

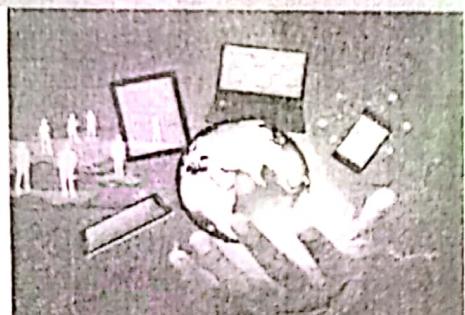
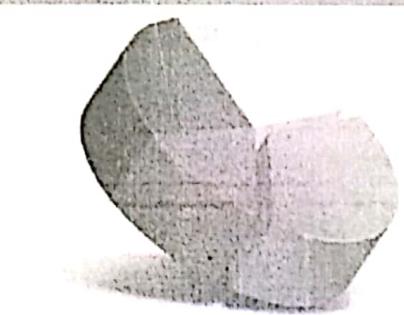
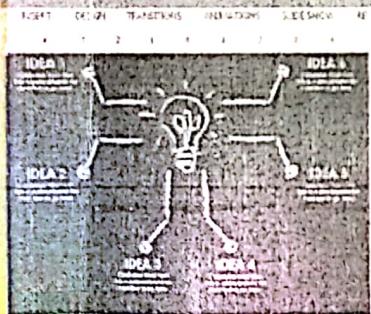
I

ROLL NO. _____

Exam. Seat No. _____

ALL PROGRAMMES | SEMESTER - I | DIPLOMA IN ENGINEERING AND TECHNOLOGY

A LABORATORY MANUAL
FOR
FUNDAMENTALS OF
ICT
(22001)



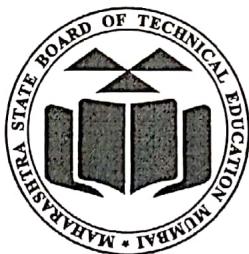
MAHARASHTRA STATE BOARD OF TECHNICAL EDUCATION, MUMBAI

(Autonomous) (ISO 9001 : 2015) (ISO / IEC 27001 : 2013)

A Laboratory Manual
for
**Fundamentals of Information and
Communication Technologies**
(22001)

Semester-I

(All Branches)



**Maharashtra State
Board of Technical Education, Mumbai**
(Autonomous) (ISO:9001:2015) (ISO/IEC 27001:2013)

Practical- Course Outcome matrix

Course Outcomes (COs)

- a. Use computer system and its peripherals.
- b. Prepare business document using word processing tool.
- c. Interpret data and represent it graphically using spreadsheet.
- d. Prepare professional presentations.
- e. Use different types of web browsers.

Sr. No.	Practical Outcome	CO a.	CO b.	CO c.	CO d.	CO e.
1.	Identify various input/output devices, connections and peripherals of computer system.	✓	-	-	-	-
2.	Manage files and folders: Create, copy, rename, delete, move files and folder.	✓	-	-	-	-
3.	Create, edit and save document.	-	✓	-	-	-
4.	Use bullets, numbering, page formatting.	-	✓	-	-	-
5.	Insert and edit images and shapes, sizing, cropping, colour, background, group / ungroup.	-	✓	-	-	-
6.	Insert and apply various table formatting features on it.	-	✓	-	-	-
7.	Apply page layout features on documents.	-	✓	-	-	-
8.	Use mail merge with options.	-	✓	-	-	-
9.	Create, open and edit worksheets.	-	-	✓	-	-
10.	Insert formulas, "if" conditions, functions and named ranges in worksheet.	-	-	✓	-	-
11.	Apply data sort, filter and data validation features.	-	-	✓	-	-
12.	Create charts to apply various chart options.	-	-	✓	-	-
13.	Apply page setup and print options for worksheet to print the worksheet.	-	-	✓	-	-
14.	Apply design themes to the given presentation	-	-	-	✓	-
15.	Add tables and charts in the slides.	-	-	-	✓	-
16.	Apply animation effects to the text and slides.	-	-	-	✓	-
17.	Add audio and video files in the presentation.	-	-	-	✓	-

- | | |
|-----|---|
| 18. | Configure Internet connection. |
| 19. | Use internet for different web services. |
| 20. | Use the given setting option in browsers. |

List of Industry Relevant Skills

The following industry relevant skills of the competency ‘Use computers for internet services, electronic documentation, data analysis and slide presentation’ are expected to be developed by undertaking the practical’s of this laboratory manual.

1. Identify various input/output devices, connections and peripherals of computer system.
2. Handling Files and Folders.
3. Working on Documents, Spreadsheets and Presentation.
4. Learning Internet Connectivity and other settings.

Guidelines to Teachers

1. There will be two sheets of blank pages after every practical for the student to report matters (if any), which is not mentioned in the printed practicals.
2. For difficult practicals if required, teacher could provide the demonstration of the practical emphasizing of the skills which the student should achieve.
3. Teachers should give opportunity to students for hands-on after the demonstration.
4. Assess the skill achievement of the students and COs of each unit.
5. One or two questions ought to be added in each practical for different batches. For this teacher can maintain various practical related question bank for each course.
6. For effective implementation and attainment of practical outcomes, teacher ought to ensure in the beginning itself of each practical, students must read through the complete write-up of that practical sheet.
7. During practical, ensure that each student gets chance and takes active part in taking observations/ readings and performing practical.
8. Teacher ought to assess the performance of students continuously according to the MS guidelines.

Content PageList of Practical's and Progressive Assessment Sheet

Sr. No	Practical Outcome	Page No.	Date of performance	Date of submission	Assessment marks(25)	Dated sign of teacher
1.	Identify various input/output devices, connections and peripherals of computer system.	1				
2.	Manage files and folders: Create, copy, rename, delete, move files and folder.	5				
3.	Create, edit and save document.	9				
4.	Use bullets, numbering, page formatting.	14				
5.	Insert and edit images and shapes, sizing, cropping, colour, background, group / ungroup.	18				
6.	Insert and apply various table formatting features on it.	22				
7.	Apply page layout features on documents.	27				
8.	Use mail merge with options.	32				
9.	Create, open and edit worksheets.	37				
10.	Insert formulas, "if" conditions, functions and named ranges in worksheet.	42				
11.	Apply data sort, filter and data validation features.	47				
12.	Create charts to apply various chart options.	52				
13.	Apply page setup and print options for worksheet to print the worksheet.	58				
14.	Apply design themes to the given presentation	63				
15.	Add tables and charts in the slides.	67				
16.	Apply animation effects to the text and slides.	72				

Fundamentals of ICT (22001)

Sr. No.	Practical Outcome	Page No.	Date of performance	Date of submission	Assessment marks(25)	Dated sign. of teacher	Remarks (if any)
17.	Add audio and video files in the presentation.	77					
18.	Configure Internet connection.	81					
19.	Use internet for different web services.	85					
20.	Use the given setting option in browsers.	91					

Total

- To be transferred to Proforma of CIAAN-2017.

Practical No. 1: Working with Computer System and Identifying Peripherals

I Practical Significance

In order to work on computer system, it is a good idea that students get familiar with various components of computer systems and their functioning. Students must also be familiar with the various network infrastructure components and networking environment in which they have to work. Through these hands-on practice students will be able to acquire these basic skills before they really use computer systems for given purpose.

II Relevant Program Outcomes

Basic knowledge: Apply knowledge of basic mathematics, science and basic engineering to solve the problems related to application of computers and communication services in storing, manipulating and transmitting data, often in the context of a business or other enterprise.

Experiments and practice: Plan to perform experiments, practices and to use the results to solve Information Technology related problems.

Engineering tools: Apply appropriate Information Technology related techniques/ tools with an understanding of the limitations.

Ethics: Apply ethical principles for commitment to professional ethics, responsibilities and norms of practice in the field of Information Technology.

Individual and team work: Function effectively as a leader and team member in diverse/ multidisciplinary teams.

III Relevant Course Outcomes

Use computer system and its peripherals.

IV Practical Learning Outcome

Identify various input/output devices, connections and peripherals of computer system.

V Practical Skills

Identify computer system components, peripherals and various components used in network.

VI Relevant Affective domain related Outcomes

- Follow safety practices.
- Practice good housekeeping.

VII Minimum Theoretical Background

Computer is an electronic device which has hardware like keyboard, mouse, monitor etc. These components are categories as input device and output devices. Input devices are used to give input to the computer system. The processor processes input and produces the output on computer output devices. The Computer devices consist of various peripherals like, Processor / CPU, ALU, Memory Unit, processor, motherboards, RAM, ROM, video cards, sound cards and internal hard disk drives, monitors, keyboards, mouse, printers, CD/DVD, hard disk and pen drive.

