

Drag and

Drop

Class - 7

- Select the file to be attached.
- Click the open button. The file gets attached to the e-mail.
- Click the **Send** button.

The e-mail will immediately send to the recipient with the attached file.

10. As the name suggests Control blocks let the user control the blocks within the scrips, inserting conditions statements, loops, repeats and pauses. Five Control blocks are: repeat block, forever block, if.. then block, it ... then ... else block, stop all.
11. Five applications of machine learning are: speech recognition, spam detection, social media, bioinformatics and banking.

Cyber Olympiad

Choose the correct option.

- | | | | |
|---------|---------|---------|---------|
| 1. (d) | 2. (d) | 3. (c) | 4. (d) |
| 5. (d) | 6. (a) | 7. (a) | 8. (b) |
| 9. (a) | 10. (d) | 11. (a) | 12. (b) |
| 13. (c) | 14. (c) | 15. (b) | 16. (a) |
| 17. (b) | 18. (d) | 19. (d) | 20. (a) |
| 21. (b) | 22. (c) | 23. (d) | 24. (b) |
| 25. (b) | 26. (b) | 27. (b) | 28. (c) |
| 29. (d) | 30. (d) | | |

Class 7

Chapter 1 : More on Windows 10

Activity Time

- | | | |
|-------|------|------|
| 1. S | 2. S | 3. E |
| 4. S | 5. E | 6. E |
| 7. E | 8. S | 9. S |
| 10. S | | |

Rapid Fire

- Control Panel contains several links that is used to change **hardware** or **software** settings.
- Administrative Tools is example of **software** settings.
- Programs** use the date and time to establish when files and folders are created and modified.
- You can add one or two additional clocks using the **Additional Clocks** tab.

Let's Review

A. Tick (✓) the correct option.

- | | | |
|--------|--------|--------|
| 1. (a) | 2. (d) | 3. (a) |
| 4. (a) | 5. (a) | |

B. Match the following.

- | | | |
|----------|---------|--------|
| 1. (ii) | 2. (iv) | 3. (v) |
| 4. (iii) | 5. (i) | |

C. Answer the following questions.

- Control Panel is a feature of the Microsoft Windows graphical user interface that allows users modify computer's settings and controls.
- Follow these steps to change date and time of a computer:
 - Open the Control Panel and click the Clock and Region link. Date and Time dialog box appears.
 - Click the **Change time zone** option. A dialog box appears.
 - Click the **Change date and time** button. The **Date and Time Settings** dialog box appears.
 - Make the required changes in date and time of your system and click the **OK** button.
- Follow these steps to set the double-click speed of the mouse:
 - Open the Control Panel and click the Hardware and Sound link. A Hardware and Sound dialog box appears.
 - Click the Mouse option in Devices and Printers section. A Music Properties dialog box appears.
 - Click the Buttons tab.
 - Drag the speed slider in the suitable direction to set the double-click speed as slow or fast.
 - First click the Apply button and then OK button.
- An On-screen Keyboard is a feature provided by Windows 10. It allows users to type text using a joystick or a pointing device.
- Disk cleanup is a utility of a Windows operating system. It helps to clean up hard disk.

6. Follow these steps to use Disk-Cleanup utility:
 - Click the **Start** button.
 - Click the **Windows Administrative Tools** folder
 - Click the **Disk Cleanup** option..
 - Select the drive to be clean up.
 - Click the **OK** button. The **Disk Cleanup** for selected drive dialog box appears.
 - Click the check boxes of the files to be deleted.
 - Click the **OK** button.

The disk clean up will start for the selected drive.

7. We will need a Sound Recorder program to record our voice in our computer? Follow these steps to record voice on the computer.
 - Open the **Control Panel** and click the **Hardware and Sound** link. A **Hardware and Sound** dialog box appears.
 - Click the **Change system sounds** option in **Sound** category. A **Sound** dialog box appears.
 - Click the **Recording** tab.
 - Click the **Microphone** option.
 - Click the **OK** button and start speaking in the microphone. The voice starts recording.

Activity Time






The students will do it themselves.

Brain Teaser

1. Disk Cleanup
2. Defragment and Optimize device
3. Voice recorder or microphone

Chapter 2 : Animation in PowerPoint 2016

Activity Time

Icon	Button Name	Group	Tab
	Video	Media	Insert
	Audio	Media	Insert
	From beginning	Start Slide Show	Slide Show
	Wipe	Transaction to This Slide	Transactions
	Add animation	Animation	Animations

Rapid Fire

1. PowerPoint was originally developed by **Bob Gaskins**.
2. In **1988**, the first Windows and Dos versions of PowerPoint were produced.
3. You can use the built-in **animation** effects in Microsoft Office PowerPoint 2016.
4. MS PowerPoint provides **four** types of animations.

