1. Types of Software

EXERCISE

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

B.   1. system software   2. operating system

      3. application software   4. disk defragmenter   5. word processors

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

D.   1. An operating system is the most important software that runs on a computer. It manages the computer's memory, processes data and controls all its software as well as hardware.

      2. The three general purpose software are Word processor, Presentation software and Multimedia processor.

      3. Utility software are provided as a part of operating system. They are specifically designed to manage the computer hardware, operating system and application software.

E.   1. System software is the most important component to operate a computer. System software can be classified into three categories: (i) Operating System (ii) Programming Software (iii) Utility Software

      2. It is the software used by the computer to understand and convert the instructions by programming language into machine language.

      An assembler is a program used to translate assembly language into machine language so that the computer can understand it. Whereas an interpreter translates and executes one statement at a time. It displays the errors one line at a time and it goes to the next line only after the error is corrected.

      3. System software is used to operate a computer. The operating system is an example of system software. Whereas application software is used to perform specific tasks. MS Word is an example of application software.

IN THE LAB
Subject Enrichment

Do yourself.

2. Advanced Features of Windows 10

EXERCISE

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

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

C. 1. hardware and sound   2. content

     3. partitions   4. question mark

D. 1. Windows Explorer helps us organise and manage files and folders.

     2. Appearance and Personalization

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

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

     2. 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 (?). Asterisk is used to replace a string of characters in the search term whereas, question mark replaces a single character or symbol.

IN THE LAB
Subject Enrichment

Do 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.

F. He will use Save command.

IN THE LAB *Subject Enrichment*

Do yourself.

4. Editing in Excel 2016

EXERCISE

A.	1. a	2. a	3. b	4. c
B.	1. Insert	2. Unmerge cells	3. Select all	4. Merge & Center
C.	1. F	2. F	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. Wrap Text

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.

IN THE LAB *Subject Enrichment*

Do yourself.

5. Formulas and Functions

EXERCISE

A. 1. b   2. a   3. b   4. c   5. 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. She should use cell reference to keep the spreadsheet updated.

IN THE LAB
Subject Enrichment

Do yourself.
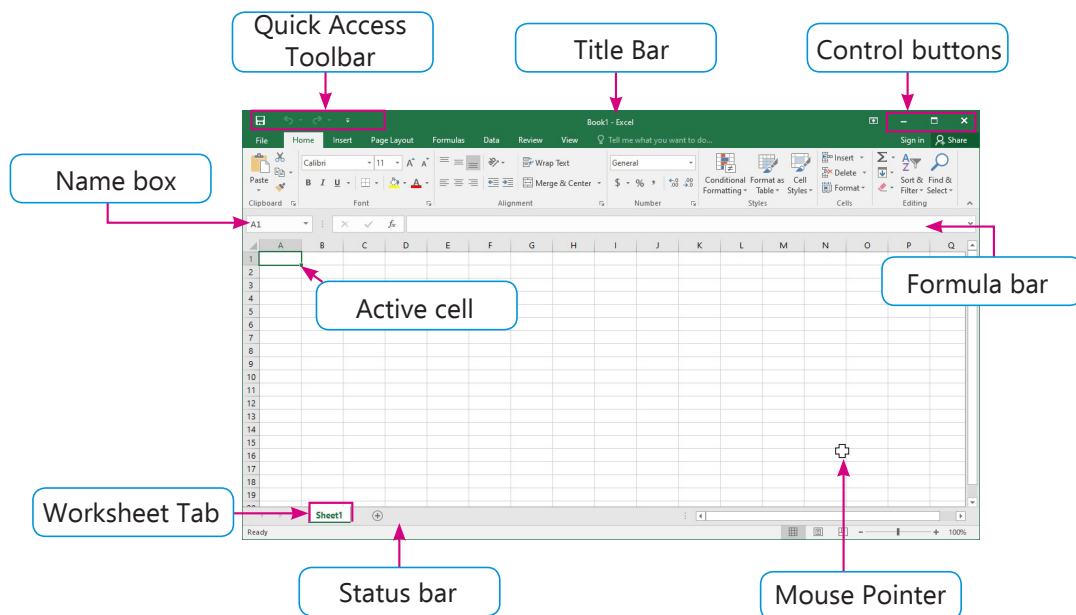
Worksheet 2
(Based on chapters 3 to 5)

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

4. Logical functions   5. Autofill   6. MIN(range)

7. LEN(text)

B.