VIII Circuit diagram / Experimental set-up / Work Situation

-Not Applicable-

IX Resources required

Sr. No.	Name of Resource	Specification	Qty.	Remarks
1	Computer System	Any desktop computer with basic configuration	One computer system for a small batch of student	

X Procedure

1. Identify the internal components of computer system and explain their functions.
2. Observe the inter-connection between each component of computer system.
3. Identify the input output devices and peripheral devices of computer system.
4. Explain the physical layout of the network components and explain their functions.

XI Precautions

1. Handle computer system with care.

XII Actual procedure followed

.....We.....identified.....various.....components.....of.....
.....computers.....systems.....

XIII Resources used (with major specifications)

.....We.....used.....Computer.....System.....or.....any.....
.....desktop.....computer.....with.....basic.....configuration.....

XIV Precautions followed

.....We.....handled.....computer.....system.....very.....
.....carefully.....

XV Observations and Calculations

-Not Applicable-

XVI Results

.....We.....will.....know.....the.....basic.....knowledge.....
.....o.f.....computers.....

XVII Interpretation of Results

.....We.....are.....successfully.....able.....to.....understood.....
.....the.....working.....o.f.....computer.....systems.....

XVIII Conclusions and Recommendations

.....We.....learn.....about.....components.....o.f.....computers.....
.....systems.....as.....like.....as.....input.....o.r.o.....output.....

XIX Practical Related Questions

Note: Below given questions are few sample questions for references. Teachers must design more such questions so as to ensure the achievement of identified CO.

1. List various input devices and output devices
2. Draw block diagram of Computer System.

XX Exercise

Note: Below given are few sample questions for reference. Teachers must design more such questions so as to ensure the achievement of identified CO.

1. Identify the internal parts of CPU:- motherboard, processor, RAM, ROM, video cards, sound cards and internal hard disk drives.
2. Identify the different types of input/output devices available in your computer lab.

XXI References / Suggestions for further Reading .

- <http://www.ybet.be/en-hardware/course=pc.php>
- <https://techmits.com/list-of-input-and-output-devices/>

XXII Assessment Scheme

Performance indicators		Weightage
Process related (10 Marks)		40 %
a.	Tool Selection Ability.	20%
b.	Use of Appropriate tool to perform the identified task(s)	20%
Product related (15 Marks)		60 %
a.	Performed/completed the identified task(s)	20%
b.	Correctness of output achieved	20%
c.	Completed the practical in stipulated time	10%
d.	Correctness of question asked	10%
Total (25 Marks)		100 %

List of Student Team Members

1.
2.
3.
4.

Marks Obtained			Dated signature of Teacher
Process Related(10)	Product Related(15)	Total(25)	

(Space for Answer)

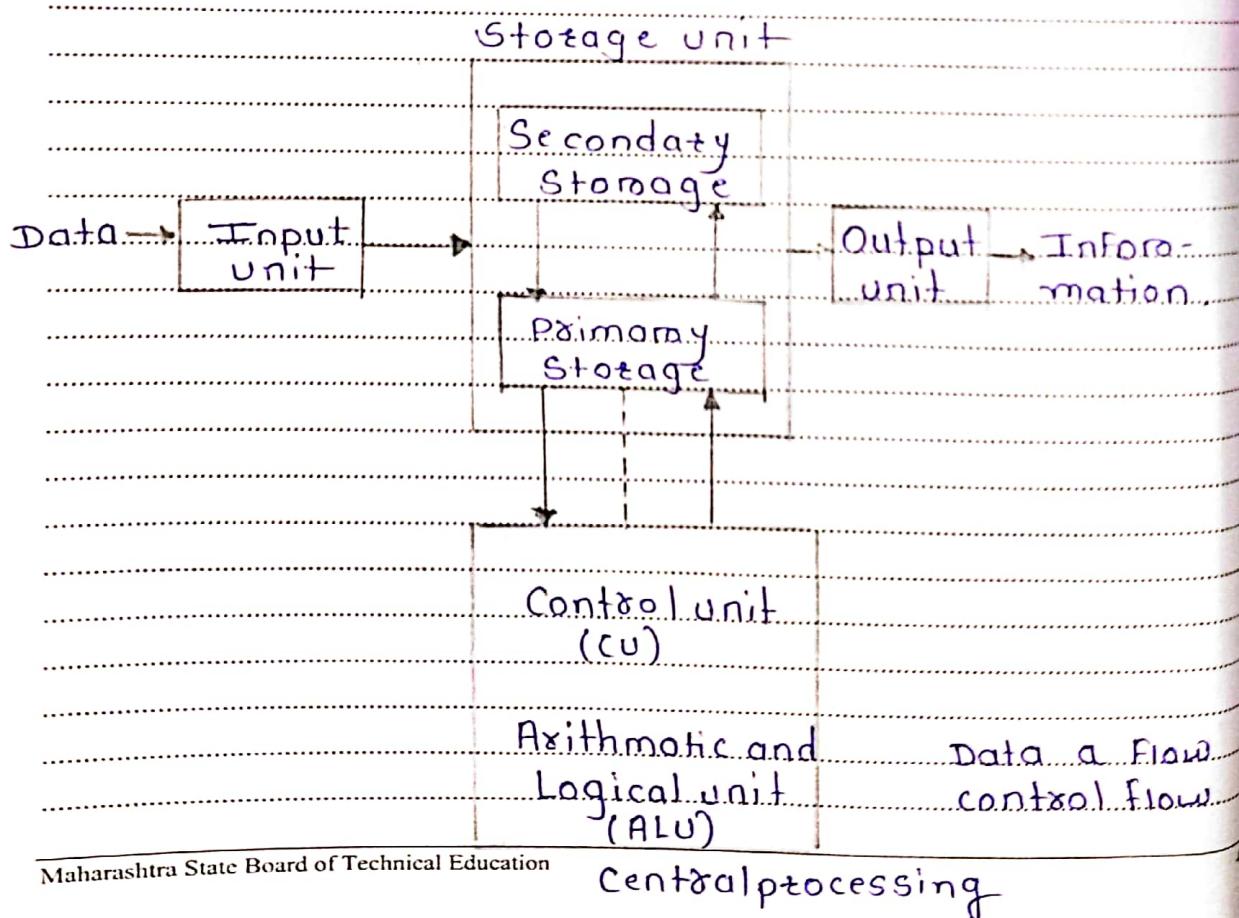
XIX } Practical Related Question.

1]

- ① Input devices are:- ① Keyboard
② Microphone ③ Joystick ④ Light Pen
⑤ Mouse ⑥ Scanners ⑦ Trackball ⑧ Bar-
code readers ⑨ Optical mark ⑩ mag-
netic ink and card readers.

- ② Output devices :- ① Monitors ② Printers
③ speakers ④ Headphones ⑤ Projectors
⑥ Sound card ⑦ Video Card

2] Diagram of block diagram of computer system.



Practical No. 2: Working with Files and Folders

I Practical Significance

Any data information in a computer system is stored in the form of files. A file is stored in a folder. For managing files & folders different management operations can be performed such as creating folders, renaming existing files and folders, making a copy of file to other folder(s), moving files from one folder to another folder and deleting files and folders. This practical is useful for developing these necessary skills to manage files and folders so as to organize different files.

II Relevant Program Outcomes

Discipline knowledge: Apply Information Technology knowledge to solve broad-based Information Technology related problems.

Experiments and practice: Plan to perform experiments, practices and to use the results to solve Information Technology related problems.

Engineering tools: Apply appropriate Information Technology related techniques/ tools with an understanding of the limitations.

Ethics: Apply ethical principles for commitment to professional ethics, responsibilities and norms of practice in the field of Information Technology.

Individual and team work: Function effectively as a leader and team member in diverse/multidisciplinary teams.

Communication: Communicate effectively in oral and written form.

Life-long learning: Engage in independent and life-long learning along with the technological changes in the IT and allied industry.

III Relevant Course Outcomes

Use computer system and its peripherals.

IV Practical Learning Outcome

Manage files and folders: Create, copy, rename, delete, move files and folder.

V Practical Skills

1. Create files and folders on computer system as per specified path.
2. Apply operations such as rename, copy, move and delete on files and folders.

VI Relevant Affective domain related Outcomes

- a. Follow safety practices.
- b. Follow ethical practices.

