



# Computer Wizard

Teacher's Manual

Class 7

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## Lesson 1 : Number System

### A. Multiple choice questions:

1. 2
2. Decimal
3. 8
4. Binary
5. 10

### B. State true or false :

1. False
2. True
3. False
4. False
5. False

### C. Fill in the blanks :

1. number system
2. 8
3. base 2 number system
4. binary
5. A to F

### D. Answer the following questions in short:

1. A set of values used to represent different quantities is known as Number System.
2. A hexadecimal number is represented as  $( )_{16}$ .
3. Octal number system consist of 8 digits from 0 to 7. The base of octal system is 8. Octal number system is represented as  $( )_8$ .

| 4. Digit | Power of Base  | Calculation   | Product |
|----------|----------------|---------------|---------|
| 0        | $0 \times 2^0$ | $0 \times 1$  | 0       |
| 1        | $1 \times 2^1$ | $1 \times 2$  | 2       |
| 1        | $1 \times 2^2$ | $1 \times 4$  | 4       |
| 1        | $1 \times 2^3$ | $1 \times 8$  | 8       |
| 0        | $0 \times 2^4$ | $0 \times 16$ | 0       |
| 1        | $1 \times 2^5$ | $1 \times 32$ | 32      |

5. The total number of digits used in a number system is called its base or radix.

### E. Answer the following questions in detail :

1. We use multiplication method to convert binary number to decimal numbers

## Steps

1. Starting from the right most digit write all digits in different rows of a table.
2. Multiply each digit by base 2 with its power based on the position (0, 1, 2, 3 ...) of the digit.
3. Add the products obtained.

$$\text{Example : } (1101)_2 = (13)_{10}$$

2. Binary Number system consist of 2 digit 0 and 1. Its base is 2. Hexadecimal number system consist of 16 digits from 0 to 9 and A to F. Its base is 16.
3. The decimal number system consists of digits 0–9. These 10 digits can be used in any combination to form number. Some examples of decimal numbers are 688, 1721, 28.36.

The base of decimal numbers is 10 because the total digits in this number system is 10.

4. Binary number system consist of 2 digits 0 and 1. Its base is 2. It is also called the base 2 number system. Any data or instruction entered into a computer is converted to binary form because computer understands binary language. The binary language is then converted into decimal language.

Examples : 1110, 10111.

5. Conversion of Hexadecimal Numbers to Decimal Number

1. Starting from the right most digit write all the digit in different rows of a table.
2. Multiply each digit by base 16 with its power based on the position (0, 1, 2, 3 ...) of digit.
3. Add the product obtained.

F. Convert the following into binary :

1.  $(68)_{10}$

| Divisor | Quotient | Remainder |
|---------|----------|-----------|
| 2       | 68       |           |
| 2       | 34       | 0         |
| 2       | 17       | 0         |
| 2       | 8        | 1         |
| 2       | 4        | 0         |
| 2       | 2        | 0         |
| 2       | 1        | 0         |
|         | 0        | 1         |

$$(68)_{10} = (1000100)_2$$

2.  $(987)_{10}$

| Divisor | Quotient | Remainder |
|---------|----------|-----------|
| 2       | 987      |           |
| 2       | 493      | 1         |
| 2       | 246      | 1         |
| 2       | 123      | 0         |
| 2       | 61       | 1         |
| 2       | 30       | 1         |
| 2       | 15       | 0         |
| 2       | 7        | 1         |
| 2       | 3        | 1         |
| 2       | 1        | 1         |
|         | 0        | 1         |

$$(987)_{10} = (1111011011)_2$$

3.  $(657)_{10}$

| Divisor | Quotient | Remainder |
|---------|----------|-----------|
| 2       | 657      |           |
| 2       | 328      | 1         |
| 2       | 164      | 0         |
| 2       | 82       | 0         |

|   |    |   |
|---|----|---|
| 2 | 41 | 0 |
| 2 | 20 | 1 |
| 2 | 10 | 0 |
| 2 | 5  | 0 |
| 2 | 2  | 1 |
| 2 | 1  | 0 |
|   | 0  | 1 |

$$(657)_{10} = (1010010001)_2$$

G. Convert the following into decimal :

1.  $(1011)_2$

| Digit | Power of Base  | Calculation  | Product |
|-------|----------------|--------------|---------|
| 1     | $1 \times 2^0$ | $1 \times 1$ | 1       |
| 1     | $1 \times 2^1$ | $1 \times 2$ | 2       |
| 0     | $0 \times 2^2$ | $0 \times 4$ | 0       |
| 1     | $1 \times 2^3$ | $1 \times 8$ | 8       |
|       |                | Total        | = 11    |