Let's Review

- A. Tick (✓) the correct option.
 1. (b) 2. (b) 3. (c)
 4. (c)
- B. Write T for true and F for false for the following statements.
 1. T 2. F 3. F
 4. T 5. F 6. T
- C. Answer the following questions.
 1. In PowerPoint is a presentation software having powerful graphics capabilities and great formatting features that enable even the beginners to create professional looking presentations.
 2. Animation is a feature of PowerPoint that uses drawings, images, and motion to create a story or image. We can use it to tell a story, create a character, or show an event.
 3. PowerPoint provides four types of animation to the users. They are: Entrance, Emphasis, Exit and Motion Paths.
 4. The steps to add animation to text or object:
 - Select the text or object that you want to animate.
 - Click the **Animations** tab.
 - Click the down-arrow of **Add Animation** button in **Advanced Animation** group. A list of animation effects appears.
 - Select an effect of your choice.
 The selected animation effect is applied to the text or the object.
 5. The steps to remove animation effects:
 - Select the text or object of which the animation effect is to be removed.
 - Click the **Animations** tab.

- Click the down-arrow of **Add Animation** button in **Advanced Animation** group. A list of animation effects appears.
- Select the **None** option from the list.

The animation mark will disappear from the slide and from the Custom Animation task pane list.

6. Custom Animation effects are a set of effects which can be applied in objects in PowerPoint. It contains a list of animation effects such as time, style, sound, etc.
7. Transition effects are special effects used to introduce slides to move presentations from one slide to the next.
8. The steps to add sound in a presentation:
 - Click the Insert tab.
 - Click the drop-down arrow of Audio button in Media group. A menu appears.
 - Click the option from where you want to add.
 - Select the audio sound file you want to insert.
 - Click the Insert button. A sound icon will appear on the slide.
 - Click the Play button to play your audio sound.

Activity Time

Icon	Name	A/T	Icon	Name	A/T
	Push	T		Darken	A
	Cover	T		Wheel	A
	Fly in	A		Loop	A
	Appear	A		Box	T
	Dissolve	T		Cut	T
	Doors	T		Checker board	T
	Conveyor	T		Pans	T

Brain Teaser

1. Start Slide Show
2. Setup Slide Show
3. Start Slide Show

Activity Time

Icon	Button Name	Group	Tab
	AutoSum	Editing	Home
	Paste	Clipboard	Home
	Insert row	Cells	Home
	Delete row	Cells	Home
	Format	Cells	Home
	Bottom border	Font	Home

Rapid Fire

1. The address of a cell or cell range is called **cell reference**.
2. **Formulas** are used to perform calculations with the given values.
3. The first spreadsheet on a personal computer was called **VisiCalc**.
4. **AutoSum** helps to automatically total the contents of cells.

Let's Review

- A. Tick (✓) the correct option.
 1. (c) 2. (b) 3. (c) 4. (c)
- B. Write T for true and F for false for following statements.
 1. T 2. F 3. T 4. F
 5. F 6. T 7. F
- C. Answer the following questions.
 1. A formula is the most commonly used feature of MS Excel that has cell numbers, addresses, arithmetic operators and parenthesis. It begins with the equal sign (=). For example, the formula = 5 + 2 * 3, multiplies two numbers and then adds a number to the result.
 2. In computer programming, operators are characters that perform specific mathematical or logical calculations of the given values. For example, * is an operator that shows multiplication.

- In computer programming, concatenation is the procedure of joining text strings end-to-end to form a series.
- Steps to create a text formula:
 - Click the cell say A10 cell where you want to display the result of formula.
 - Type the formula as =A2&"has obtained"&D2&"percent marks".
 - Press the Enter key. The text formula has created.
- In Excel, functions are predefined formulas that perform calculations by using specific values in a particular order. They can be used to perform simple or complex calculations.

Some functions along with their descriptions are given in the table given below.

Function	Description
SUM	It adds values.
ROUND	It rounds a number specified by the number of digits.
COUNT	It returns a count of text or number in a range.
AND	It returns TRUE if all the arguments are true.

- The Excel, AVERAGE function is used to find the average of the number given to it as argument.
- Steps to use the Max function:
 - Select the cell where Max formula is to be entered.
 - Click the Formulas tab.
 - Click the AutoSum button under Functions Library.
 - Select the Max option.
 - Change the range of cells and press the Enter key.

The maximum number value will be displayed as shown.

- AutoSum feature is an important feature of MS Excel that helps to automatically total the contents of cells.

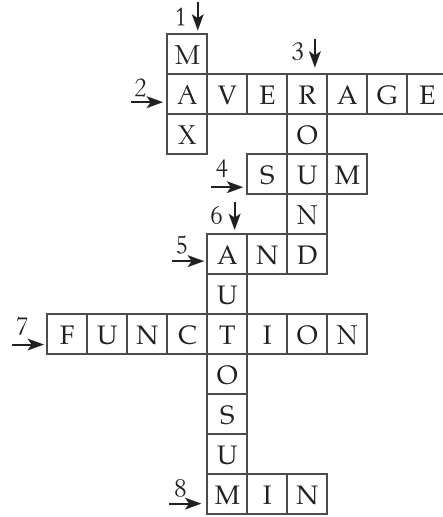
Brain Teaser

1. T E X T F O R M U L A S

2. M I N F U N C T I O N
 3. V I S I C A L C
 4. M A X F U N C T I O N
 5. R O U N D F U N C T I O N

Activity Time




The complete crossword puzzle is given alongside.



Chapter 4 : Charts in MS Excel

Activity Time

Icon	Graph Type	Use
	Column chart	It is used to display values over different categories with vertical bars.
	Line chart	It can be used to plot monthly temperature changes or daily changes in stock market prices. It can also be used to plot data recorded from scientific experiments.
	Pie chart	It is used to display the contribution of each value to the total highlighting the relationship in terms of percentage of each value in data to whole.
	Bar graph	It is used to organise the categorise vertically and values horizontally.