VII Minimum Theoretical Background

The information that is stored in a computer system is stored in a form of files. Whenever a computer file is created an operating system assigns fixed memory of 512 Bytes to each file. Once that memory is utilized next segment of 512 Byte is assigned. There is a hierarchical structure of storing a file in computer. Folder is the one which contains file(s). There are many type of directory structure in OS like: Single Level, Two Level, Tree Structured etc.

VIII Circuit diagram / Experimental set-up / Work Situation

-Not Applicable-

IX Resources required

Sr. No.	Name of Resource	Specification	Qty.	Remarks
1	Computer System	Any desktop or laptop with basic configuration	One computer system for each student	

X Procedure (Step wise)

1. Create a sample text file using relevant text editor available in Operating System and save it at default location.
2. Apply relevant method to manage files and folders-
Create a folder with your name on the desktop and apply operations to perform following tasks:
 - a. Copy the file which is initially created and saved at default location into the newly created folder.
 - b. Rename the file.
 - c. Rename the folder.
 - d. Delete the file initially created at default location.
 - e. Move the folder to a different location other than desktop.

XI Precautions (if any)

1. Handle computer system with care.
2. Be cautious while performing files related operations in computer system.
Closely observe and remember the file name and its folder.

XII Actual procedure followed

We have create a Sample text file
then we gave name to that file & saved it.

XIII Resources used (with major specifications)

We used computer systems very carefully and cautiously while performing files related operations in computers.

XIV Precautions followed

We used computer systems and laptop.

XV Observations and Calculations

-Not Applicable-

XVI Results

We know about how to create file and folder and relevant method like copy, Rename, delete file and Folder.

XVII Interpretation of results

I get a full practise, this is very useful to developing these necessary skills.

XVIII Conclusions and Recommendations (if any)

In this way we can create a file and folder.

XIX Practical Related Questions

Note: Below given are few sample questions for reference. Teachers must design more such questions so as to ensure the achievement of identified CO.

1. Explain the ways to delete a file.
2. How can we restore the deleted file? Explain.
3. What will happen if you create a file with the same name which already exists?

XX Exercise

Note: Below given are few sample questions for reference. Teachers must design more such questions so as to ensure the achievement of identified CO.

1. Create a file with your name and Save it at Desktop
2. Create a folder with your college name at Desktop and create one more folder in it.

XXI References / Suggestions for further Reading

1. <https://www.pcmag.com/encyclopedia/term/60967/files-vs-folders>
2. <https://www.gcflearnfree.org/windowsbasics/working-with-files/1/>

XXII Assessment Scheme

Performance indicators		Weightage
Process related (10 Marks)		40 %
a.	Tool Selection Ability.	20%
b.	Use of Appropriate tool to perform the identified task(s)	20%
Product related (15 Marks)		60 %
a.	Performed/completed the identified task(s)	20%
b.	Correctness of output achieved	20%
c.	Completed the practical in stipulated time	10%
d.	Correctness of question asked	10%
Total (25 Marks)		100 %

List of Student Team Members

1.
2.
3.
4.

Marks Obtained			Dated signature of Teacher
Process Related(10)	Product Related(15)	Total(25)	

XIX

- ① 1. Locate the file or folder by using windows Explorers to do so, right - click start and choose open windows Explorer and then browse to locate the file you want to delete.
2. In windows Explorers, right - click the file or that you want to delete and then choose delete.
3. Click yes to delete the file.
- ② 1. Type Restore files in the Search box on the taskbar and then select Restore your files with File History.
2. Look for the file you need, then use arrows to see all its versions.
3. When you find the versions you want, select Restore to save it in its original locations.
- ③ If you were to create a same file that has the same name to it then your computer would recognize the file with the same name and will ask you whether you would like to replace the existing file or if you would like to make duplicate copy at the existing file.

Practical No. 3: Create, Edit and Save Document

I Practical Significance

Creating documents for different purpose such as creating notes reports, statements and applying desk top publishing features involves different kind of skills in creating editing and formatting text matter in various ways. This practical is useful for developing necessary skills to incorporate the same and is helpful to use computers for all sort of electronic documentation.

II Relevant Program Outcomes (POs)

Discipline knowledge: Apply Information Technology knowledge to solve broad-based Information Technology related problems.

Experiments and practice: Plan to perform experiments, practices and to use the results to solve Information Technology related problems.

Engineering tools: Apply appropriate Information Technology related techniques/ tools with an understanding of the limitations.

Ethics: Apply ethical principles for commitment to professional ethics, responsibilities and norms of practice in the field of Information Technology.

Individual and team work: Function effectively as a leader and team member in diverse/multidisciplinary teams.

Communication: Communicate effectively in oral and written form.

Life-long learning: Engage in independent and life-long learning along with the technological changes in the IT and allied industry.

III Relevant Course Outcomes

Prepare business document using word processing tool.

IV Practical Learning Outcome

Create, edit and save document.

V Practical Skills

a. Create, edit and save document by composing the mater as per given specifications.

b. Apply formatting features at text level, line level and at paragraph level.

VI Relevant Affective domain related Outcomes

a. Follow ethical practices.

b. Practice good housekeeping.

VII Minimum Theoretical Background

Word processing tools are computer software which allows user to create, edit and save a text file. Mostly all operating system supports basic word processing tools to create a basic text document. These tools provide features of creating a new file, editing already existing file, printing a file. One can also make use of existing tools to create tables and add certain graphics in these files.

VIII Circuit diagram / Experimental set-up / Work Situation

-Not Applicable-

IX Resources required

Sr. No.	Name of Resource	Specification	Qty.	Remarks
1	Computer System	Any desktop or laptop computer with basic configuration	One computer system for each student	
2	Office software Package	Open office, Star office, Libre office, MS office or any other such software		

X Procedure (Step wise)**1. Create and Save Document**

Create a new document. Use relevant tool from the menu/ ribbon using short cut keys to perform following tasks:

- Type 15-20 lines of some useful text matter.
- Apply formatting features on the given space of text/ line/ paragraph.
- Go to relevant menu/option and change font face, size, color. Apply effects like bold, italic, underline, subscript and superscript, use case changing options.
- Go to relevant option to preview a document to know how it will appear on paper when printed.

2. To save a document

- Go to relevant menu and choose **save as** option, now choose the location of file to be saved i.e. the drive and the folder. Give the file name in **File name** box and then set the file type in **save as type** box. Now press save button to save the document.
- To close and exit the document- close the window and exit the application.

3. Edit a Document

Open a document which needs to be edited. Traverse to the text/paragraph which needs to be edited. Perform necessary action i.e. add new text / delete or modify existing text. Perform text level formatting on text.

XI Precautions (if any)

- Handle computer system with care.
- Remember to save the document before you close and exit the application.

XII Actual procedure followed

Create a new document by using relevant tools.....
Type 15-20 lines of text, apply formatting on.....
given space of text apply effects like bold, italic, etc.

XIII Resources used (with major specifications)

Any desktop or laptop computer with basic configuration and software such as open office, star office, ms office, etc.

XIV Precautions followed

① Operate the computer carefully ② Save the file before close and exist the application.

XV Observations and Calculations
-Not Applicable-

XVI Results

By using MS office we created various files.....
.....for applying format features on it.....

XVII Interpretation of Results

...By performing this practical I know how to...
.....create, edit and save documents.....

XVIII Conclusions and Recommendations (if any)

...We create, save and edit document
.....by following processes.....

XIX Practical Related Questions

Note: Below given are few sample questions for reference. Teachers must design more such questions so as to ensure the achievement of identified CO.

1. Explain the difference between paste and paste special?
2. Explain the difference between save and save as?
3. What will happen if we apply the format painter tool to a part of a document?

XX Exercise

Note: Below given are few sample questions for reference. Teachers must design more such questions so as to ensure the achievement of identified CO.

1. Create a file with any arbitrary name. Write your name and basic information about yourself in it. Save it at Desktop.
2. Open file created in Question 1. Delete some information and write word count details from available menu/options.

XXI References / Suggestions for further Reading

- https://www.webopedia.com/TERM/W/word_processing.html
- <http://jan.ucc.nau.edu/lrm22/technology/wpbasics/wpbasics.htm>

XXII Assessment Scheme

Performance indicators		Weightage
Process related (10 Marks)		40 %
a.	Tool Selection Ability.	20%
b.	Use of Appropriate tool to perform the identified task(s)	20%
Product related (15 Marks)		60 %
a.	Performed/completed the identified task(s)	20%
b.	Correctness of output achieved	20%
c.	Completed the practical in stipulated time	10%
d.	Correctness of question asked	10%
Total (25 Marks)		100 %

List of Student Team Members

1.
2.
3.
4.