2.  $(100110)_2$

| Digit | Power of Base  | Calculation   | Product |
|-------|----------------|---------------|---------|
| 0     | $0 \times 2^0$ | $0 \times 1$  | 0       |
| 1     | $1 \times 2^1$ | $1 \times 2$  | 2       |
| 1     | $1 \times 2^2$ | $1 \times 4$  | 4       |
| 0     | $0 \times 2^3$ | $0 \times 8$  | 0       |
| 0     | $0 \times 2^4$ | $0 \times 16$ | 0       |
| 1     | $1 \times 2^5$ | $1 \times 32$ | 32      |
|       |                | Total         | = 38    |

3.  $(10101)_2$

| Digit | Power of Base  | Calculation   | Product |
|-------|----------------|---------------|---------|
| 1     | $1 \times 2^0$ | $1 \times 1$  | 1       |
| 0     | $0 \times 2^1$ | $0 \times 2$  | 0       |
| 1     | $1 \times 2^2$ | $1 \times 4$  | 4       |
| 0     | $0 \times 2^3$ | $0 \times 8$  | 0       |
| 1     | $1 \times 2^4$ | $1 \times 16$ | 16      |
|       |                | Total         | = 21    |

## Lesson 2 : MS Word using Mail Merge

- A. Multiple choice questions:
- |             |               |
|-------------|---------------|
| 1. useful   | 2. letter     |
| 3. six      | 4. document   |
| 5. address  | 6. mail merge |
| 7. document | 8. place      |
- B. State true or false :
- |          |         |
|----------|---------|
| 1. True  | 2. True |
| 3. True  | 4. True |
| 5. False | 6. True |
- C. Answer the following questions in short:
1. Mail Merge is a mass-mailing facility that takes names, addresses and pertinent facts about recipients and manages the information into the form of a letter.
  2. Creating a Mail Merge Letter :
    - Create a data source.
    - Create main document.
    - Insert fields into the main document.
    - Check for design and data entry errors.
    - Merge the data source document and the main document and finally, print merged documents.
  3. Mail Merge Wizard that guides you through the steps for creating merged documents.
  4. Current document allows to use information from the document such as names, address us or other custom details to personalize content during merging process.
- D. Answer the following questions in detail :
1. Mail Merge is a mass-mailing facility that takes names, addresses and pertinent facts about recipients and manages the information into the form of a letter. Mail Merge printing uses two files : a data file that contains a

listing of data items (or fields) arranged in some specific order and a master file that contains the standard text as well as the data variables

2. Form, mailing labels, envelopes and bulk email and fax distributions are all created using a mail merge.

Mail merge is most commonly used to print or email multiple recipients form letters.

Mail merge is also used to mass produce cover and labels.

3. The document consisting of a common data that needs to be created in multiple numbers is caller main document.

4. An address book can be created using Mail Merge. Data source contains the fields you specified in the data source. You can enter as many data records as are required. After entering data, click the Close button to save the Address list. A New Address List dialog box appears. Type the information you want to include for the data source.

5.
  - a. The mail merge feature makes it easy to send the same letter to a large number of people.
  - b. By using mail merge we don't have to type each recipients name separately in each letter.
  - c. It is economical and saves lot fo time.
  - d. It is one of the fastest way to produce hundreds of personalised letters.

- E. Place the six steps to create a merged document In a correct order on the ladder :

- Select the document type
- Select starting document
- Selecting recipients
- Write your letter



- Preview your letters
  - Complete the merge
- F. Put the steps in order to run a spelling and grammar check.
- Go to the Review tab.
  - Click on the Spelling and Grammar command.
  - The Spelling and Grammar dialog box will open. For each error in your document, Word will try to offer one or more suggestions. You can select a suggestion and then click Change to correct the error. If no suggestions are given, you can manually type in the correct spelling.