	Area chart	It is a chart or graph where the data of various series are separated lines and are present in different colours. It shows the changes in various data series over time.
	Scatter chart	It is used for displaying and comparing numeric values.
	Draught chart	It is similar to a pie chart but can represent more than one data series. Each ring of this chart represents a separate data series.

Rapid Fire

1. A chart presents a large volume of data in easy format.
2. The area within which all chart components are found is chart area.
3. A column chart displays data using a vertical bar or rectangle.
4. Grid lines identify each data series in chart.

Let's Review

- A. Tick (✓) the correct option.
1. (d) 2. (a) 3. (b)
 4. (d) 5. (c)
- B. Write T for true and F for false for following statements.
1. T 2. F 3. T
 4. F 5. F 6. T
- C. Answer the following questions.
1. In MS Excel, a chart is a graphical visual representation of data. Two uses of charts are:
 - Charts provide an effective way of presenting data and information.
 - They enhance the look of your worksheet and also present a large volume of data in easy format.
 2. There are many types of charts in MS Excel. Some of them are: column charts, line charts, pie charts, bar charts, area charts, scatter charts, stock charts, surface charts, draught charts, bubble charts and radar charts.
 3. In a column chart, the variable value is plotted vertically and the fixed dimension horizontally; whereas a bar chart plots the variable value horizontally and the fixed dimension vertically.

4. A pie chart, also called the circular chart, displays data in a circular-shaped graph. The whole circle is divided into sections or sectors to represent values of different sizes.

5. A scatter chart is a type of chart uses dots to represent values for two different numeric variables.

The main difference between a scatter chart and a line chart is that a scatter chart displays the values at irregular intervals whereas a line graph displays each data series in a straight line of different colour.

6. The chart area is the area inside the chart window including all parts of the chart are displayed, whereas the plot area refers to the region that represents the plotted data in a chart.

7. A data series refers to a row or a column of numbers that are entered in a worksheet and plotted in the chart

8. Steps to create a chart:
- Select the cell range in the worksheet for which you want to make a chart.
 - Click the Insert tab.
 - Click the Insert Column or Bar Chart in Charts group. A list of column charts appears.
 - Click the Clustered Column in 2-D Column section.

The selected data is selected in 2D-column chart and chart is formed in a box in the centre of the worksheet.

Brain Teaser

1. C H A R T S
2. C H A R T T I T L E
3. V A L U E A X I S
4. D A T A M A R K E R
5. S C A T T E R

Activity Time

1. The given chart shows a doughnut chart, which is similar to a pie chart. But a doughnut chart can represent more than one data series. Each ring of this chart represents a separate data series.

2. The given picture shows a radar chart, which plots data on concentric circles with the data of the same data series connected by lines. It compares the aggregates values of a number of data series. It looks like a spider's web

Model Test Paper — I

- A. Tick (✓) the correct option.

1. (c) 2. (d) 3. (b) 4. (b)
5. (c) 6. (a) 7. (d) 8. (b)
9. (c) 10. (a) 11. (b) 12. (b)
13. (a)

- B. Fill in the blanks.

1. You can make changes in the setting of date and time by using **Control Panel**.
2. **Cleanup** utility program helps to clean unnecessary files from hard disk.
3. **Timing** button helps to set the speed of the slide transition.
4. MS PowerPoint provides **four** types of animation.
5. In a worksheet in MS Excel, a complete row of information is called **cell**.
6. **Filtering** is a feature that hides the data you do not want to see.
7. The Sort & Filter button is in **Cells** group.
8. **An operator** is used to perform calculation on the given values.
9. **Status bar** is located at the bottom of the Editor Screen in QBasic.
10. A string variable stores **string** data.

- C. Answer the following questions.

1. The Control Panel is a very important feature of the Microsoft Windows graphical user interface. It allows users modify computer's settings and controls.

Examples: Some examples of hardware settings are: display, keyboard and mouse settings.

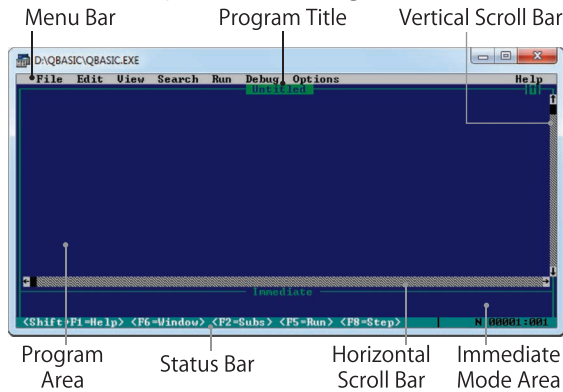
2. On-Screen Keyboard is a feature provided by Windows 10 It displays the characters that are used to write or create documents.
3. Custom Animation feature of contains a list of animation effects such as time, style, sound, etc., which can be applied to objects

to have them animated during the slide show. It can be used for entertainment.

