses spread through emails. An email may contain an infected file attachment.

Infected Websites : There are many insecure websites those can infect computer with viruses.

Networks : Virus can spread if an infected computer is connected to a network. The internet is an example of such network.

Pirated Software : An illegal copy of software is called pirated software. A variety of pirated software is available in CDs and many are available to download from the internet.

4. • Take backup of your data regularly. An important way of precaution against virus is the use of backup of data. The backup is used if the virus deletes original data or modifies it.

   • Freeware and shareware software from the internet normally contain viruses. It is important to check the software before using them.

   • Your best protection is your common sense. Never click on suspicious links, never download songs, videos or files from suspicious websites. Never share your personal data with people you don't know over the internet.

5. A computer system can be protected from virus by following these precautions.

   • Antivirus software and firewall should be installed on the computer.

   • The antivirus software must be upgraded regularly.

   • USB drives should be scanned for viruses, and should not be used on infected computers.

   • Unknown emails should not be opened and must be deleted straight away.

   • Unauthorised or pirated software should not be installed on the computer.

1   Networking Concepts

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

B. **1.** switch; **2.** Router; **3.** Internet; **4.** star; **5.** Coaxial Cable

C. **1.** T; **2.** T; **3.** F; **4.** F; **5.** T

D. **1.** In general, Networking refers to creating networks. A network is a group of devices linked to each other. A cable network and a telephone network are examples of networks.

Easy data sharing

Computer networking has made it easy to share useful information instantly.

Easy access to data

Data stored on a local storage device may be lost if the device gets corrupted and no backup has been made.

Cost-effectiveness

Using a computer network allows us to share hardware devices, such as printers, modems, and scanners, which reduces the overall cost of the hardware.

No need to keep hard copies of documents

In a computer network, we share soft copies of documents, which has reduced the need for keeping hard copies of documents.

2. Router : A router is a communication device that is used to connect two different networks, such as two LANs or a LAN and a WAN. It plays a vital role in controlling the traffic and keeping the network efficient. It chooses the best route for the data packets to be transmitted at the receiver's end.

Switch : A switch is a device that is also used to connect computers in a network. However, a switch is a more intelligent device than a hub. Unlike a hub, the switch sends the incoming data to the desired destination only. It records the addresses of all the computers connected to it.

3. A PAN is a network of personal devices equipped to handle networking within a limited area. It handles the interconnection of IT devices within the surroundings of a single user.

   A LAN is the basic building block of any computer network. A LAN can range from two computers connected by a cable to hundreds of connected computers and peripherals in a big corporation.

4. The term 'network topology' refers to the way in which different devices are arranged physically or logically in a network. A physical topology is a physical arrangement of different nodes (connection points within a network), workstations, and cables in a network, while a logical topology defines the way in which the information flows between various components of a network.

   Major network topologies are bus, star, ring, mesh, and tree topologies.

Bus Topology

In the bus topology, each computer and device of the network is connected to one main cable. This cable is known as the 'backbone'. In this type of network, one of the computers acts as a server. A server is a computer that processes the requests and delivers data to other computers.

Star Topology

In a star topology, each computer and device is connected to a central server, called a hub, through a point-to-point connection. The devices in the star topology can communicate with each other only through the hub.

5. We need to secure a network against unauthorized access. In a computer network, multiple users access the same data, and thus it becomes important to manage access to the network. For example, an unauthorized user can access the network of an organization and try to modify or steal confidential data.

   Network security is ensured in many ways. Two of the most common ways are as follows :
   • Each authorized user is given a unique username and password for accessing the network.
   • Different users are given different types of access rights, such as read-only access, read-write access, and no access.

2   Introduction to Microsoft Access 2016

A. 1. (c); 2. (d); 3. (b); 4. (c)
B. 1. Tables; 2. Title bar; 3. field; 4. Primary key; 5. datasheet
C. 1. T; 2. T; 3. F; 4. T; 5. F
D. 1. Using a DBMS we can access and modify the data in a database, query the database to view a particular set of data, print the data in a pre-defined format and perform many other useful manipulations on the data.

   In simple words we can say that Database Management System allows us to manage a database. The management of a database involves creating a database and modifying, deleting and adding data in it.

   2. (a) Tables are the building blocks of a database. They store the complete data in a structured manner, i.e., in the form of rows and columns. Every table has a

finite number of columns and rows.

(b) A database usually contains data pertaining to one particular entity or organization.