Marks Obtained			Dated signature of Teacher
Process Related(10)	Product Related(15)	Total(25)	
			.

(Space for Answer)

~~XIX~~ - Answer.....

③ Paste and paste special are two options that allows users to modify a document. The main difference between paste and paste special are -

That the paste command allows the user to insert the selected data from the clipboard into an application while the paste special command follows the same functionality similar to paste, but provides additional option to select how the inserted data appears on the application.

② Save allows us to update the last saved version to that it will match with the current working version and that last saved work will be updated with the now work. Save as allows us to save our work

for the first time and also it will ask for in what name it will be saved and where it will be saved.

The main difference between save and save as is that save helps to update the lastly content while save as helps to store a new file or to store an existing file to a new location with the same name or a different name.

③ The point format tool in google documents lets you copy the formatting you have applied to the specific section of text to another section.

If we apply point format tool to a part of document following will happen:-

a. It will allow us to make changes in documents like changing font size, font style, type, colours,

b. By double clicking the format point icon it also allows us to select multiple areas of text to be changed.

c. It also helps to speed things.

Practical No. 4: Use of Bullets, Numbering, Page Formatting in a Word Processing

I Practical Significance

Bullets and numbering are used to arrange list of things with auto numbering/ bullets with different style and make lists easier to read and follow. Using page formatting, a document can be formatted by various page formatting features such as adjust page margins, change page orientation, create headers and footers, set and change indentations, Insert and clear tabs. This practical is useful for developing necessary skills to use bullets and number list options and format the page in many ways.

II Relevant Program Outcomes

Basic knowledge: Apply knowledge of basic mathematics, science and basic engineering to solve the problems related to application of computers and communication services in storing, manipulating and transmitting data, often in the context of a business or other enterprise.

Experiments and practice: Plan to perform experiments, practices and to use the results to solve Information Technology related problems.

Engineering tools: Apply appropriate Information Technology related techniques/ tools with an understanding of the limitations.

III Relevant Course Outcomes

Prepare business document using document processing tool.

IV Practical Learning Outcome

Use bullets, numbering, page formatting.

V Practical Skills

1. Apply bullets & numbering to a document.
2. Set bullets and numbers using different format.
3. Apply page formatting features such as adjust page margins, change page orientation, create headers and footers, set and change indentations, insert and clear tabs to a document.

VI Relevant Affective domain related Outcomes

- a Follow safety practices.
- b Follow ethical practices.

VII Minimum Theoretical Background

While creating a word document, one needs to give emphasis on formatting to make the document more presentable and readable. The document creator / editor needs to consider various options to ensure that the document is well formatted. Most of the word processing tools give the facility for text level formatting like bold, italic, underline. Use of paragraph and line spacing makes a good enough space between lines which gives good look to the document. With good formatting one need to look for proper page setting like page size, margin, and orientation. This allows ease of setting printer. Spelling and grammatical check features makes document error free. Use of appropriate header and footer is desirable along with bullets to categorize the document.

VIII Circuit diagram / Experimental set-up / Work Situation
 -Not Applicable-

IX Resources required

Sr. No.	Name of Resource	Specification	Qty.	Remarks
1	Computer System	Any desktop or laptop computer with basic configuration	One computer system for each student	
2	Office software Package	Open office, Star office, Libre office, MS office or any other such software		

X Procedure

1. Use bullets, numbering and page formatting-
Create a document file and Apply operations to perform following tasks:
 - a. Apply bullets in list.
 - b. Apply numbering in list.
2. Use different options to set bullets and number styles and format it.
3. Apply following page formatting features to a document file –
 - a. Adjust page margins
 - b. Change page orientation
 - c. Create headers and footers
 - d. Set and change indentations
 - e. Insert and clear tabs.

XI Precautions

1. Handle computer system with care.
2. Margin shall be set as per page size.
3. Appropriate uses of Header Footer as and when require.

XII Actual procedure followed

① Use bullets, numbering and page formatting ② Create a document file and apply operations to perform tasks like use of bullets and numbering ③ Use different options to set bullets and numbering style ④ Apply the page formatting features to document.

XIII Resources used (with major specifications)

① Computer system – any Desktop or laptop with basic configuration. ② Office software package like m.s. office, open office and many others.

XIV Precautions followed

① Handle computer system with care ② margin shall be set as per page size ③ Appropriate uses of Header footer as and when require.

XV Observations and Calculations

-Not Applicable-

XVI Results

We understood how to use bullets, numbering and also page formatting in word processing.

XVII Interpretation of results

We are successfully able to give bullet points and numbers to document & page formatting.

XVIII Conclusions and Recommendations (if any)

Prepare business document using document processing tool, change page orientation.

XIX Practical Related Questions

Note: Below given are few sample questions for reference. Teachers must design more such questions so as to ensure the achievement of identified CO.

1. Explain the significance of **Gutter** in page setting?
2. Demonstrate procedure to create multilevel list.
3. Demonstrate the procedure to mark starting page number as 10.

XX Exercise

Note: Below given are few sample questions for reference. Teachers must design more such questions so as to ensure the achievement of identified CO.

1. Open any file available on system, add some points and mark them as bullets, change bullets styles and verify the results of all bullet styles.
2. Create new document and make following setting.
 - a. Page Size : A4
 - b. Orientation : Landscape
 - c. Margin : Top: 1.25", Bottom 1.5", Left 1.5" Right 1.0"
 - d. Page Border: Box

XXI References / Suggestions for further Reading

- <http://jan.ucc.nau.edu/lrm22/technology/wpbasics/wpbasics.htm>
- https://www.webopedia.com/TERM/W/word_processing.html

XXII Assessment Scheme

Performance indicators		Weightage
Process related (10 Marks)		40 %
a.	Tool Selection Ability.	20%
b.	Use of Appropriate tool to perform the identified task(s)	20%
Product related (15 Marks)		60 %
a.	Performed/completed the identified task(s)	20%
b.	Correctness of output achieved	20%
c.	Completed the practical in stipulated time	10%
d.	Correctness of question asked	10%
Total (25 Marks)		100 %

List of Student Team Members

1. Tejas Bapu Kumavat.

2.

3.

4.

Marks Obtained			Dated signature of Teacher
Process Related(10)	Product Related(15)	Total(25)	
.....

(Space for Answer)

XII

① IF we are working with a facing-pages layout, the gutter margin comes into play. The significance of the gutter margin is a typographical term used to designate an additional margin added to a facing-pages layout to compensate for the part of the paper made unusable by the binding process. In single sheet layout, the gutter margin is typically the area where you might three hole punch your paper.

② Procedure to create multilevel lists:

① Select the text you want to format as a multilevel list.

② Select the multilevel list command on the Home tab. The multilevel list command.

③ Click the bullet or numbering style you want to use.

④ Position your cursor at the end of a list item, then press the enter key to add an item to the list.

Practical No.5: Use of Images and Shapes

I Practical Significance

While creating documents for different purpose, there are situations when we need to insert images or diagrams and apply desk top publishing features. After inserting the graphics, required to compose text matter along with image or diagrams. This practical is useful in developing necessary skills to incorporate the same and is helpful to use computers in electronic documentation.

II Relevant Program Outcomes

Basic knowledge: Apply knowledge of basic mathematics, science and basic engineering to solve the problems related to application of computers and communication services, storing, manipulating and transmitting data, often in the context of a business or of an enterprise.

Experiments and practice: Plan to perform experiments, practices and to use the results to solve Information Technology related problems.

Engineering tools: Apply appropriate Information Technology related techniques/ tools with an understanding of the limitations.

Environment and sustainability: Apply Information Technology related engineering solutions for sustainable development practices in environmental contexts.

Ethics: Apply ethical principles for commitment to professional ethics, responsibilities and norms of practice in the field of Information Technology.

Communication: Communicate effectively in oral and written form.

III Relevant Course Outcomes

Prepare business document using document processing tool.

IV Practical Learning Outcome

Insert and edit images and shapes, sizing, cropping, colour, background, group / ungroup.

V Practical Skills

a. Insert and edit images and shapes in document by way of hands on to compose the given image in the document as per given specifications.

b. Format the image as per the specification.

VI Relevant Affective domain related Outcomes

- Follow safety practices.
- Practice good housekeeping.