4. Transition effects are special effects used to introduce slides in a presentation. They determine the movement of one slide to the next in a presentation.
5. Follow these steps to add sound in a presentation:
- Click the Insert tab.
 - Click the drop-down arrow of Audio button in Media group. A menu appears.
 - Click the option from where you want to add.
 - Select the audio sound file you want to insert.
 - Click the Insert button. A sound icon will appear on the slide.
 - Click the Play button to play your audio sound.
6. Operators are an important feature of MS Excel that are used to perform calculations on the given values.
7. The Min function is used to get the smallest value in a range of values.
8. Steps to create a text formula in MS Excel:
- Click the cell, say A10 cell, where you want to display the result of formula.
 - Type the formula as =A2& "has obtained" &D2& "percent marks".
 - Press the Enter key. The text formula has created.
9. Steps to change date and time of a computer:
- Open the Control Panel and click the Clock and Region link. Date and Time dialog box appears.
 - Click the **Change time zone** option. A dialog box appears.
 - Click the **Change date and time** button. The **Date and Time Settings** dialog box appears.
 - Make the required changes in date and time of your system and click the **OK** button.
10. The basic elements of QBasic program are: operators, variables, constants, and a set of characters.

Activity Time

The labelled QBasic window is given below.



Activity Time

The Basic statements of QBasic are circled in the alongside grid.

A	M	O	E	Q	G	D	T
I	S	R	E	M	R	U	S
N	P	N	R	Q	P	M	D
P	R	C	T	C	B	C	L
U	I	U	E	N	D	L	A
T	N	L	V	J	I	S	Z
B	T	W	F	X	F	Y	H
D	K	E	N	L	E	T	Q

Rapid Fire

1. **Status bar** is located at the bottom of the Editor Screen.
2. A number with or without decimal point is a **numeric constant**.
3. A string variable stores **string data**.
4. **END** statement is used to indicate the end of a program.
5. The four types of operators are **Arithmetic, Relational, Logical and String operators**.

Let's Review

- A. Tick (✓) the correct option.
1. (a) 2. (c) 3. (d)
 4. (b) 5. (a)

B. Write T for true and F for false for following statements.

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

C. Answer the following questions.

1. QBasic is a high-level programming language developed by the Microsoft Corporation. It was developed for the use in MS-DOS operating system. The successor of BASIC, it is an ideal programming language for beginners.
2. Follow these steps to run a QBasic program:
 - Double-click the icon of QBasic on the desktop. The QBasic window will open with a Welcome dialog box.
 - Press the Esc key to hide the Welcome dialog box and start working on it.
3. The basic elements of QBasic program are: operators, variables, constants, and a set of characters.
4. A variable in QBasic is one of its features that has been given a name. Its value can be changed any number of times as required during the execution of a program.
5. PRINT statement is used to display message or result on the screen. Characters or sentences should be written within inverted commas (" ").
6. INPUT statement allows users to input the information when the program is already running. This command waits for the user to enter the information and then assigns the information to a variable.

Brain Teaser

1. F I L E
2. D E B U G
3. S T R I N G
4. I F
- T H E N
- E L S E

Activity Time

Elements and tools of Flash window are circled in the grid.

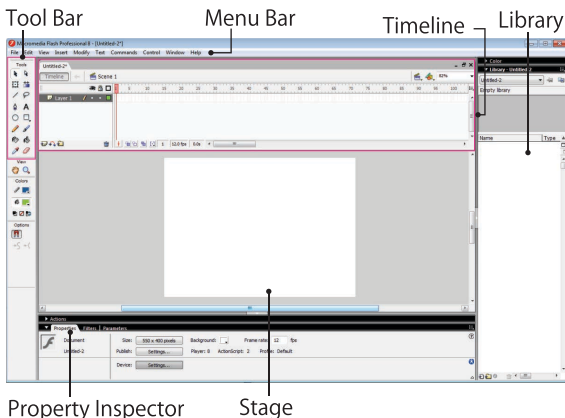
A	P	O	L	Y	S	T	A	R	O
C	B	T	F	M	U	P	M	O	J
L	B	I	C	S	T	A	G	E	N
I	D	M	A	D	S	E	Q	R	L
N	P	E	N	C	I	L	T	K	Y
E	R	L	V	I	F	Z	W	O	X
T	L	I	B	R	A	R	Y	V	H
S	Q	N	P	E	I	G	F	A	G
U	R	E	C	T	A	N	G	L	E
X	W	V	O	J	M	H	K	L	N

Rapid Fire

1. The word **animation** is a form of animate which means 'to bring to life'.
2. **Timeline** contains frames, which play an important role in making animations.
3. **Line** tool is used to draw straight lines.
4. **Paint Bucket** tool also provides modifiers which allows you to close gaps in shape's outlines.

Activity Time

The complete labelled Flash window is given below.



Let's Review

- A. Tick (✓) the correct option.
1. (b)
 2. (c)
 3. (a)
 4. (d)
 5. (c)
- B. Write T for true and F for false for the following statements.

1. T
 2. F
 3. F
 4. F
 5. F
- C. Match the following.
1. (iii)
 2. (iv)
 3. (i)
 4. (ii)
- D. Answer the following questions.

1. Animation is a way of displaying unmoving images in a rapid sequence to create the illusion of movement.
2. Macromedia Flash is a multimedia software used for creating animations, games, cartoons, websites, graphic effects, text effects and special effects. It is one of the most popular technologies on the Internet.
3. Property Inspector, appears at the bottom of the Flash window, is the panel that displays the properties of the selected object.
4. Polystar tool is a drawing tool used to draw polygons and stars.
5. Steps to draw a rectangle:
 - Click the Rectangle tool.
 - Select the desired stroke colour and fill colour.
 - Click the Stage and drag to draw a shape. The shape so drawn is a rectangle.

