1. Types of Software

EXERCISE

A. 1. c   2. a   3. b   4. a   5. c

B. 1. Operating System   2. Utility Software   3. Assembler

     4. DBMS   5. Application Software

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

D. 1. Adobe InDesign is the example of Desktop Publishing (DTP) software.

2. Backup Utility software is used to create backup copies of files.

3. The Disk Defragmenter reorganises scattered files into continuous blocks to make the computer run faster.

E. 1. Four functions of operating system are:

     a. Provides user interface

     b. Organises and manages files on storage devices

     c. Communicates with hardware devices through device drivers

     d. Manages the process of starting up the computer

2. Database Management System (DBMS) software is used to create, store, modify and organise data in a database. A database is a well-organised collection of related information. DBMS allows users to retrieve specific data using queries.

3. Different types of language processors are:

     a. Assembler: a program that translates assembly language into machine language so the computer can understand it.

     b. Compiler: a program that converts the entire source program written in a high-level programming language into machine language all at once before running it.

     c. Interpreter: a program that converts a source program into machine language one statement at a time as it runs.

F.　1. COMPILER

　　2. ASSEMBLER

　　3. SPREADSHEET

　　4. WINDOWS

　　5. INTERPRETER

G.　1. A word processing software such as Microsoft Word, Google Docs, or LibreOffice Writer would be the most suitable.

　　2. Data Compression Program such as WinRAR, or WinZip would be best. These tools help reduce the size of large files, making them easier to store and transfer.

▮▮▮▮ IN THE LAB ▮▮▮▮

Do it yourself.

2. Advanced Features of Windows 10

EXERCISE 🖱

A.　1. a　　　　　　2. a　　　　　　3. a　　　　　　4. d

B.　1. hardware and sound　　　2. content

　　3. partitions　　　　　　　4. question mark

C.　1. T　　　　　　2. F　　　　　　3. T　　　　　　4. T

D.　1. File Explorer is the file manager of Windows operating system. It helps us to organise and manage files and folders.

　　2. Asterisk (*) and Question mark (?)

　　3. To add a new font, open Control Panel window and click on the Appearance and Personalization category.

E.　1. Asterisk is used to replace a string of characters in the search term whereas, question mark replaces a single character or symbol. An asterisk represents one or more characters in the string whereas, question mark represents only one character.

　　2. We use wildcard when we don't know a file's location or complete name in the computer. Wildcard is a special character which is used to represent one or more characters. Generally, two wildcard characters are commonly used for searching files in a system. These are asterisk(*) and question mark (?).

3. The List view displays your files and folders as small icons with their names in a list. In this view, it is very easy to find a file or folder whereas, the details view shows the information about files or folders like name, type, size, date of creation/modification, etc.

F. Sneha should go to the Appearance and Personalization category in the Control Panel to change the font.

━━━━━━━━━━ ▮▮▮▮ **IN THE LAB** ▮▮▮▮ ━━━━━━━━━━

Do it yourself.

Worksheet 1
(Based on chapters 1 & 2)

A. 1. Antivirus is a utility software used to scan the computer system for presence of virus.

2. Disk defragmenter organises the fragments of files into continuous blocks to improve performance of the computer.

3. Asterisk is used to replace a string of characters in the search term.

4. Tiles view shows the files and folders in medium-size thumbnails.

5. Content view displays all the files and folder in a separate row.

B.

1.	Operating System	Utility Software	(Application Software)	Programming Software
2.	MS Windows	Mac OS X	Linux	(Calc)
3.	MS PowerPoint	(Adobe InDesign)	Corel Presentations	Impress
4.	Sneak	Snap	Shake	(Share)

C. 1. Word Processors are used to create, edit and format text documents. Example: WordPerfect

2. Database Management System (DBMS) Software are used to create, store, modify and sort data stored in a database. Some commonly used DBMS are Microsoft Access, Oracle, Microsoft SQL Server, Base, etc.

3. Spreadsheet Software are used to calculate, compare and analyse data and used to prepare different reports. Some commonly used spreadsheet programs include Microsoft Excel, Lotus 1-2-3, Calc, etc.