VII Minimum Theoretical Background

While creating a big document(s) such as report, books one need to use various shapes to draw to depict as block diagram, processing diagram or one can make use of images that already created. Word processing tools give this facility to create an object using shapes available. One can insert already existing image in the document to make the document more readable. Word processing tool does support editing of such images once it is inserted. One can use appropriate option from available menu..

VIII Circuit diagram / Experimental set-up / Work Situation

-Not Applicable-

IX Resources required (In tabular form)

Sr. No.	Name of Resource	Specification	Qty.	Remarks
1	Computer System	Any desktop or laptop computer with basic configuration	One computer system for each student	
2	Office software Package	Open office, Star office, Libre office, MS office or any other such software		

X Procedure (Step wise)

Following activities are to be carried using identified software package.

a. Insert different shapes and images in given document

To insert image and shape, Use relevant tool from the menu/using short cut keys:

- Place the cursor in the document where you want to insert the picture.
- Go to relevant menu to insert picture.
- Choose the folder where your file is located.
- Select the image file.
- Insert the file into your document.

b. Edit/format the image/shape

- Once image is inserted it can be formatted in many ways.
- Select the image. Choose relevant menu to format/edit the image or press right click button to activate various image formatting/editing options like setting brightness, contrast, transparency, cropping the image.
- One can also insert shapes and clipart from relevant menu option. After clicking on image/graphic object, use handles on the border of image to set its size or drag it to move and change its place.
- To group multiple image/shapes to treat it as single entity it can be grouped by selecting each image/shape (click on each image/shape while pressing the control key) and then right click on any image/shape and choose the group option.

XI Precautions (if any)

Handle computer system with care.

XII Actual procedure followed

First we have to insert different shapes and images in given document from the menu/using short cut keys and then edit or format the image or shape.

XIII Resources used (with major specifications)

Computer system (any desktop) or laptop computers with basic configuration and software such as office, ms office, etc.

XIV Precautions followed

Handle computer system with care.

XV Observations and Calculations
-Not Applicable-

XVI Results

Images and shapes are success -
Fully.

XVII Interpretation of Results

We learn how to insert shapes and images on document to make document more attractive.

XVIII Conclusions and Recommendations (if any)

Prepare business document using document processing tools.

XIX Practical Related Questions

Note: Below given are few sample questions for reference. Teachers must design such questions so as to ensure the achievement of identified CO.

1. What is the significance of having shapes in a word document?
2. What are the different image formats supported by word processing tools?

XX Exercise

Note: Below given are few sample questions for reference. Teachers must design such questions so as to ensure the achievement of identified CO.

1. How to insert the image, to the right hand side of the bulleted list of the document.
2. Write the steps for rotating the image by 60°.
3. Write the steps for ungrouping the images.

XXI References / Suggestions for further Reading

- <https://www.geflearnfree.org/word2013/shapes/1/>
- <https://www.lifewire.com/insert-pictures-and-clip-art-3540356>

XXII Assessment Scheme

Performance indicators		Weightage
Process related (10 Marks)		40 %
a.	Tool Selection Ability.	20%
b.	Use of Appropriate tool to perform the identified task(s)	20%
Product related (15 Marks)		60 %
a.	Performed/completed the identified task(s)	20%
b.	Correctness of output achieved	20%
c.	Completed the practical in stipulated time	10%
d.	Correctness of question asked	10%
Total (25 Marks)		100 %

List of Student Team Members

1.Tejas.Bapu.Kumarvat

2.

3.

4.

Marks Obtained			Dated signature of Teacher
Process Related(10)	Product Related(15)	Total(25)	
			.

(Space for Answer)

IX

① The significance of shapes in words:-

It allow us to punch in any shape we like in the document and decorate it. We can also fill the shape with colors and add in text inside it. Makes our document look attractive. It provides a vast variety and space to be creative about your document.

② There are many image formats which are supported by word processing tool such as :-

- ① TIFF - Tag Image file Format
- ② GIF - Graphics Interchange Format
- ③ PNG - Portable Network Graphics
- ④ JPG - Joint Photographic Group
- ⑤ RAW Image Files

Practical No.6: Tables in Documents

I Practical Significance

A table is an organizational tool that presents information in an organized way in a read format. The important features of tables are to organize data, as well as sort data, perform basic calculations on it. Document can use tables to place information into rows and columns. This practical is useful for adding a table to document and formatting combine/split table cells or inserting/removing rows/columns to it to provide a grouping of information.

II Relevant Program Outcomes

Basic knowledge: Apply knowledge of basic mathematics, science and basic engineering to solve the problems related to application of computers and communication services, storing, manipulating and transmitting data, often in the context of a business or an enterprise.

Experiments and practice: Plan to perform experiments, practices and to use the results to solve Information Technology related problems.

Engineering tools: Apply appropriate Information Technology related techniques/tips with an understanding of the limitations.

The engineer and society: Assess societal, health, safety and legal issues and consequent responsibilities relevant to practice in the field of Information technology.

Individual and team work: Function effectively as a leader and team member in diverse multidisciplinary teams.

Communication: Communicate effectively in oral and written form.

III Relevant Course Outcomes

Prepare business document using document processing tool.

IV Practical Learning Outcome

Insert and apply various table formatting features on it.

V Practical Skills

1. Create a table in a document.
2. Format a table with given specification.
3. Insert and delete columns and rows in a table.
4. Use Borders and shading to the table.
5. Merge and split cells in a table.

VI Relevant Affective domain related Outcomes

- a. Follow safety practices.
- b. Follow ethical practices.

VII Minimum Theoretical Background

While creating a word document one can make use of a table to give statistical data with attribute/value. Word processing tool gives a freedom to insert a table of user's choice from available menu. The User can format a table as per their convenience. One can make use of table for various purposes like comparison, denoting value in tabular form.

VIII Circuit diagram / Experimental set-up / Work Situation

-Not Applicable-

IX Resources required

Sr. No.	Name of Resource	Specification	Qty.	Remarks
1	Computer System	Any desktop or laptop computer with basic configuration	One computer system for each student	
2	Office software Package	Open office, Star office, Libre office, MS office or any other such software		

X Procedure

1. Go to *insert* menu.
2. Choose the *Table* option from Ribbon/menu item.
3. Specify the number of rows and columns.
4. Insert table in the document.
5. Apply table formatting/editing features to a document.
 - a. Insert and delete columns and rows in a table-
 - i. To insert column/row to table, place cursor to location where user want to add new row/column.
 - ii. Select the relevant menu option or right click in the table. Choose relevant option to insert rows/columns.
 - iii. To delete column/row in a table, place cursor to location where user want to delete existing row/column.
 - iv. Select the relevant menu option or right click in the table. Choose relevant option to delete rows/columns.
 - b. Split a cell in a table-
 - i. Place cursor in the cell which is to be split.
 - ii. Select the relevant menu option or right click in the table.
 - iii. Choose the relevant option to split the cell.
 - iv. Specify number of rows/columns to which this cell is to be spitted. Press *OK*.
 - c. Merge cells in a table-
 - i. Select the number of cells to be merge by dragging mouse.
 - ii. Select the relevant menu option or right click in the table.
 - iii. Choose the relevant option to merge the cells.
 - iv. Choose *merge* option.
 - d. Repeating columns heading to each page-
 - i. Click in the table row to be repeated on each page.
 - ii. Choose relevant option from menu to repeat it.
 - e. Use border and shading in table-
 - i. Click anywhere in the table.
 - ii. Choose relevant option from menu or right click the mouse.
 - iii. Choose relevant option for making/changing the table border.