Brain Teaser

1. VIEW
2. COLOR
3. PAINT BUCKET TOOL
4. LESSO

Activity Time

The names of HTML tags and attributes are circled in the grid.

A	W	Q	T	E	X	T	R	T	S
X	H	U	V	P	A	A	B	U	H
Y	T	I	T	L	E	I	G	H	R
O	M	I	S	T	Z	B	C	F	G
P	L	B	R	R	B	B	O	J	K
N	H	C	G	H	D	G	C	P	Q
M	B	D	F	E	M	E	F	O	E
T	O	P	M	A	R	G	I	N	D
I	D	M	L	D	K	N	J	C	L
J	Y	H	B	G	C	O	L	O	R

Rapid Fire

1. Empty tags do not require closing tags.
2. Heading tag can have value from 1 to 6.
3. HTML was developed in 1990.
4. Body tag appears just after the HEAD tag.
5. Microsoft FrontPage is an example of WYSIWYG editors.

Let's Review

- A. Tick (✓) the correct option.
1. (b)
 2. (b)
 3. (a)
 4. (c)
 5. (b)
 6. (c)
- B. Write T for true and F for false for following statements.
1. T
 2. F
 3. T
 4. T
 5. F
 6. F
 7. T
- C. Answer the following questions.
1. HTML, stands for Hyper Text Markup Language, is a standard markup language for creating web pages to display on World Wide Web. The latest version of HTML is HTML5.
 2. Some of the features of HTML are:
 - HTML gives the text an attractive appearance.
 - It can display any kind of document from any computer on the host computer anywhere in the world.
 - It links various documents with one another.
 - It is a versatile language suitable for use on such diverse platforms as Machintosh, Windows, etc.
 3. The two types of HTML editors are Text Editors and WYSIWYG Editors.
 4. HTML tags are elements of HTML. They are like keyword that tell a web browser how the format and display the content must be on the web page.
 5. HTML attributes features that provide extra information about HTML elements. They are always specified in the start tag.
 6. A body tag can have a number of attributes that are used to describe the formatting

features for the entire body of HTML document. Text is an attribute of body tag. It is used to set text colour to the body text. The value can be a colour name or a hexadecimal code.

7. Steps to view HTML document in Internet Explorer
 - Open the Internet Explorer and click the File menu. A menu appears.
 - Click the Open option. The Open dialog box appears.
 - Click the Browse button. The Windows Internet Explorer dialog box appears.
 - Select the location and choose the html file.
 - Click the Open button. The path will be displayed in the Open dialog box.
 - Click the OK button.

The Internet Explorer will display the web page created by you as shown below.

8. The
 tag is an empty tag which means it has no end tag. It is used to insert a single line break. **Syntax::**

The <title> tag defines the title of the document that is seen in the title bar of the web page. **Syntax:** <Title> ... </Title>. The text in-between <Title> ... </Title> tags creates the page title.

Brain Teaser

1.

D	H	T	M	L
---	---	---	---	---
2.

W	Y	S	I	W	Y	G
---	---	---	---	---	---	---
3.

E	M	P	T	Y
---	---	---	---	---
4.

B	G	C	O	L	O	R
---	---	---	---	---	---	---
5.

H	E	A	D	I	N	G
---	---	---	---	---	---	---

Chapter 8: Computer Networking

Rapid Fire

1. The computers are connected in a network to exchange information and data.
2. LAN stands for Local Area Network.
3. The Wide Area Network is the best known WAN.
4. A network can be made in five different topologies.

5. **Star Network** topology is very easy to add and remove without disturbing the network.

Activity Time

- The students do it themselves.
- From the left:
 Bus Network Topology
 Tree Network Topology
 Ring Network Topology

Let's Review

- A. Write T for true and F for false for following statements.
- | | | |
|------|------|------|
| 1. F | 2. T | 3. F |
| 4. T | 5. T | 6. T |
- B. Match the following.
- | | | |
|-----------|---------|----------|
| (a) (iii) | (b) (v) | (c) (iv) |
| (d) (ii) | (e) (i) | |
- C. Answer the following questions.
- Networking is a vital factor for the successful working of information systems. There are various networking systems. For example, television networks, railway networks, post and telegraph networks and computer networks. But the contributions of computer networking are significant.
 - A computer network is a set of computers connected through a communication media to share and exchange information. Each computer in a network is called a node.
 - The main advantages of computer network are:
 - It allows different users to share the processing characteristics of different computers.
 - It allows the users to share common set of data files and software stored in a main system.
 - It allows the users to share common hardware resources such as printers, scanners, modem, etc.
 - The cost of computing is reduced to each user as compared to the development and maintenance of each single computer system.
 - LAN, stands for Local Area Network, is

generally limited to a geographic area such as a lab, school or building; whereas WAN (Wide Area Network) has connectivity spread over large geographical areas from country to country.

- The geometrical arrangement of computer resources, remote devices, communication facility is known as a network topology.