4. Desktop Publishing (DTP) Software are used to create newspapers, magazines, brochures, still advertisements, etc. Some commonly used DTP software include Corel Draw, Adobe Photoshop, Microsoft Publisher.

5. Presentation Graphics Software are used to create presentations which include sound, music, video, charts and animation. Some commonly used presentation graphics software are : Microsoft PowerPoint, Corel Presentations, etc.

3. Introduction to Excel 2016

EXERCISE

A. 1. a   2. a   3. c   4. b

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

C. 1. Excel 2016   2. create   3. formula   4. 1048576

D. 1. Spreadsheet is a program that allows you to store and analyse numerical data.

2. The horizontal divisions on a worksheet are called rows and vertical divisions on a worksheet are called columns.

3. 16, 384 columns

E. 1. The data in the form of numbers or text can be entered by just clicking on a cell and typing with the help of a keyboard. You can type data directly into the cell, or you can enter data using the Formula bar.

2. (i) File Tab: A green button located at the left top corner that contains the file menu commands such as New, Open, Save, etc.

(ii) Ribbon: This bar has tabs with group of related commands displayed on it.

(iii) Name Box: The address of the active cell is displayed in this box.

3. There are mainly three data types in Excel that are label, values or numbers and formula.

Formula: A formula is a mathematical expression used to do simple and complex calculations of the numeric data inserted in a cell or a range of cells. A formula always begins with an equal (=) sign e.g. = A2 + B2.

4. You can create a new workbook any time by following these steps:

Step 1   Click on File tab. Backstage view will appear.

Step 2   Click on the New option.

Step 3   Click on Blank workbook option in the Available Templates list.

The new workbook file will open and you can start adding your own data.

F. He should use the Save command from the Quick Access Toolbar to quickly save his work.

Do it yourself.

4. Editing in Excel 2016

EXERCISE

A. 1. a   2. a   3. b   4. a

B. 1. Insert   2. Unmerge cells   3. Select all   4. Merge & Center

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

D. 1. Yes, we can unmerge the merged cells by using Unmerge Cells option.

     2. Copy command is used to copy the content at new place and also exist its original place.

     3. The default column width is 8.43 characters and the default row height is 15 points.

E. 1. To merge cells, follow the given steps:

     Step 1   Select two or more adjacent cells that you want to merge.

     Step 2   Click on **Merge & Center** command in the **Alignment** group on **Home** tab.

     2. Steps to change column width/row height:

     Step 1   Select the column(s) or row(s) that you want to change.

     Step 2   Click on Format command in Cells group from Home tab.

     Step 3   Choose Column Width or Row Heights.

     Step 4   In the Column Width or Row Height box, type the value that you want your column or row to be.

     3. Steps to rename a worksheet:

     Step 1   On the Worksheet tab bar, right-click the sheet tab that you want to rename.

     Step 2   Click on Rename option and type in the name.

F. She can set the column width and row height using Format command in Cells group from Home tab.

Do it yourself.

5. Formulas and Functions

EXERCISE

A.   1. a   2. a   3. b   4. c

B.   1. functions   2. equal to   3. square root   4. dollar ($)

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

D.   1. A cell or a range of cells that you want to use in your calculation is called cell reference.

      2. Concatenate () function joins together two or more different text strings.

      3. Date and Time functions are used to return date, month, day, year and time.
        DAY(TODAY()) and MINUTE(time) are the types of Date and Time functions.

E.   1. The LEN function is used to return the length of the text string.

       For example, Input=LEN("Excel"), it will return 5.

      2. Rules to enter a function are:

       (i) All Excel functions must begin with = sign.

       (ii) Function name must be a valid Excel name.

       (iii) Function must be followed by opening and closing parenthesis.

       (iv) Functions must contain an argument within it.

      3. A formula is an expression which calculates the value of a cell. Formulas in Microsoft Excel begin with an equal sign. For example,

       = 10 + 20 / 5 + (5*4)

       = 20 + 60 * 10

       On other hand, functions are predefined formulas in Excel to perform both simple and complex calculations.

F.   Aman should use Date and Time functions.

IN THE LAB

Do it yourself.