(c) A primary key is a field or combination of fields that uniquely identifies the records in a table. A primary key field cannot have repetitive values and cannot be left blank. In Table, Eno field can be made the primary key as every employee has a unique employee number.

3. The steps to create a table in the Design view are :

Step 1 : Click on the Create tab.

Step 2 : Click on the Table Design option in the Tables group. A new table is inserted in the database and it opens in the Design View. A new tab named Design appears in the Ribbon.

Step 3 : Enter the name for the field in the Field Name column.

Step 4 : Choose a Data Type for a field from the Data Type list.

Step 5 : Use the Field Properties pane to set the properties for the fields.
Repeat steps 3 to 5 for all the fields in the table.

Step 6 : Place the cursor on the field to be set as the Primary key and click on the Primary Key option in the Tools group on the Design tab. You will notice that a key symbol appears next to the field.

Step 7 : Click on the Save button on the Quick Access toolbar or click on the File tab and choose the Save option. Save the table with an appropriate name.

4. Step 1 : Click on the column header that you want to move.

Step 2 : Drag the header to the left or right. Release the mouse button after choosing the correct position.

5. There are two views in a table– Design and Datasheet.

Design View

The Design view is used to design the structure of the database. The Design view window is divided into two parts.

- Field Grid Pane : Field names and their description can be defined here.
- Field Properties Pane : Properties for the fields can be defined here.

Datasheet View

Datasheet view displays a grid of rows and columns. The rows represent the records, and the columns represent the fields. The column headers are used to define the names of the fields.

3 Working with Queries, Forms and Reports

A. **1.** (c); **2.** (c); **3.** (d); **4.** (d)

B. **1.** Query; **2.** Reports; **3.** Relationship; **4.** create; **5.** controls

C. **1.** F; **2.** T; **3.** F; **4.** F; **5.** T

D. **1.** A query is a method of getting answers to questions about data. The query can involve a single table or multiple tables to get the answer.

2. A form provides an interface that allows users to enter, change, and view the data in a database tables.

3. Follow these steps to create a form.

Step 1 : Click on the table in the Navigation Pane on which the form should be based.

Step 2 : Click on the Create tab.

Step 3 : Click on the Form option in the Forms group. A form is created and it opens in the Layout

View. You can change the view to the Form view and enter or display data in the table. Three new tabs Design, Arrange and Format appear in the Ribbon.

Step 4 : Click on the Save option in the Quick Access Toolbar or the Save option on the File tab to save the form. You will notice that the Form object gets added to the Navigation Pane.

4. Reports are used to present data from tables or queries in a format that can be printed. Printouts of report cards, invoices are examples of reports. We cannot make changes to the data in a report.

5. **Printing a Report**

To print a report, select the File tab and then click either on the Print option or select the Print Preview View option.

This view displays how the report will appear on a page. It also allows us to choose the Page orientation, Page setup, etc.

• If needed, modify the page size, margin width, and page orientation using the related commands on the Ribbon.

• Click on the Print option. The Print dialog box will appear. Set any desired print options then click OK.

4 More on Photoshop

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

B. 1. black, white; 2. pencil; 3. Paint Bucket Tool; 4. Clone Stamp; 5. background

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

D. 1. The Healing Brush Tool allows you to repair imperfections such as scratches, blemishes and marks in an image. While working with this tool, you pick up sample pixels (pixels to be used for repairing) from the adjoining portion of an image. The Healing Brush Tool matches the texture, lighting, transparency and shading of the sampled pixels and applies them to the pixels that are being repaired.

The Spot Healing Brush Tool works in a similar manner to the Healing Brush Tool except that it does not require the sampling point to be set. It automatically picks up the sampled pixels from around the area to be retouched. This tool can be used to quickly remove spots, blemishes and other marks from photographs.

2. The Pattern Stamp Tool clones from a pre-defined area of pixels such as a pattern. You have to first define a pattern and then you can clone it.

3. The steps to use the Type Tool are :

Step 1 : Open the image.

Step 2 : Select the Horizontal Type Tool or the Vertical Type Tool.

Step 3 : Set the appropriate options such as font family, size, style, alignment and text colour for the Type Tool in the Options bar.

Step 4 : Click to set the insertion point anywhere on the image.

Step 5 : Enter the desired text.

Step 6 : Accept changes to the text by clicking the Commit button or cancel the operation by pressing the Cancel button in the Options bar.