XI Precautions

1. Use appropriate caption for table.
2. Insert table with desired numbers of rows and columns.

- XII Actual procedure followed
First go to the insert menu, then choose table option from ribbon then specific numbers of rows and columns and then insert the table on document.
- XIII Resources used (with major specifications)
Computer System (any desktop) for the table or insert table with desired numbers of rows and columns
- XIV Precautions followed
① Use appropriate caption for table ② Insert table with desired numbers of rows and columns
- XV Observations and Calculations
- Not Applicable -
- XVI Results
In this way we formed table in documents and learn how to manage the ~~for~~ in document
- XVII Interpretation of results
By performing this practical, I know how to create table and how to give margin/borders and shape to the table.
- XVIII Conclusions and Recommendations (if any)
While creating a word document one can make use of a table to give statistical data with its value.
- XIX Practical Related Questions
Note: Below given are few sample questions for reference. Teachers must design such questions so as to ensure the achievement of identified CO.
1. What happens to cell contents when multiple cells are merged to form a single cell?
2. Explain the concept of splitting and merging cell in a table?
- XX Exercise
Note: Below given are few sample questions for reference. Teachers must design such questions so as to ensure the achievement of identified CO.
1. Write steps to repeat heading row on each page when a table is spread on two or more pages.
2. Insert a table with 5 rows and 5 columns and make row height as 15 and Column width as 20.
3. Insert a table with having predefined colors to the cells.
- XXI References / Suggestions for further reading
Learning Websites-
 - <https://computer.howstuffworks.com/how-to-make-table-on-microsoft-word.htm>
 - <https://www.mediacollege.com/microsoft/word/tables.html>

XXII Assessment Scheme

Performance indicators		Weightage
Process related (10 Marks)		40 %
a.	Tool Selection Ability.	20%
b.	Use of Appropriate tool to perform the identified task(s)	20%
Product related (15 Marks)		60 %
a.	Performed/completed the identified task(s)	20%
b.	Correctness of output achieved	20%
c.	Completed the practical in stipulated time	10%
d.	Correctness of question asked	10%
Total (25 Marks)		100 %

List of Student Team Members

1. Tejas.Bapu.Kumavat
2.
3.
4.

Marks Obtained			Dated signature of Teacher
Process Related(10)	Product Related(15)	Total(25)	

(Space for Answer)

XIX

① We can merge multiple cells to form a single cell in tables. merging cells however, is similar to deleting a cell and then adjoining a cell with neighbouring cell. When we merge two or more adjacent horizontal or vertical cells, the cells become one larger cells that is displayed across multiple columns or rows.

② Splitting cells is similar to adding a row or column, but it all takes place in one cell instead of group of cells. merging cells however, is similar to deleting a cell and then adjoining it with a neighbouring.

① Splitting cells in a Table -

To split cells in a table, perform these tasks:

- Place your mouse cursor in the cell you want to split.
- Right-click and choose cell, then split cell horizontally or split cell vertically, depending on whether you wants to split a cell into rows.

② Merging cells in a table -

To merge cells in a table, perform these tasks:

- Place your mouse cursor in the cell to merge.
- Right-click and choose cell, then merge Right or Merge Down, depending on whether you want to merge the cell with the cell on its right or with the cell below it.

Practical No.7 Document Page Layout

I Practical Significance

Page layout feature is used to describe how each page of document will appear when it is printed. Page layout includes elements such as the margins setting, the number of columns, headers and footers, create multicolumn page and document printing. This practical is useful for developing these skills that are helpful in electronic documentation.

II Relevant Program Outcomes

Experiments and practice: Plan to perform experiments, practices and to use the results to solve Information Technology related problems.

Engineering tools: Apply appropriate Information Technology related techniques/ tools with an understanding of the limitations.

Environment and sustainability: Apply Information Technology related engineering solutions for sustainable development practices in environmental contexts.

Individual and team work: Function effectively as a leader and team member in diverse/ multidisciplinary teams.

Communication: Communicate effectively in oral and written form.

III Relevant Course Outcomes

Prepare business document using document processing tool.

IV Practical Learning Outcome

Apply page layout features on documents.

V Practical Skills

1. Create documents and apply different page layout features such as insert and delete a page break, Insert page numbers, insert the date and time.
2. Use different options to print a document.

VI Relevant Affective domain related Outcomes

- a. Choose appropriate layout to visualize text document as per the requirement.
- b. Follow ethical practices.

VII Minimum Theoretical Background

The Page layout option gives a freedom to the user to work with various properties of a document. The user can work with themes of document, gives color to document. This option enables user to manipulate margin, orientation, size and columnar view of a document. One can add watermark to the documents along with page border. Grouping and ungrouping of object can be handled by page layout option. One can make efficient use of page break to give user define breaks in a document.

VIII Circuit diagram / Experimental set-up / Work Situation

-Not Applicable-

IX Resources required (In tabular form)

Sr. No.	Name of Resource	Specification	Qty.	Remarks
1	Computer System	Any desktop or laptop computer with basic configuration	One computer system for each student	ms office
2	Office software Package	Open office, Star office, Libre office, MS office or any other such software	ms office	ms office

X Procedure (Step wise)-**1. Insert Page Layout Elements to Documents -**

Create a document file and apply following operations:

- Choose relevant option to insert and delete a page break.
- Select relevant option to set page layout.
- Change the page orientation (portrait and landscape).
- Set the page margins.
- Set the position of header and footer.
- Set paper size.
- Insert page numbers.
- Insert the date and time.

2. Work with Columned Layouts and Section Breaks-

Create document on a desktop and apply operations to perform following tasks:

- Select relevant menu option to insert / remove section breaks.
- Set a different page layout for newly created section.
- Choose relevant option to create multi columns page.
- Create Newsletter style columns.
- Increase/Decrease Column width.
- Adjust column spacing.
- Insert manual column breaks.

3. Printing a document

- Go to relevant menu and choose "Print" option.
- Choose the printer name from the drop down list.
- Choose all pages/selected pages to be printed.
- Choose number of copies.
- Choose relevant options to set properties to:
 - Take printout on both sides on A4 size paper.
 - Set printing intensity (dark/normal or faint)
- Take a print preview.
- Once satisfied with all the settings, click OK to take print out on paper.

XI Precautions (if any)

- Appropriate use of watermark and page border.
- Strictly follow the instructions for specifications to be applied while performing page layout operations in a document.

XII Actual procedure followed

① Insert page layout elements documents
column layouts and section breaks ② Work will
option and print a document.

XIII Resources used (with major specifications)

① Computer System ② Office software package open
office, ms office and many other software.

XIV Precautions followed

① Appropriate use of watermark and page borders.
② Follow the instruction while performing the operation.

XV Observations and Calculations

- Not Applicable -

XVI Results

In this way we formed prepare document to apply
different page layout feature on it.

XVII Interpretation of results

By performing this practical I know how to set a
margin & how to give numbers to page & also knew
how to take print of document in different.

XVIII Conclusions and Recommendations (if any)

Thus we have studied how perform the
practical of document page layout.

XIX Practical Related Questions

Note: Below given are few sample questions for reference. Teachers must design more such questions so as to ensure the achievement of identified CO.

1. Explain the importance of section break in document.
2. Can we make portrait and landscape pages in the same document?

XX Exercise

Note: Below given are few sample questions for reference. Teachers must design more such questions so as to ensure the achievement of identified CO.

1. Write steps to split a document in two windows.
2. Create a document and make one paragraph as Two Columnar view.
3. Create a document and write your name as "Watermark Text".

XXI References / Suggestions for further Reading

1. [https://www.getlearnfree.org/word2016/page-layout/1/](https://www.getlearnfree.org/word2016/page-layout/)
2. https://wordribbon.tips.net/C0716_Page_Layout.html

XXII - Assessment Scheme

Performance indicators		Weightage
Process related (10 Marks)		40 %
a.	Tool Selection Ability.	20%
b.	Use of Appropriate tool to perform the identified task(s)	20%
Product related (15 Marks)		60 %
a.	Performed completed the identified task(s)	20%
b.	Correctness of output achieved	20%
c.	Completed the practical in stipulated time	10%
d.	Correctness of question asked	10%
Total (25 Marks)		100 %

List of Student Team Members

1. Tejas Bapu Kumavat.
 2.
 3.
 4.

Marks Obtained			Dated signature of Teacher
Process Related(10)	Product Related(15)	Total(25)	

(Space for Answer)

XIX ② Section break is the option available in the MS word. This is important because it let divide section in two parts. Not only this, the sections which are divided can be changed through formattting change individually. It's just like if we want to make changes on one section while others will remain the same. Each section break controls the layout & formattting of the section previous to the break, for ex. if we delete a section break, the text before the break acquires all the formattting of the section.

that follows the break.

② Yes, we can make landscape as well as portrait pages in the document. We can do it by using following steps:-

① In a word document, place your work at the start of the page that you want to change to landscape.

② Select layout > Breaks > Next page to place a section break where you had yours.

③ Make sure your cursor is still at the start of that page to go to the orientation option. Select landscape or you will notice how everything after the section break has changed to horizontal.

④ All you have to do now is go to the next page, insert another break, change the orientation back to portrait & there you have it!

Practical No. 9: Create, Open and Edit Worksheets

I Practical Significance

A worksheet is a file that helps organize data in rows and columns. Different types of data is entered in cells of a table to perform various types of calculations on it, sort and filter data based on criteria and can also represent it in the form of charts. This practical develop the ability to create worksheet, enter data and edit it in many ways.