Chapter 9 : Introduction to Visual Basic

Let's Review

- A. Tick (✓) the correct option.
- | | | |
|--------|--------|--------|
| 1. (b) | 2. (a) | 3. (b) |
| 4. (c) | 5. (a) | |
- B. Write T for True or F for False statements.
- | | | |
|------|------|------|
| 1. F | 2. T | 3. T |
| 4. F | 5. F | 6. T |
- C. Match the following tools with their related terms correctly.
- | | | |
|--------|--------|--------|
| 1. (b) | 2. (d) | 3. (a) |
| 4. (e) | 5. (c) | |
- D. Answer the following questions.
- Visual Basic differs from basic in many ways such as:
 - Visual Basic is an object-oriented programming language that supports events handling, while BASIC is a procedure-oriented language.
 - In Visual Basic, programming is done in a graphical environment; whereas in BASIC, programming is done in a text-only environment.
 - In BASIC, users need to specify its position and other features by writing statements; Whereas in Visual Basic, users just need to drag and drop any graphical object anywhere on the form, and they can change its properties using the properties windows.
 - (a) **Properties** are the characteristics such as name, caption, appearance, and font, of the form or an object.
 (b) **Methods** are actions, such as show, hide and print, performed on the form or objects.
 (c) **Events** are messages sent by an object indicating that something has happened.

3. The three steps to create an application in Visual Basic:

- Design the interface.
- Set the properties on the controls (objects).
- Write the event procedure.

4. The steps to calculate the area of a square in Visual Basic:

We know that: area of a square = side × side.

- Start Microsoft Visual Basic 6.0.
- Design the interface. For it you need to place various controls on the form. To place a control, double-click the required control button, such as name or label. The required control appears in the middle of the form.
- Set the properties of the controls, such as title name, dimension of the square.
- Write the event procedures such as side of the square. Finally, write the event procedure for calculating area by clicking the command button.
- Run the program by pressing <F5> key. You will get the result as output.

5. The students will do it themselves, following the steps given in problem on page 94 of the book. The teacher will help students in doing so.

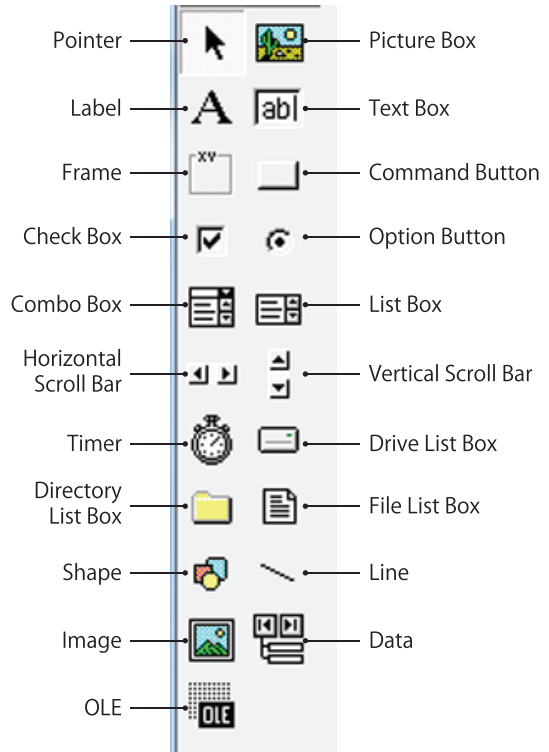
6. The students will do it themselves, following the steps given in problem on page 94 of the book. The teacher will help students in doing so.

Activity Time

1. The term related to Visual Basic Form are circled in the grid.

A	P	P	E	A	R	A	N	C	E
F	V	I	S	I	B	E	X	S	P
O	N	A	M	E	W	P	A	C	R
R	D	G	H	W	X	B	E	A	I
M	S	H	O	W	D	I	N	P	N
P	Q	R	X	A	E	U	A	T	T
L	P	E	A	V	S	B	B	I	U
O	F	O	R	E	C	O	L	O	R
A	A	Z	F	J	X	K	E	N	E
D	W	H	I	D	E	L	D	A	D

2. The labelled tool box picture is given below.



Brain Teaser

1. Form window is the main work area of Visual Basic window. It is because the users design the form for his/her application by placing different objects in this area.
2. The two properties that can have True or False value are: Visible property and Enabled property.
3. The label provides instructions and guides to the users, whereas the text box is the standard control for accepting input from the user and displaying the output.
4. We should not use the built-in control names of Visual Basic because it gives controls a default name.

Chapter 10: Introduction to Python

Rapid Fire

1. Python is an interpreted, object-oriented, high-level programming language.
2. The two modes that Python has are Interactive and Script.
3. Two points to show the drawbacks of Python:

- The Python programming language uses a large amount of memory. This can be a disadvantage while building applications when we prefer memory optimization.
 - Programming in Python is easy and stress-free. But when someone is interacting with the database, it lacks behind.
4. In Python, a string value is a collection of characters (text) put in single or double quotes.