### Lesson 3 : MS Excel

- A. Multiple choice questions:
- |              |            |
|--------------|------------|
| 1. Absolute  | 2. Mixed   |
| 3. Sorting   | 4. Filters |
| 5. Worksheet |            |
- B. State true or false :
- |          |         |
|----------|---------|
| 1. True  | 2. True |
| 3. False | 4. True |
| 5. False | 6. True |
- C. Fill in the blanks :
- |             |                    |
|-------------|--------------------|
| 1. pie      | 2. Logic functions |
| 3. Auto Sum | 4. Sorting         |
| 5. NOW      | 6. \$              |
| 7. column   |                    |
- D. Write the name of the functions :
- |                |          |
|----------------|----------|
| 1. CONCATENATE | 2. RIGHT |
| 3. COUNT IF    | 4. AND   |
| 5. OR          |          |
- E. Answer the following questions in short:
1. A chart or graph is the presentation of numerical data in the pictorial or graphical form.

2. It is the key that helps to understand charted data easily.
3. It is the data value printed on the chart.
4. LOWER : Converts all characters in a supplied text string to lower case.
5. Worksheet is a collection of cells where we manipulate data.

F. Answer the following questions in detail :

1. A column chart depicts the data in the form of vertical bars whereas a bar chart presents your data in horizontal bars.
2. Absolute cell reference : making a cell reference fixed to an absolute cell address so that it doesn't change when the formula is copied. In an absolute cell reference, a dollar sign (\$) precedes both the column letter and the row number.

Relative reference : Excel is dynamic when it comes to cell addresses. If you have a cell with a formula that references a different cell's address and you copy the formula from the first cell to another cell, Excel updates the cell reference inside the formula.

3. Built-in functions can be directly used in formulas. They are :

Text Functions : LOWER, UPPER, CONCATENATE, LEFT, RIGHT,

Date & Time : TIME, NOW, TODAY

Statistical : SUM, MAX, MIN, COUNTIF

Logical : AND, OR, NOT

Mathematical : SQRT, POWER

4. Sorting is a common task that allows you to change or customize the order of your spreadsheet data. For example, you could organize your class student's

birthday list will make you easier to find what you are looking for.

5. Conditional formatting helps you highlight the most important information in your spreadsheets and identify variances of cells' values with a quick glance. Conditional formatting in Excel is very straightforward and easy to use.
6. Filters are used to narrow down the data in your worksheet, allowing you to view only the information you need.
7. Different types of charts in MS excel are :  
Column Chart : Column chart is one that presents your data in vertical columns.  
Bar Chart : A bar chart presents your data in horizontal bars.  
Line Chart : The line chart is used to compare data over a period of time.  
Pie Chart : A pie chart looks like a round pie. This chart represents the contribution of each category of data towards the sum of all the data.

#### Lesson 4 : Introduction to MS Access

##### A. Multiple choice questions:

- |                 |              |
|-----------------|--------------|
| 1. information  | 2. DBMS      |
| 3. field        | 4. Title Bar |
| 5. all of these | 6. modules   |
| 7. close        |              |

##### B. State true or false :

- |          |          |
|----------|----------|
| 1. True  | 2. False |
| 3. True  | 4. False |
| 5. False | 6. True  |

C. Fill in the blanks :

- |                   |                    |
|-------------------|--------------------|
| 1. Data           | 2. column          |
| 3. DBMS           | 4. non programmers |
| 5. open           | 6. bottom          |
| 7. Datasheet view |                    |

D. Answer the following questions in short:

1. A database is an organised collection of information and records.
2. A database management system (DBMS) is a software that provides all the necessary tools to a user to help him organise data into a database.
3. Table : It is a collection of related information in the form of rows and columns.

Record : The complete set of fields is called a record. All the names in the column are a record.

4. Steps to start MS Access are :
  1. Click on the Start button.
  2. Click on All Programs.
  3. Select Microsoft Office 2010.
  4. Click on Microsoft Access 2010.
  5. Access opens up.

We get window of getting started with Microsoft Office Access .

5. Queries are basically questions based on the data of the database. They allow you to extract data or information about the field, records and summaries of the table or database.