4. Layers can be thought of as transparent sheets mounted on the top of each other.

Layers let you work on an individual part or an element of an image without affecting the other parts or elements. You can change the composition of an image by changing the order and properties of layers.

Elements placed on higher layers are displayed above the elements placed on lower layers.

5   Using Lists, Images and Links

A. **1.** (a); **2.** (d); **3.** (c); **4.** (c)

B. **1.** Type; **2.** Numbered; **3.** 1; **4.** <dt>; **5.** behaviour

C. **1.** F; **2.** F; **3.** F; **4.** T; **5.** T

D. **1.** The types of list that HTML provides are :
- Unordered List
- Ordered List
- Definition List

2. An unordered list is a collection of related items that have no special order or sequence. The list can be defined within the <ul> and tags. Each item in the list is marked with a bullet. That is why unordered list is also known as Bulleted List.

The ordered list is used to display the list of items in a specific order. The list begins and ends with <ol> and tags respectively. Each item in the list is marked with a number, that is why it is also known as the Numbered List.

3. We can use type attribute to specify the type of numbers we like. By default, its value is '1' for an ordered list.

We can also use start attribute with an ordered list to specify the start value of the first item from which an ordered list should start. By default, ordered lists start at 1.

4. Specifies the text to be displayed while the file loads or if the browser does not support graphics.

5. A website consists of a number of web pages that give you access to the related information. HTML renders a powerful feature of linking these web pages together. This feature is called Hyperlinking. Using these hyperlinks, one can open any linked web page on the Internet instantly. When you hover the mouse pointer over a link, it changes into a little hand.

Types of Linking
- Internal Linking
- External Linking

Internal linking : When one part of a web page is linked to another section on the same page, it is called internal linking.

External linking : When one page is linked to another web page or website, it is called external linking.

6   Tables in HTML

A. **1.** (c); **2.** (a); **3.** (d); **4.** (c)

B. **1.** Creating a table; **2.** <th>; **3.** <caption>; **4.** thicker; **5.** bgcolor

C. **1.** T; **2.** F; **3.** F; **4.** F; **5.** F

D. **1.** Tables are created to :
- Present Information or data in a comprehensive manner
- Make comparative analysis of data
- Display information that is easier to read and quicker to evaluate

2. The basic structure of a table consists of the following tags.

1. <table> tag : The <table> and </table> tags mark the beginning and the end of a table in an HTML document.

2. <tr> tag : <tr> tag defines a row in the table. It is the <tr> tag that divides a table into rows.

3. <th> tag : <th> tag defines a header cell in the table. The first row of the table can be divided into data cells using the <th> tag. The text enclosed within the <th> tag is aligned centrally inside the

cell and is displayed in a bolder font.

4. **<td>tag :** <td> tag defines a cell in the table. Subsequent rows after the first row in the table can be divided into data cells using the <td> tag.

3. This attribute sets the margins within a cell. It sets the amount of space in between the cell border and the cell data. The value of this attribute is indicated in pixels.
Example : <table border="3" bordercolor = "Blue" bgcolor = "White" align= "Center" cellpadding= "10">

CellSpacing

This attribute is used to set the minimum distance between two adjacent cells. CellSpacing is also measured in pixels.
Example : <table border=3 bordercolor "BLUE" bgcolor= "White" align= "Center" cellspacing="10">

4.

rowspan	This attribute specifies the number of rows a data cell should span. This attribute is used with the <td> tag or the <th> tag.	<td rowspan="2">
colspan	This attribute specifies the number of columns a data cell should span. This attribute is used with the <td> tag or the <th> tag.	<td colspan="2">

7 **Introduction to Python**

A. **1.** (b); **2.** (a); **3.** (b); **4.** (b)
B. **1.** interpreter; **2.** interactive; **3.** function; **4.** F5; **5.** keywords
C. **1.** F; **2.** T; **3.** F; **4.** T; **5.** F

D. **1.** IDLE works in two modes-interactive and script. Remember these two points :
- The interactive mode– is useful for running a single line of code. It displays the results automatically.
- The script mode lets you work with more than one line of code. You can save the file or script and run the code.

2.