Let's Review

- A. Tick (✓) the correct option.
1. (c) 2. (c) 3. (c)
 4. (b) 5. (a)
- B. Fill in the blanks with the correct words given below.
1. The storage unit of data is called a variable.
 2. The two modes that the IDLE Python has are Interactive and Script.
 3. The separator '\n' is used to display new lines.
 4. The script mode gives the output instantly.
- C. Write T for true and F for false statements.
1. F 2. T 3. F
 4. T
- D. Answer the following questions.
1. Python is a high-level programming language used worldwide. It is simple and easy to learn syntax emphasizes readability. Because of it, the cost of program maintenance is less. It supports modules and packages, which encourages program modularity and code reuse. Python is used to create games, write GUIs, and develop web applications.
 2. Some of the drawbacks of using Python language are: Slow Speed, Not Memory Efficient, Weak in Mobile Computing, Database Access, and Runtime Errors:
 3. Data type signifies the type of the variable, whether it is an integer variable, string variable, tuple, dictionary, list, etc.
In Python, three data types in numbers are integer, floating number, and complex numbers, which are defined as int, float and complex class respectively. Integers are positive and negative numbers together with

zero. An **integer** in Python can be simply declared by simply writing `variableName = initial value`. For example, `age = 25`, `mobile number = 12345678`. **Float** stands for numbers that have decimal parts such as 3.06, 0.87, -2.55, etc. A float in Python can be declared by simply writing `variableName = initial value`. For example, `user's weight = 43`, `user's height = 5.2`.

4. Script mode is used to write longer Python codes. Script mode is where we write our code in a .py file and then run it with the python command.

To run a Python program in Script mode, we follow these steps.

- Open the IDLE Shell window and click the File tab.
 - Click the New File option. A new window opens.
 - Write your code in the new window.
 - Click File → Save option. The Save As dialog box opens.
 - Write the name of your file name in the File name box.
 - Press the Save button.
 - After saving the file, click the Run tab. A box appears.
 - Click the Run Module option or press F5 key. The output appears on the Python shell window as shown.
5. In Python, variables are storage units for data. A Python variable is a reserved memory location to store values. In other words, a variable in a Python program gives data to the computer for processing.
To assign the value of a variable in Python, equal sign (=) is used. Thus, we assign the value on the right side of the equal sign (=) to the variable on the left. For example, `m = 27`. Here, the value of m is 27.
6. In Python, we use `input()` function to get input from the user. The input function converts it into a string. For example:
- ```
name = input('Enter your name:')
print('Hello,',name)
```

### Rapid Fire

The complete crossword puzzle is given alongside.

### Chapter 11 Artificial Intelligence (Machine Learning)

#### Rapid Fire

1. Unsupervised machine learning does not need any labelled data to perform a task.
2. The three virtual personal assistants are: Cortana, Alexa and Siri.
3. Types of supervised machine learning are: classification and regression.
4. The two types of unsupervised machine learning are: clustering and association.

#### Let's Review

- A. Tick (✓) the correct option.
1. (c)
  2. (c)
  3. (b)
  4. (c)
  5. (c)
- B. Fill in the blanks with the correct words given below.
1. Sophia is a citizen of **Saudi Arabia**.
  2. Sophia is a humanoid designed by **Hong Kong-based** company.
  3. Alexa is a **virtual** personal assistant.
  4. **Regression** is the problem of predicting a continuous quantity output for an example.
5. Romeo is a human-sized robot that has been designed to assist the elderly people.
- C. Write T for true and F for false statements.
1. F
  2. F
  3. T
  4. F
  5. F
- D. Answer the following questions.
1. Artificial intelligence is the ability of a computer program or a machine to think and learn.
  2. Machine learning the branch of artificial intelligence.
  3. Machine learning is an application of artificial intelligence that enables machines like computers to improve at tasks with experience.
  4. There are also three branches of machine learning: supervised learning, unsupervised learning and reinforcement learning.

5. Supervised learning applies past experiences labelled for model to be trained, whereas unsupervised learning uses neither classified nor labelled data for model to be trained.
6. Reinforcement machine learning is different from supervised machine learnings in the following ways.
  - Reinforcement machine learning does not need the labelled data, whereas supervised machine learning needs labelled data.
  - Reinforcement machine learning is a trial-and-error based machine learning technique, whereas supervised machine learning applies past experiences
7. The categories of supervised machine learning are: classification and regression. Classification predicts the class of the given data. Regression learns from the labelled data and applies it to predict a continuous valued output.
8. A robot is a human-shaped machine that can execute specific tasks with little or no human intervention and with speed and precision.
9. Robotics is a branch of artificial intelligence that involves the conception, design, manufacture and operation of robots. For example, robots are used in restaurants to prepare food. They are also work as receptionists, cleaners and servants in restaurants.

#### Model Test Paper — II

- A. Tick (✓) the correct option.
1. (b)
  2. (a)
  3. (c)
  4. (b)
  5. (c)
  6. (c)
  7. (c)
  8. (d)
  9. (a)
  10. (d)
  11. (b)
  12. (a)
  13. (b)
- B. Fill in the blanks.
1. **Line** charts are used to plot data recorded from scientific experiments.
  2. The **&** sign is used to join two or more string data.
  3. The **Cls** or **Clear** statement is used to clear the output screen.
  4. The **Gradient Fill** tool is linked with Paint Bucket tool.