E. Answer the following questions in detail :

1. The structure of a database is made up of fields, records and tables.

Field : A column within a table that contains only single

piece of information is known as a field.

Record : The complete set of fields is called a record. All the names in the column are a record.

Table : It is a collection of related information in the form of rows and columns

## 2. Advantages Of DBMS

Reduces Data Redundancy : Data redundancy means duplication of data.

Data Sharing : The data stored in the DBMS can be shared among multiple users or application programs.

Data Security : The DBMS ensures that the only means of access to the database is through an authorized channel.

Backup and Recovery : The DBMS provides backup and recovery subsystem.

## 3. To create a new database, we follow the following steps :

- a. Open the Microsoft Access 2010 program.
- b. Click on New Blank Database. Click on Start from Start Menu.
- c. Click on All Programs.
- d. Click on Microsoft Office.
- e. Click on Microsoft Office Access 2010.

The database will be saved. You will see the Database window displaying the name of the database on the title bar.

## 4. The Database Interface Window of MS Access 2010 consists of the following parts :

|                 |                  |
|-----------------|------------------|
| Title Bar       | Ribbon           |
| The Status Bar  | Scroll Bar       |
| Navigation Pane | Access work area |

5. To create Table in Design View
  1. Start Microsoft Access and create a blank database.  
The blank database appears in datasheet view.
  2. Click the create tab.
  3. From the table group, click the tables design.  
A table in design view window appears.
6. Components of Ms Access Database : Some major components of MS Access database are :

Tables : They store information in the form of rows (records) and columns (fields).

Queries : They are basically questions based on the data of the database. They allow you to extract data or information about the field, records and summaries of the table or database.

Forms : Forms are the input screens designed to simplify the date entry process.

Reports : These present data form a table or query in a printed format.

Pages : Pages are used to add, view and edit data of the tables.

Macros : They help you to perform routine tasks by automating them into a single command.

Modules : Modules are the collection of programs written to access the database.

F. Define the following terms :

1. Field : A column within a table that contains only single piece of information is known as a field.
2. Record : The complete set of fields is called a record. All the names in the column are a record.
3. Tables : They store information in the form of rows (records) and columns (fields).

4. Queries : They are basically questions based on the data of the database.
5. Macros : They help you to perform routine tasks by automating them into a single command.
6. Modules : Modules are the collection of programs written to access the database.
7. Forms : Forms are the input screens designed to simplify the data entry process.

### Lesson 5 : Introduction to Photoshop

#### A. Multiple choice questions:

- |                   |               |
|-------------------|---------------|
| 1. dots per meter | 2. resolution |
| 3. .psd           | 4. Lasso      |
| 5. Edit menu      | 6. .bmp       |

#### B. State true or false :

- |          |         |
|----------|---------|
| 1. True  | 2. True |
| 3. False | 4. True |
| 5. False | 6. True |

#### C. Fill in the blanks :

- |                  |             |
|------------------|-------------|
| 1. Lasso         | 2. Brush    |
| 3. Cloning stamp | 4. Gradient |
| 5. Dodge         | 6. Zoom     |

#### D. Answer the following questions in short:

1. Adobe Photoshop is a graphical application used to create different images such as drawings, posters, advertisements, cards, magazine covers, etc.
2. Vector Images : These are made up of lines and curves and are defined by mathematical objects called vectors.
3. Bitmap Images : These images are made up of very small squares or pixels. Images created in Adobe Photoshop are examples of bitmap images.

4. We have three lasso tool. They are :
  - . The Simple Lasso
  - . The Polygonal Lasso
  - . The Magnetic Lasso
5. JPEG stands for Joint Photographic Expert Group. This format has the smallest file size and is of poor quality. This is mainly used for web publishing.
6. Number of coloured dots per inch is called resolution.
7. Lasso tool allows the free-hand selection of a part of the image.
8. Every object you create in the images is made in a different layer. If you want to modify any part of the image. you can simple select that layer and make the changes, without affecting the rest of the image. The Layer menu has options to create, modify and manipulate layers.


E. Answer the following questions in detail :


1. The kinds of images that are created in Photoshop are of two types. They are :

Vector Images : These are made up of lines and curves and are defined by mathematical objects called vectors. For example, images created in Adobe Illustrator are vector images.