Date type	Description	Example
Number	It stores numeric values as well as floating-point (decimal) values.	45, 82.5, 282727
String	It stores a combination of letters within the quotation (" ") marks.	" M i k e ", " S c h o o l ", "hello"
List	it contains items separated by a comma.	[1, 2, 3, 4], [2, "kc", 86.5]
Dictionary	It contains keys with their corresponding values.	{'A' : 1, 'B' : 2 }
Tuple	It is similar to lists. The only difference is that it cannot be modified and is enclosed by parentheses ().	(1, 2, 3, 4)

3.
- An identifier can be any combination of lowercase letters (a-z), uppercase letters (A-Z), digits (0-9),and underscores (_). For example, myVar, kc93, and hello_world are all valid identifiers.
- An identifier name can start with an underscore, For example, _john, _myClass1, and _ket876 are all valid identifiers.
- An identifier cannot begin with a digit. For example,

1var cannot be an identifier, but var1 is a valid identifier.

- Keywords cannot be used as identifiers.
- Special symbols (except underscore), such as $, #, and @, cannot be used in identifiers. For example,ket@js is an invalid identifier.
- An identifier name cannot contain any space.
- Identifier names are case-sensitive.
- Identifiers can be of any length.

4. To assign a value to a variable, the assignment operator (=) is used. The general syntax for assigning a value to a variable is as follows :

variable_name=value

For example :

To store an integer value 10 to a variable named 'var', the statement will be as follows:

var=10

5. **Operators**

An operator is a symbol that represents an action, such as +, -, x, and÷.An operand is a number on which an operator acts.

The types of operators in the programming languages are :

Arithmetic used for arithmetic calculations.

Comparison used for comparing values.

Logical used in logical calculations.

Arithmetic Operators

Listed below are some common arithmetic operators with the operations they perform.

Operator	Operation	Example
+	Addition	6 + 7 = 13
–	Subtraction	8 – 5 = 13
*	Multiplication	4 * 5 = 20
/	Division	20/4 = 5
%	Modulus	13%2 = 1

Comparison Operators

Operator	Operation	Example	Result
>	Greater than	5 > 3	True
<	Less than	3 < 7	True
!=	Not equal to	4 ! = 4	False
= =	Is equal to	5 = = 6	False
>=	Greater than equal	5 > = 5	True
< =	Less than equal	4 < = 6	False

Logical Operators

Operator	Description	Example (A=5, B=10)	Result
and	If both the values are true, the result is true.	A > B and A = B	False
or	If any of the two values is true, the result becomes true.	A < B or A > B	True
not	If an expression A is true then not A will be false and vice versa.	not A	True

8   E-Governance and E-Commerce

A.   **1.** (d); **2.** (c); **3.** (c); **4.** (d)

B.   **1.** digilocker; **2.** G2G; **3.** Commerce; **4.** Producers; **5.** business

C.   **1.** F; **2.** T; **3.** T; **4.** F; **5.** T

D.   **1.** E-governance, expands to electronic governance, is the integration of Information and Communication Technology (ICT) in all the processes, with the aim of enhancing government ability to address the needs of the general public.

     2. E-government functions can be classified into four main categories.

       1. G2G (Government to Government) : When the exchange of information and services is within the periphery of the government, is termed as G2G interaction.

       2. G2C (Government to Citizen) : The interaction amidst the government and general public is G2C interaction.

       3. G2B (Government to Business) : In this case, the e-governance helps the business class to interact with the government seamlessly.

       4. G2E (Government to Employees) : The government of any country is the biggest employer and so it also deals with employees on a regular basis, as other employers do.

     3. Commerce refers to the exchange of goods and services, usually for money. There are three parties to any such exchange : buyers, sellers, and producers.

     Buyers are the people with money who want to purchase goods or services.

Sellers are the people who offer goods and services to buyers. Sellers are of two types – retailers who sell directly to consumers and wholesalers or distributors who sell to retailers and other businesses.

Producers are the people who create the products and services that sellers offer to buyers. A producer is always, by necessity, a seller as well. He may sell the products to wholesalers, retailers, or directly to the consumer.

4. Types of E-Commerce

There are four kinds of e-commerce models at present. These models are as follows :

Business-to-Business

This model involves transactions taking place between companies.

Business-to-Consumer

This model refers to transactions between a company and a customer.

Consumer-to-Consumer

This model refers to e-commerce between consumers or individuals.

Digital Middlemen

This model refers to the e-commerce model that provides information about products from many other companies.

5. Advantages of E-Commerce

- E-commerce provides the sellers with a global reach. Now sellers and buyers can meet in the virtual world, without the hindrance of location.
- Electronic commerce will substantially lower the transaction cost. This allows the companies to enjoy a much higher margin of profit.

NOTES

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