5. Notepad is an example of **Text** editor.
  6. **Empty** tags do not require an ending tag.
  7. The content in-between (<Body>) ... (/<Body>) tags is displayed in web browser.
  8. The **Internet** is best known Wide Area network.
  9. When the user clicks on the form, **Form-click** event is triggered.
  10. **Form Layout Window** displays the position of the form on screen.
  11. Python is a **high-level** language.
  12. The United Nations has given **Sophia** the title of Innovation Championship.
- C. Answer the following questions.
1. A chart is a graphical representation of data.
  2. A pie chart represents data in a circle with sections corresponding to percentages of the whole, whereas a bar graph uses bars (rectangles) of different lengths to represent data.
  3. A numeric constant is a number with or without decimal point. It consists of an integer, a decimal point, and a fraction or exponential notation.
  4. Control statements help programmers to control the flow of the program according to their choice. These are powerful tools for programmers. The two control statements are GOTO, and DO LOOP.
  5. Flash one of the most popular technologies on Internet because it is an animation software used for creating animations, games, cartoons, websites, graphic effects, text effects and special effects.
  6. Polystar tool is a drawing tool used to draw polygons and stars. The user can modify it in terms of the number of sides of the polygon or the number of points on the star which can vary from 3 to 32.
  7. The three features of HTML are:
    - HTML gives the text an attractive appearance.
    - It can display any kind of document from any computer on the host computer anywhere in the world.
  - It links various documents with one another.
  8. WYSIWYG editor is a type of editor that allows the user to create web pages without knowing how to write HTML codes. It allows the user insert tables, hyperlinks, images, etc. Adobe Dreamweaver and Microsoft FrontPage are two examples of WYSIWYG editors.
  9. Computer network is advantageous in the following ways:
    - It allows different users share the processing characteristics of different computers.
    - It allows the users share common set of data files and software stored in a main system.
    - It allows the users share common hardware resources.
    - The cost of computing is reduced to each user as compared to the development and maintenance of each single computer system.
  10. A computer or device which is in a network is called a node.
  11. We follow these steps to calculate the area of a square in Visual Basic:
 

We know that: area of a square = side × side.

    - Start Microsoft Visual Basic 6.
    - Design the interface. For it you need to place various controls on the form. To place a control, double-click the required control button, such as name or label. The required control appears in the middle of the form.
    - Set the properties of the controls, such as title name, dimension of the square.
    - Write the event procedures such as side of the square. Finally, write the event procedure for calculating area by clicking the command button.
    - Run the program by pressing <F5> key. You will get the result as output.
  12. A data type, in Python, is a classification that specifies which type of value a variable has and what type of mathematical, relational or

logical operations can be applied to it without causing an error.

13. Interactive mode is a command line shell which gives immediate response to each statement, whereas Script mode is used to write longer Python codes. Interactive mode has three arrows >>> as prompt, whereas in Script mode the prompt is .py.
14. The main difference between supervised and unsupervised machine learning is that supervised machine learning uses labelled data while unsupervised machine learning does not use such data.
15. (a) Buddy: It is a companion robot designed to entertain the family. This endearing emotional robot wins the heart of every member of the family, including children and adults. As a real companion, it can walk around house like a pet.  
(b) Sophia: It is a social humanoid robot developed by Hong Kong-based company Hanson Robotics. It is capable of imitating human gestures and thus is capable in answering questions. She has been given official citizenship in Saudi Arabia. The United Nations has given her the title of Innovation Championship. Sophia has appeared in several high-profile interviews and appearances.

### Cyber Olympiad

Choose the correct option.

- |         |          |         |
|---------|----------|---------|
| 1. (c)  | 2. (b)   | 3. (a)  |
| 4. (d)  | 5. (d)   | 6. (a)  |
| 7. (b)  | 8. ()    | 9. (b)  |
| 10. (c) | 11. (b)  | 12. (b) |
| 13. (c) | 14. BYRE | 15. (d) |
| 16. (d) | 17. (d)  | 18. (d) |
| 19. (c) | 20. (a)  | 21. (b) |
| 22. (d) | 23. (d)  | 24. (d) |
| 25. (a) |          |         |

### Class 8

Chapter 1 : Computer Virus

### Activity Time

1. MV
2. BV
3. PV

4. TH
5. W
6. MRV
7. PV
8. TH
9. PV
10. MRV

### Brain Teaser

1. The full form of VIRUS is **Vital Information Resources Under Seize**.
2. The first virus to ever be identified was known as the **Creeper**.
3. Acid Rain is an example of **Program Viruses**.
4. **Worms** generally spread through e-mails and networks.

### Let's Review

- A. Tick (✓) the correct option.
  1. (c)
  2. (a)
  3. (c)
  4. (a)
  5. (c)
- B. Fill in the blanks.
  1. A **virus** can destroy files, software and program applications.
  2. A virus can **reproduce** itself without any user action.
  3. **Macro** viruses infect files that are created using certain applications or programs.
  4. Stoned virus is an example of **Boot viruses**.
  5. **Commwarrior** was the first known cell phone virus.
  6. You can prevent virus infections by using **Antivirus software**.
  7. **Memory Resident** virus get control over the system memory.
- C. Answer the following questions.
  1. A computer virus is a type of computer program that has replicating capabilities. When executed, it replicates itself by modifying other computer programs and causing loss of data.
  2. Some of the sources of computer virus are: Internet, Email attachments, computer network removable devices and Bluetooth transfer
  3. We can know that our computer is attacked by a virus by following symptoms:
    - The computer runs very slow and it takes a long time to start.