Worksheet 2
(Based on chapters 3 to 5)

A.   1. Workbook   2. Cell reference   3. ROUND(number, number_of_digits)

      4. Statistical functions   5. Autofill   6. MIN(range)
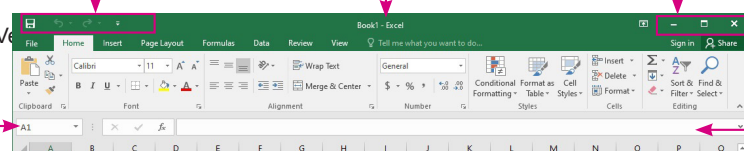
      7. LEN(text)

B.

Quick Access Toolbar

Title Bar

Control buttons

Name box

C. MS Excel

Test Sheet 1

(Based on chapters 1 to 5)

Section A

A. 1. (iii)   2. (ii)   3. (i)   4. (i)   5. (i)

6. (iii)   7. (i)   8. (i)   9. (ii)   10. (iii)

B. 1. application software   2. 1048576   3. Excel 2016

4. Partitions   5. Unmerge Cells 6. dollar ($)   7. square root

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

6. T   7. T

Section B

A. 1. Adobe InDesign

2. Word Processors, Spreadsheet Software and Presentation Software

3. The default column width is 8.43 characters and the default row height is 15 points.

4. Concatenate () function joins together two or more different text strings.

5. Generally, two wildcard characters are commonly used for searching files in a system. These are asterisk(*) and question mark (?).

B. 1. Database Management System (DBMS) software is used to create, store, modify and organise data in a database. A database is a well-organised collection of related information. DBMS allows users to retrieve specific data using queries. It is also used to generate reports on the basis of data stored in it.

2. A formula is an expression which calculates the value of a cell. Formulas in Microsoft Excel begin with an equal sign. For example,

= 10 + 20 / 5 + (5*4)

= 20 + 60 * 10

On other hand, functions are predefined formulas in Excel to perform both simple and complex calculations.

3. Programming software is a type of software that helps programmers write, test, and debug computer programs.

- An assembler is a program that translates assembly language into machine language so the computer can understand it.

- An interpreter is a program that converts a source program into machine language one statement at a time as it runs.

4. Title bar, Ribbon and Status bar

5. To rename worksheet tab, follow the given steps:

Step 1   On the Worksheet tab right-click the sheet tab that you want to customise.

Step 2   From the drop down menu, click Rename to rename the sheet or Tab Color to select a tab colour or Delete to delete the sheet.

6. Excel as Database

EXERCISE

A. 1. a   2. b   3. b   4. b   5. a

B. 1. record   2. database   3. conditional formatting   4. subtotal

   5. pivot table

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

D. 1. Data validation means to restrict the user to enter a specific range of values in a particular cell or a range of cells.

   2. Conditional formatting means to apply formatting as per user need—such as font, colors, icons, etc.

   3. Excel can arrange the selected data in ascending or descending order. This is called sorting of data.

E. 1. Steps to search a particular record:

   Step 1   Click on the Form command.

   Step 2   Click on the Criteria button.

   Step 3   Type the desired field value and press the Enter key.

   2. Sorting data means to arrange data in a particular order either ascending or descending. On other hand, filtering data means hide unnecessary data or highlight important data.

F. She can use Sort A to Z to sort the data alphabetically.

IN THE LAB

Do it yourself.

7. Charts in Excel

EXERCISE

A. 1. c   2. a   3. b   4. a

B. 1. column   2. legend   3. scatter   4. design   5. chart styles

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

D. 1. A chart is an effective way to display data in a pictorial form. It makes it easier to draw comparison and analyse the growth, relationship and trends among the values in a table.

    2. Data series is related to the set of values. It is represented by the bars or slices that represent the data values.

    3. It is used to display the quantitative magnitude of the data graphically. These charts are based on the features of the line chart.

    4. Pie chart is a circular chart divided into sectors where each sector shows the relative size of each value.

    It is used to show trends over a period of time. It is similar to plotting a graph on a graph paper with its values on X and Y axis.