Bitmap Images : These images are made up of very small squares or pixels. Images created in Adobe Photoshop are examples of bitmap images.

2. Painting Tools

 The Airbrush tool is used to soften the edges of an image.

 The Paintbrush tool is used for applying brush strokes to an image.

 The Rubber Stamp is used to create a copy of an



image or a part of it. There are two types of stamps :

Cloning Stamp is used to create a copy of an image.

Pattern Stamp is used to make a particular pattern of an image.

■ You can remove unwanted colour areas in an image using the Eraser tool.

3. Marquee tools are used for making default selections. These are four types of Marquee tools (these can be seen in the submenu) – Rectangular, Elliptical, Single Row, Single Column (1 pixel wide).

The Lasso tool allows you to make free-hand selections.

The Simple Lasso is a free-hand selection tool with only straight lines. This doesn't have any key nodes.

The Polygonal Lasso has both straight and curved line selections. The Magnetic Lasso attracts the outlines of the images and specifies the key nodes automatically.

Magic Wand allows you to select parts of an image based on colour similarities.

4. Creating A New File

Step 1 : Click on the File menu on the Photoshop toolbar.

Step 2 : Click on New.

A dialog box titled New opens. You can enter the title for the new file in the Name box, or leave it untitled.

5. The foreground colour is the one you can use to paint, fill or stroke a selection. It is the colour that is currently on the brush or pencil. The background colour can be seen when you erase or delete a selected area on the background layer. It is actually the colour of the canvas under your images.

6. Photoshop can open and save images in many different file formats. Formats are ways of saving the information in a file so that it can be used by other applications, printed or placed on a web page for use on the Internet.

|               |             |
|---------------|-------------|
| PSD (.psd)    | TIFF (.tif) |
| Bitmap (.bmp) | GIF (.gif)  |
| JPEG (.jpg)   | PDF (.pdf)  |

### Lesson 6 : Editing Images

A. Multiple choice questions:

1. M
2. Lasso
3. Both of these
4. Cropping
5. Image menu > Rotate Canvas

B. State true or false :

1. True
2. False
3. True
4. True
5. False
6. False

C. Fill in the blanks :

1. Scale image
2. tools
3. Magic wand
4. Polygonal Lasso
5. Image

D. Answer the following questions in short:

1. Two photo editing software are Photoshop and GIMP.
2. The magic wand is a different kind of selection tool. Adjacent pixels having similar colour values will be selected by this tool.
3. The polygonal lasso tool makes irregular geometric selections.
4. The Elliptical Marquee makes oval or circular selections.

5. It let us can select a shape/area that has a well-defined edge by dragging the tool around the shape. The lasso snaps to the edge of the shape.

E. Answer the following questions in detail :

1. To flip an image :

- Step 1 : Open the image
- Step 2 : On the image window, click the tools menu
- Step 3 : Point to transform tools. A list of transform tools appear.
- Step 4 : Click the flip option.
- Step 5 : Click the image. The image gets flipped.

2. Crop an image

- Step 1 : Open the image.
- Step 2 : On the image window. Click the tools menu. The tools menu appears.
- Step 3 : Point to transform tools.  
A list of transform tools appear.
- Step 4 : Click the crop option.
- Step 5 : Press and hold the left mouse button.
- Step 6 : Drag the mouse to select the area you want to keep.
- Step 7 : Release the mouse button.
- Step 8 : Click the selected area. The image get cropped.

3. Selecting with the Lasso Tool

- Step 1 : Select the Lasso tool from the toolbox or press L.
- Step 2 : Click and carefully drag the Lasso tool around the area you want to select. A

solid line appears around the area as you drag and make the selection.

Step 3 : Now, release the mouse button when you have almost completed the selection. Once the mouse button is released, the two ends of the line automatically join together, completing the lasso.

4. Let us see how to make a feathered selection.

Step 1 : Select the object/area using a suitable selection tool.

Step 2 : From the select menu, choose the feather option. A 'Feather Selection' dialog box opens.

Step 3 : Enter a figure of your choice in the Feather Radius box. You can increase or decrease the figure till you get the desired feathered selection.

Step 4 : Copy the selection and paste it on a new file to see the new image.