II Relevant Program Outcomes

Basic knowledge: Apply knowledge of basic mathematics, science and basic engineering to solve the problems related to application of computers and communication services in storing, manipulating and transmitting data, often in the context of a business or other enterprise.

Experiments and practice: Plan to perform experiments, practices and to use the results to solve Information Technology related problems.

Engineering tools: Apply appropriate Information Technology related techniques/ tools with an understanding of the limitations.

Individual and team work: Function effectively as a leader and team member in diverse/ multidisciplinary teams.

Communication: Communicate effectively in oral and written form.

III Relevant Course Outcomes

Interpret data and represent it graphically using spreadsheet.

IV Practical Learning Outcome

Create, open and edit worksheets.

V Practical Skills

1. Create, edit and save spreadsheets by way of entering the given sample data and performing basic calculations on it.
2. Format data and sheet layout, adjust row height and column width.
3. Insert and delete cells, rows and columns
4. Apply wrap text, text orientation feature on cell.

VI Relevant Affective domain related Outcomes

- a. Demonstrate working as a leader/a team member.
- b. Maintain tools and equipment.
- c. Follow ethical practices.

VII Minimum Theoretical Background

Worksheets are very important tool in any office related operation. Most of the time business/commercial activities are documented with the help of worksheet. Worksheet gives a complete row – column scenario where one can use statistical data and perform certain operations on it. Each box is known as cell. One can define a formula or use readymade formula by writing (=) equal to symbol at the beginning of cell.

VIII Circuit diagram / Experimental set-up / Work Situation

Not Applicable

IX Resources required

Sr. No.	Name of Resource	Specification	Qty.	Remarks
1	Computer System	Any desktop or laptop computer with basic configuration	One computer system for each student	
2	Office software Package	Open office, Star office, Libre office, MS office or any other such software		

X Procedure

a. Create and save Spreadsheets:

- Use appropriate tool from the menu/ ribbon/using short cut keys to perform following tasks:
 - Enter sample data as instructed.
 - Save the worksheet.
 - Close and open workbook.

b. Edit Spreadsheets:

- a. By keeping mouse on the boundary line of row/column and dragging the line user can adjust row height and column width.
- b. One can use all the word processing features to format/edit text data.
Use it to format font, delete, move data, Copy and Paste, Find and Replace, Spell Check, Zoom In-Out, insert Special Symbols, Insert Comments, Add Text Box, and Undo Changes.
- c. Use relevant options from the menu to perform following tasks:
Rotate Cells, Set Text Alignments, Merge and Wrap cell, apply Borders and Shading, Set Background, Clear formatting, setting line spacing.
Adjust page Margins, and Page Orientation, add/remove Header and Footer, Insert Page Breaks.
- d. To hide/unhide rows/columns-
 - Click on the column/row designation number on the top/right to select whole column/row.
 - Use relevant menu or right click the mouse button and choose **Hide** to hide the column/row.
 - To unhide the hidden column, choose two successive column/rows between which the hidden column/row exists.
 - Use relevant menu option or right click the mouse button and choose **Unhide** to unhide the hidden column/row.
- e. To Freeze Panes-
 - Place cursor to a cell for reference point. Use relevant menu and choose freeze option to freeze the column to left and rows above the cell made as reference point. This will keep freezing while scrolling the sheet vertically/horizontally.
 - To unfreeze it, choose the unfreeze option from the relevant menu.
- f. To insert rows and columns in between the existing rows/columns-
 - Keep cursor to a cell where user wants to insert new row/column.
 - Choose relevant menu option or right click the mouse button.
 - Choose **entire row/entire column** option.

c. Formatting Cells and sheet of spreadsheets:

Set Cell Type, Set Fonts, Text options.

XI Precautions

Handle computer system with care.

XII Actual procedure followed

① Create & Save Spreadsheets by entering data instructed. ② Edit Spreadsheets to create columns and rows.

XIII Resources used (with major specifications)

Computer system or any desktop or laptop computers with basic configuration.

XIV Precautions followed

Handle computer system with care.....
Operate all system systematically.....

XV Observations and Calculations

- Not Applicable -

XVI Results

Easily create, open and edit work-sheets.....

XVII Interpretation of Results

In we are successfully able to create open and edit the worksheets.....

XVIII Conclusions and Recommendations

In this way we can easily performed the practical.....

XIX Practical Related Questions

Note: Below given are few sample questions for reference. Teachers must design more such questions so as to ensure the achievement of identified CO.

1. Differentiate absolute and relative cell addressing.
2. Write steps to split the cell content in multiple lines when the contents are bigger than column width?
3. Write procedure to insert three columns between columns D and E.

XX Exercise

Note: Below given are few sample questions for reference. Teachers must design more such questions so as to ensure the achievement of identified CO.

- a. Create a worksheet, enter 10 different values in different cells and perform addition of them.
- b. Create a worksheet and assign various data type from available menu.

XXI References / Suggestions for further Reading

- <https://www.gcflearnfree.org/excel2007/working-with-worksheets/1/>
- <https://www.makeuseof.com/tag/excel-worksheet-tabs/>

XXII Assessment Scheme

Performance indicators		Weightage
Process related (10 Marks)		40 %
a.	Tool Selection Ability.	20%
b.	Use of Appropriate tool to perform the identified task(s)	20%
Product related (15 Marks)		60 %
a.	Performed/completed the identified task(s)	20%
b.	Correctness of output achieved	20%
c.	Completed the practical in stipulated time	10%
d.	Correctness of question asked	10%
Total (25 Marks)		100 %

List of Student Team Members

1. Tejas...Bapu...Kumavat

2.

3.

4.

Marks Obtained			Dated signature of Teacher
Process Related(10)	Product Related(15)	Total(25)	

(Space for Answer)

XIX

① All cell references are relative references. When copied across multiple cells, they change based on the relative position and of rows & columns.

For example - If you copy the formula A1+B1 from row 1 to row 2, the formula will become = A2+B2

An absolute cell reference is cell address that contains a dollar sign in the row or column coordinate, or both when you enter a cell reference in a formula, excel assumes it is relative reference unless you change it to an absolute reference.

② Sometimes when the text in the columns is so much that the column would look wider than the others which result in a lot of wasted space. Therefore, it is visible to split the cell content into multiple lines within a single cell.

- ① Select the cells where the content should appear.
- ② Enter the first line of the data.
- ③ Press Alt + Enter, if there are any more additional lines to follow.

③ To insert columns: we follow this steps.

- ① Select the column before the right of where you want the new column to appear for example - If you want to insert a column E columns D and E select column E.
- ② Click the insert command on the home tab. Clicking the Insert command.
- ③ The new column will appear to the left of the selected column.

Practical No. 11: Sort, Filter and Validate Data

I Practical Significance

In spreadsheets, sort and filter are some of the most commonly used features. These features used to change the order of data, to sort it, to focus on a specific set of data, filter a range of cells or a table and data validation. This practical develop the ability to apply data sorting, filter the data based on defined criteria and data validation features of spreadsheets.

II Relevant Program Outcomes

Basic knowledge: Apply knowledge of basic mathematics, science and basic engineering to solve the problems related to application of computers and communication services in storing, manipulating and transmitting data, often in the context of a business or other enterprise.

Experiments and practice: Plan to perform experiments, practices and to use the results to solve Information Technology related problems.

Engineering tools: Apply appropriate Information Technology related techniques/ tools with an understanding of the limitations.

The engineer and society: Assess societal, health, safety and legal issues and the consequent responsibilities relevant to practice in the field of Information technology.

Individual and team work: Function effectively as a leader and team member in diverse/multidisciplinary teams.

Communication: Communicate effectively in oral and written form.

III Relevant Course Outcomes

Interpret data and represent it graphically using spreadsheet.

IV Practical Learning Outcome

Apply data sort, filter and data validation features.

V Practical Skills

1. Apply ascending and descending sort on data of spreadsheet.
2. Apply filter on specific fields of spreadsheet.
3. Apply validation on data of spreadsheet.

VI Relevant Affective domain related Outcomes

- a. Demonstrate working as a leader/a team member.
- b. Maintain tools and equipment.
- c. Follow ethical practices.

VII Minimum Theoretical Background

Most of the spreadsheet tools give facility to format existing data based on condition. This ensures that related data can be easily identified. Spreadsheet which contains huge data it is necessary to segregate data with specific background colour or fore colour. This data can get sorted as per requirement in specific order i.e. ascending or descending order. Data validation option gives facility to validate the data which is entered by the user. One can initiate Data Validation by selecting appropriate menu, after that user can set the allowed values in specific cell / column. This feature restrict user from entering any arbitrary value(s).