E. 1. (i) **Data Labels:** Data labels includes data values, category name, series name, legend keys and values from cells.

      (ii) **X-axis:** X-axis is the horizontal axis of the chart. It is also called the category axis.

      (iii) **Legend:** Legend is a key which shows the meanings of symbols and colours used in the chart.

    2. (i) Column Chart displays the data in the form of vertical bars whereas bar chart displays the data in the form of horizontal bars.

      (ii) In column chart, categories are on the horizontal axis and the values are represented on the vertical axis. In bar chart, categories are represented on the vertical axis and values are represented on the horizontal axis.

    3. To create a chart, follow the given steps:

      Step 1   Select the range of cells, for example A1:C5, as shown in the figure.

      Step 2   Click on the Insert Column or Bar Chart from Charts group under Insert tab.

      Step 3   Select a 2-D Column Chart option from the drop-down list. A chart will be inserted in the Excel sheet.

F. Pie Chart

▪▪▪▪ IN THE LAB ▪▪▪▪

Do it yourself.

Worksheet 3
(Based on chapters 6 & 7)

A. 1. Data validation means to restrict the user to enter a specific range of values in a particular cell or a range of cells.

2. The Pivot Table feature of MS Excel allows you to analyze large amounts of data.

3. Area Chart is used to display the quantitative magnitude of the data graphically.

4. In-built chart styles are listed under Design tab.

5. Conditional Formatting command is present under Home tab.

B.   1. It is usually used to display the data in the form of vertical bars.

2. It is a circular chart divided into sectors where each sector shows the relative size of each value. It always shows only one data series.

3. It is used to display the quantitative magnitude of the data graphically.

4. The bar chart displays the data in the form of long rectangular rods also called bars.

5. Scatter charts also known as XY scatter plot charts. They show the correlations between the two sets of values.

C.   1. c   2. d   3. b   4. e   5. a

D.   Using column chart

8. Services on Internet

EXERCISE

A.   1. b   2. a   3. b   4. a

B.   1. carding   2. blogs   3. chat

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

D.   1. Phreaking is a crime committed against telephone companies by using computers with the goal of making free distance calls or tapping phone lines.

2. A newsgroup focuses on a particular topic. The topic is of general interest of all the participants to the newsgroup.

3. Cloud storage is a service where the users are able to store and manage data on remote server in place of their local computer.

E.   1. Steps to upload a file on Google Drive:

Step 1   Visit **www.google.com.** Click on the **Google App Launcher** button at the top-right corner. Click on the **Drive** app.

Step 2   Enter your **Gmail** account's username and then click on **Next** button. Enter password and then click on **Next** button.

Step 3   Click on the **New** button.

Step 4   Click on **File Upload** to upload and store the file on the remote server.

2. Blogs are generally like a detailed explanation on a subject or sometimes also as a Diary of Events. It is a discussion platform where the readers of the blog can add their comments and suggestions. While blogging, you must keep in mind that your posts must not hurt feelings and reputation of others. Some of the popular websites which allow you to create blogs are Blogger, Wordpress, Tumblr, etc.

3. The process of protecting computer resources such as networks, devices, programs, and data from unauthorised access, damage, or attack is called cyber security.

F. He should use cloud storage service.

IN THE LAB

Do it yourself.

9. Conditional Statements in Python

EXERCISE

A. 1. a   2. b   3. d   4. d   5. c

B. 1. True   2. false   3. top-down   4. elif

C. 1. x is less than or equal to 10

2. Abhi is getting an error because he used the assignment operator = instead of the equality comparison operator == in the if and elif conditions.

D. 1. The syntax of the if...else statement is given below:

```
if (Test Expression):
    Indented block
else:
    Indented block
```

2. If Meenakshi's conditional expression always returns True, then the block of statements under the if part will be executed.

E. 1. Zero

2. The product is: 40

3. Above ten and also above 20!

F. 1.
```
x = 10
if (x > 5):
    print("x is greater than 5")
```

2.
```
marksObtained = 95
if (marksObtained > 90):
    print("Distinction")
```
3.
```
x = 10
if (x == 5):
    print("x is equal to 5")
```

G. Conditional Statements

━━━━━━━━━ ▌▌▌▌**IN THE LAB**▌▌▌▌ ━━━━━━

Do it yourself.