5. To flip an image vertically or horizontally, select the following :

Image menu> Rotate Canvas > Flip Canvas Horizontal / Flip Canvas Vertical

## Lesson 7 : Introduction to HTML

A. Multiple choice questions:

- |                              |            |
|------------------------------|------------|
| 1. Hypertext Markup Language | 2. WYSIWYG |
| 3. Attribute                 | 4. <dl>    |
| 5. <center> tag              | 6. Empty   |

B. State true or false :

- |         |          |
|---------|----------|
| 1. True | 2. False |
| 3. True | 4. False |
| 5. True | 6. False |

C. Fill in the blanks :

- |              |                     |
|--------------|---------------------|
| 1. Hypertext | 2. Hyperlink        |
| 3. <br>      | 4. Horizontal lines |
| 5. <img>     | 6. style            |

D. Answer the following questions in short:

1. WYSIWYG stands for What You See is What You Get. This editor provides a graphical interface which has various tools to help you create web pages without having to write the HTML tags.
2. An attribute is used to define the characteristics of an HTML element and is placed inside the element's opening tag.
3. HTML tags are the keywords on a web page that define how your web browser must format .
4. The bgcolor attribute is used to control the background of an HTML element, specifically page body and table backgrounds.
5. The <p> tag offers a way to structure your text into different paragraphs.

E. Answer the following questions in detail :

1. HTML stands for Hypertext Markup Language, and it is the most widely used language to write Web Pages.  
Hypertext refers to the way in which Web pages are linked together. The link available on a webpage are called Hyperlink.  
HTML is a Markup Language which means "mark up" a

text document with tags that tell a Web browser how to display.

2. `<h>` This tag represents the heading.  
`<p>` This tag represents a paragraph.  
`<br>` element, allows anything following it starts from the next line.  
`<hr>` This tag creates a line from the current position in the document to the right margin and breaks the line accordingly.
3. The content of a `<sup>...</sup>` element is written in superscript; the font size used is the same size as the characters surrounding it but is displayed half a character's height above the other characters.  
The content of a `<sub>...</sub>` element is written in subscript; the font size used is the same as the characters surrounding it, but is displayed half a character's height beneath the other characters.
4. `<ul>` is used to create a list of items in no particular order. By default the items in this list will be marked with bullets where as an `<ol>` is used to create a list of items in specific order.
5. The type attribute specifies the type of `<input>` element to display. The start attribute specifies the start value of first list item in an ordered list.
6. You can set font face using face attribute but be aware that if the user viewing the page doesn't have the font installed, they will not be able to see it.

F. Define the following :

1. HTML stands for Hypertext Markup Language, and it is the most widely used language to write Web Pages.
2. Hypertext refers to the way in which Web pages are linked together.

3. HTML tags are the keywords on a web page that define how your web browser must format.
4. HTML element is defined by a starting tag. If the element contains other content, it ends with a closing tag, where the element name is preceded by a forward slash.
5. An attribute is used to define the characteristics of an HTML element and is placed inside the element's opening tag.

### Lesson 8 : QBASIC Programming

#### A. Multiple choice questions:

1. None of these
2. FOR-NEXT
3. PSET
4. STEP
5. BOX

#### B. State true or false :

1. True
2. True
3. False
4. True
5. True

#### C. Fill in the blanks :

1. QBASIC
2. GOTO
3. BEEP, SOUND
4. LINE
5. FILL

#### D. Answer the following questions in short :

1. QBASIC is free and works on most computers.
2. The While Loop's syntax is as follows:  
WHILE [condition]  
[Statement Block]  
WEND

3. The first command is BEEP. The BEEP command is a fun command that sounds the system unit's speaker. BEEP just keeps and is used as an alert. Next is the SOUND command. SOUND plays a frequency for a specified duration.
  4. ABS full form is Absolute value. It returns the absolute value of a number.
  5. LEN : Returns the length of the string.
- E. Answer the following questions in detail :

1. GOSUB statement is used to branch to a different location (a subroutine) in the script with the option of returning to the statement that follows GOSUB.