Quick Access Toolbar · Title Bar · Control buttons · Name box · Formula bar · Active cell · Worksheet Tab · Status bar · Mouse Pointer

C. MS Excel

Test Sheet 1

(Based on chapters 1 to 5)

Section A

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

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

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

4. Partitions 5. Unmerge Cells 6. question mark 7. Merge & Center

8. dollar ($) 9. square root

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

6. T 7. T 8. T 9. T 10. T

Section B

A. 1. Row: The horizontal divisions on a worksheet are called rows. There are 10, 48, 576 rows in an Excel worksheet.

Column: The vertical divisions on a worksheet are called columns. There are 16, 384 columns in an Excel worksheet.

2. MS Word, MS Excel and MS PowerPoint are examples of general purpose software.

3. Wrap Text

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

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

B. 1. Asterisk is used to replace a string of characters in the search term whereas, question mark replaces a single character or symbol.

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. It is the software used by the computer to understand and convert the instructions by programming language into machine language.

An assembler is a program used to translate assembly language into machine language so that the computer can understand it. Whereas an interpreter translates and executes one statement at a time. It displays the errors one line at a time and it goes to the next line only after the error is corrected.

4. The three components of the Excel window are as follows:

(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.

5. 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.

6. Excel as Database

EXERCISE

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

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

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

5. pivot table

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   Subject Enrichment

Do yourself.

7. Charts in Excel

EXERCISE

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

B.   1. column chart   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. Area chart displays the quantitative magnitude of the data graphically.

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. Steps to create a chart:

  Step 1   Select the range of cells and click on Insert tab.

  Step 2   Click on Column chart from Charts group.

  Step 3   Select a 2-D Column Chart option.

F.   Pie Chart

IN THE LAB   Subject Enrichment

Do 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.   Using column chart

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

8. Services on Internet

EXERCISE

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

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

C.   1. carding   2. blogs   3. chat

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. Hacking is the unauthorised access to computer system for the purpose of destroying the system or stealing important information from the system.

4. 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. Steps to register on Skype:

Step 1   Double click on Skype icon to start Skype.

Step 2   Click on Sign in or Create button to create an account on Skype.

Step 3   Click on Create one! link.

Step 4   Enter your email and password and click on Next button.

Step 5   Enter your personal details. Then, click on Continue button.

F.   He should use cloud storage service.

IN THE LAB   Subject Enrichment

Do yourself.

9. Conditional Statements in Python

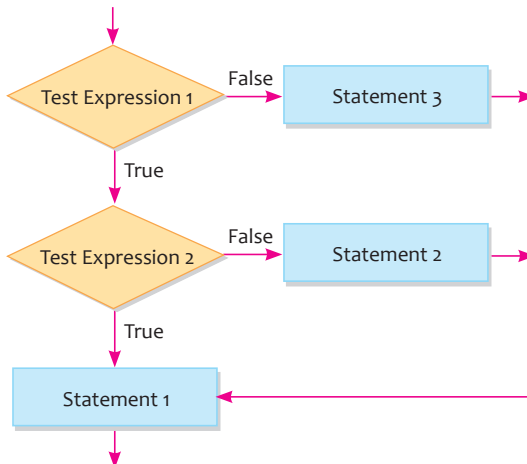**A.** 1. c   2. a   3. c   4. b   5. c

B. 1. if   2. true   3. false   4. else

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

D. 1. Decision making in Python is done by called conditional statements which decide the flow of program execution.

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

3.
```
if (Test Expression):
Indented statement block
# if block ends here
```

E. 1.

2.
```
um = float(input("Enter the distance measured in centimeter : "))
""" 1 inch = 2.54 centimeters"""
inc = num/2.54
print("Distance in inch : ", inc)
```

F. 1. First number is greater than second number.

   2. Positive number.

   3. Above ten

      and also about 20!

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. (i)   5. (iii)

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

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 threats 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.