Worksheet 4
(Based on chapters 7 & 8)

A. 1. Blogs are generally like a detailed explanation on a subject or sometimes also as a diary of events.
2. Cloud storage is a service where the users are able to store and manage data on remote server in place of their local computer.
3. The process of protecting computer resources such as networks, devices, programs, and data from unauthorised access, damage, or attack is called cyber security.
4. Hacking is the unauthorised access to computer system for the purpose of destroying the system or stealing important information from the system.

B. 1.
```
if(age > 18):
print('You are eligible to vote' )
else:
print('Not eligible to vote')
```
Errors:

(i) In line 1, colon after if condition

(ii) In line 2, bracket close after print statement

(iii) In line 3, colon after else.

2.
```
a = 200
b = 33
if (b > a):
    print("b is greater than a")
else:
    print("a is not greater than b")
```

Error:

(i) In line 3, bracket and colon after if condition

C.
```
ch = input("Please enter a character : ")
if(ch == 'a' or ch == 'e' or ch == 'i' or ch == 'o' or ch == 'u' or
ch == 'A'
or ch == 'E' or ch == 'I' or ch == 'O' or ch == 'U'):
print('The given character is vowel')
else:
print('The given character is not a vowel')
```

Test Sheet 2

(Based on chapters 6 to 9)

Section A

A. 1. (ii) 2. (i) 3. (i) 4. (ii) 5. (ii)

6. (i) 7. (iv) 8. (iii)

B. 1. record 2. conditional formatting 3. Scatter 4. if

5. false 6. true 7. Carding 8. Blogs 9. Chatting

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

6. T 7. T 8. F

Section B

A. 1. Conditional formatting means to apply formatting as per users' need such as font, colors, icons, etc.

2. Data series is related to the set of values. It is represented by the bars or slices that represent the data values.

3. The chart area includes everything, including the plot area.

4.
```
if (Test Expressions_1):
Indented block 1
elif (Test Expression_2):
Indented block 2
elif (Test Expression_3):
Indented block 3
else:
```

```
Indented block
```

5. Phreaking is a crime committed against telephone companies by using computers with the goal of making free distance calls or tapping phone lines.

B. 1. Sorting data means to arrange data in a particular order either ascending or descending. On other hand, filtering data means hide unnecessary data or highlight important data.

2. (i) Column Chart displays the data in the form of vertical bars whereas bar chart displays the data in the form of horizontal bars.

(ii) In column chart, categories are on the horizontal axis and the values are represented on the vertical axis whereas in bar chart, categories are represented on the vertical axis and values are represented on the horizontal axis.

3.
```
um = float(input("Enter the distance measured in centimeter : "))
""" 1 inch = 2.54 centimeters"""
inc = num/2.54
print("Distance in inch : ", inc)
```

4. Different types of communication techniques are:

a. **E-mail:** E-mail is used to send messages and files from your computer to your friend's computer and vice-versa using e-mail service.

b. **Video Conferencing:** Technique of watching the person while talking to him is called video conferencing.

c. **Voice-over-Internet Protocol (VoIP):** It is a technology which gives calling facility over the Internet. It is basically used for voice communications.

d. **Chatting:** Chat means a conversation that takes place in a friendly atmosphere. Online chat refers to a communication in the form of small messages among the computers over the Internet, just like SMS service on mobiles.

5. Types of cyber crimes are:

Data Diddling: It refers to the process of changing the data going into or out of a computer.

Phreaking: This crime is committed against telephone companies by using computers with the goal of making free distance calls or other operator services.

Cloning: This refers to a fraud in which scanners are used to steal the electronic serial numbers of cellular phones, which may be used for billing purposes and making broadcast calls.

Carding: This refers to the process of stealing credit card numbers online, to be resold or used to charge merchandise against victim's account.

Hacking: Computer hacking is the practice of modifying computer hardware and software to accomplish a goal outside of the creator's original purpose.

Cracking: It is the process or stealing personal information, changing financial data, breaking

security systems to gain unauthorised access of computer systems.