Eg. PRINT "1"  
       GOSUB The Label  
       PRINT "2"  
       END  
       The Label:  
       PRINT "3"  
       RETURN

2. Mathematical Library Functions :

ABS, SQR, INT, MOD

Text Library Functions :

LEN, LEFT\$, RIGHT\$, MID\$, ASC, CHR\$

3. Functions are small programs that are used for some specific purposes. Functions can be used in any small or big program. A function is the same as a subroutine, except it returns a value. To return a value, set a variable with the same name as the function.

PRINT Add (10,7)

FUNCTION Add (num1, num2)



Add = num 1 + num 2

END FUNCTION

The dollar sign (\$) after Add\$, shows that the function returns a string.

4. The PSET command is used to display a point (pixel) on the screen. The point is set at the intersection of a row and a column. The general syntax of the PSET command is as follows :

PSET (column, row), color code

5. The first command is BEEP. The BEEP command is a fun command that sounds the system unit's speaker. BEEP just keeps and is used as an alert. Next is the SOUND command. SOUND plays a frequency for a specified duration.

If you just need a beep in your program, you can use BEEP.

CLS

INPUT "Press Enter to hear a beep", A\$

BEEP

## Lesson 9 : Computer Security

### A. Multiple choice questions :

- |                 |                    |
|-----------------|--------------------|
| 1. AVG          | 2. All of these    |
| 3. All of these | 4. Blended threats |
| 5. Hard disk    | 6. Virus           |

### B. State true or false :

- |         |          |
|---------|----------|
| 1. True | 2. True  |
| 3. True | 4. True  |
| 5. True | 6. False |

C. Fill in the blanks :

- |             |                            |
|-------------|----------------------------|
| 1. spread   | 2. boot sector             |
| 3. malware  | 4. Macintosh               |
| 5. firewall | 6. intentional, accidental |

D. Answer the following questions in short:

1. A threat is something that has the potential to cause harm to a computer system. Threat can lead to attacks on computer system, networks and more.
2. Viruses can :
  - ❑ Display an annoying message on the computer screen.
  - ❑ Reduce the memory of the disk space.
  - ❑ Modify data.
3. An antivirus (or anti-virus) software is used to prevent, detect, and remove malware, including computer viruses, worms, and Trojan horses.
4. A Firewall is a system designed to prevent unauthorized access to or from a private network. Firewalls can be implemented in both hardware and software or a combination of both.
5. Computer ethics is set of moral principles that regulate the use of computers.

E. Answer the following questions in detail :

1. Different types of viruses are

Macro Viruses, Boot Virus, Polymorphic Viruses, Trojan Viruses, Program Viruses, Stealth Virus.

Boot Viruses : These viruses infect floppy disk boot records, or master boot records in hard disks. They replace the boot record program (which is responsible for loading the operating system in memory) copying it

elsewhere on the disk or by overwriting it. Boot viruses load into the memory if the computer tries to read the disk while it is booting.

Examples : Form, Disk killer etc.

Polymorphic Viruses : A virus can encrypt its code in different ways so that it appears differently in each infection. These viruses are more difficult to detect.

Examples : Involuntary, Stimulate etc.

2. Clean up : Antivirus software allows you to scan your computer for viruses and other unwanted programs, and provides you with the tools to get rid of them.

Alerts : Antivirus program can alert you when something is trying to access your computer, or when something in your computer is trying to access something on the internet.

Updates : Antivirus programs can update themselves, keeping your computer's protection up to date without you having to manually update it.

3. Antivirus software can degrade computer performance if it is not designed efficiently.

Inexperienced users may have trouble understanding the prompts and decisions that antivirus software presents them with. An incorrect decision may lead to a security breach.

4. There are several types of firewall techniques that will prevent potentially harmful information from getting through.

Packet Filter : It allows to look at each packet entering or leaving the network and accept or reject it based on user defined rules.

Application Gateway : Applies security mechanism to specific applications such as FTP and Telnet server.

Circuit level Gateway : Applies security mechanism when a TCP connection is established.

Proxy Server : Intercepts all messages entering and leaving the network.

5. Various computer ethics are :

- ✍ You shall not use computer to harm other people.
- ✍ You should not interface with other people's computer work.
- ✍ You shall not use a computer to steal.
- ✍ You shall not use a computer to bear false witness.
- ✍ You should not snoop around in other people's computer work.
- ✍ You shall not copy or use proprietary software for which you have not paid.