VIII Circuit diagram / Experimental set-up / Work Situation

- Not Applicable -

IX Resources required

Sr. No.	Name of Resource	Specification	Qty.	Remarks
1	Computer System	Any desktop or laptop computer with basic configuration	One computer system for each student	
2	Office software Package	Open office, Star office, Libre office, MS office or any other such software		

X Procedure**1. Data Sorting:**

- Select the cell range to sort.
- Select the relevant option to activate Sort command.
- The Sort dialog box will appear.
- Decide the sorting order (either ascending or descending).
- Once satisfied with selection, click **OK**.
- The cell range will be sorted by the selected column.

2. Filter a range of data

- Select the relevant option to activate Filter command. A drop-down arrow will appear in the header cell for each column.
- Click the drop-down arrow for the column to be filter.
- The Filter menu will appear.
- Select/specify filter criteria.
- When done, click **OK**.
- The worksheet data will be filtered according to search term.

3. Conditional formatting

- Select the cells to apply conditional formatting.
- On the relevant tab/menu, click the option related to Conditional Formatting.
- Select the type of criterion to be use.
- Enter the values for reference in the text box.
- Click the relevant options and select the desired formatting.
- Click **OK**.

4. Data Validation:

- Select cell to enter the data.
- On the relevant menu choose option for Validation.
- On the Settings tab choose the "custom" option.
- Specify/choose the relevant validation conditions for preventing duplicate data/restrict the data to a given range/no leading or trailing space/ no blank cells.
- Click **OK** when done.

XI Precautions

- Carefully apply the conditions for sorting, filtering and validating the data.

XII Actual procedure followed

① Select the cell range to sort. ② Select the relevant option to activate sort command. ③ The sort dialog box will appear (follow the actual procedure given in the manual).

XIII Resources used (with major specifications)

Computer system, Any desktop, Computer, open office, Star office, Ms office.

XIV Precautions followed

① Carefully apply the conditions for sorting altering and validating the data.

XV Observations and Calculations

- Not applicable -

XVI Results

Interpreting data and representing it using spreadsheet.

XVII Interpretation Of Results

Applying data and sorting it, filtering the data also using data validation features.

XVIII Conclusions and Recommendations

① Applying ascending and descending sort on data of spreadsheet. ② Apply on specific fields of Spreadsheet ③ Apply validation on data of spreadsheet.

XIX Practical Related Questions

Note: Below given are few sample questions for reference. Teachers must design more such questions so as to ensure the achievement of identified CO.

1. Write any two data validation conditions.
2. Explain the concept of Filters to be applied to a worksheet.
3. Write one benefit of applying conditional formatting on data.

XX Exercise

Note: Below given are few sample questions for reference. Teachers must design more such questions so as to ensure the achievement of identified CO.

1. Enter 10 names in a column and sort in Descending order
2. Enter percentage of students in your batch and sort it in ascending order

XXI References / Suggestions for further Reading

- <https://www.geflearnfree.org/googlespreadsheets/sorting-and-filtering-data/1/>
- <http://www.progenygenetics.com/knowledgebase/index.php?/Knowledgebase/Article/View/624/180/sorting-and-filtering-spreadsheet-data>

XXII Assessment Scheme

Performance indicators		Weightage
Process related (10 Marks)		40 %
a.	Tool Selection Ability.	20%
b.	Use of Appropriate tool to perform the identified task(s)	20%
Product related (15 Marks)		60 %
a.	Performed completed the identified task(s)	20%
b.	Correctness of output achieved	20%
c.	Completed the practical in stipulated time	10%
d.	Correctness of question asked	10%
Total (25 Marks)		100 %

List of Student Team Members

1. Tejas...Bapu..Kumavat
2.
3.
4.

Marks Obtained			Dated signature of Teacher
Process Related(10)	Product Related(15)	Total(25)	

(Space for Answer)

XIX

Q Validation is an automatic computer check to ensure that the data entered is sensible and reasonable. i.e. There are many types of Data validation operation.

- i) Data type validation.
- ii) Range and constraint validation.
- iii) code and cross-referencing validation.
- iv) Structured validation.

② Filters are added to data in a worksheet so that it becomes easier to focus on specific information from a huge database or from a table of data. Filters can be used in data records for filtering numeric data and text data. When data is filtered, only the rows that meet the filter criteria will be displayed and all the other rows will be hidden. With the data is filtered it can be copied, formatted, printed etc. without having to sort or move it first.

③ It is a tool allows you to apply formats to a cell or range of cells and have that formatting change depending on the value of the cell or the value of the formula. It makes easy to recognise values based on certain conditions as we are able to set different colours for values of different conditions.

Practical No. 14: Slide Presentations

Practical Significance

I Creating presentation for different purpose such as statements and reports, presentation for seminars and demonstrations involves different kind of skills such as making series of electronic slides by way of composing, editing and formatting text matter, along with drawing, shapes images audio and video, sequencing the slides and presenting it with presentation management tools. This practical is useful for developing necessary skills to incorporate the same and is helpful to produce a professional looking presentation.

Relevant Program Outcomes (POs)

- II **Discipline knowledge:** Apply Information Technology knowledge to solve broad-based Information Technology related problems.
Experiments and practice: Plan to perform experiments, practices and to use the results to solve Information Technology related problems.
Engineering tools: Apply appropriate Information Technology related techniques/ tools with an understanding of the limitations.
Environment and sustainability: Apply Information Technology related engineering solutions for sustainable development practices in environmental contexts.
Ethics: Apply ethical principles for commitment to professional ethics, responsibilities and norms of practice in the field of Information Technology.
Communication: Communicate effectively in oral and written form.

III Relevant Course Outcomes

Prepare professional presentations.

IV Practical Learning Outcome

1. Apply design themes to the given presentation.
2. Add new slides and insert pictures/images, shapes.

V Practical Skills

1. Create, edit and save presentations by way of hands on to compose the given sample presentations as per given design specifications.
2. Apply formatting features to the slides.

VI Relevant Affective domain related Outcomes

1. Choose appropriate theme and layout.
2. Apply various transition and effect(s).

VII Minimum Theoretical Background

Preparing a power-point presentation is always recommended while delivering a computerized presentation. One need to define and use proper outline points before preparing a presentation. The presenter can finalize the elements that will be used in presentation like image, audio, and video as well. Based on the presentation topic the user can select appropriate theme and makes formatting to it. Use of suitable transition and effect makes a presentation attractive and effective.

VIII Circuit diagram / Experimental set-up / Work Situation

-Not Applicable-

IX Resources required

Sr. No.	Name of Resource	Specification	Qty.	Remarks
1	Computer System	Any desktop or laptop computer with basic configuration	One computer system for each student	
2	Office software Package	Open office, Star office, Libre office, MS office or any other such software		

X Procedure

Following activities are to be carried using identified software package.

1. Create a new presentation.

- a. Once users open the presentation software a new blank slide is open with default design/layout.
- b. Alternatively a new slide is added by choosing the relevant menu option and choosing from the available layout/design.
- c. In the blank slide use relevant menu/ short cut keys to insert and place text box on the slide to insert and edit text. User can perform all word processing related tasks on text.
- d. Insert some sample text and format it.
- e. Add few more slides.

2. Add pictures in the presentation:

- a. Go to slide where picture is to be inserted.
- b. Go to relevant menu to insert picture.
- c. Choose the folder where file is located.
- d. Select the file.
- e. Insert the file into presentation.
- f. Once picture is inserted to slide, it can be formatted in many ways.
- g. Click the image on slide. Choose relevant menu to format/edit the image or press right click button to activate various image formatting/editing options like setting brightness, contrast, transparency, cropping the image.
- h. One can also insert shapes and clipart from relevant menu-option.
- i. After clicking on image/graphic object, use handles on the border of image to set its size or drag it to change its place on the slide.
- j. Go to relevant menu to view the presentation.
- k. Using *view* option user can change the slide sequence by choosing *slide sorter* option and dragging the slide and dropping it to new location in the sequence. *Slide master* option is use to insert a piece of text/image to make it appear on every slide.
- l. Go to relevant menu to change a slide layout, apply a theme, and change background color.
- m. Add new slides and insert more text/images/shapes from the relevant menu. Format and place it and complete the presentation.

NOTE: To create and edit text matter, the procedure described in practical No. 3 “Create, Edit And Save Document” may be followed. Similarly to insert and edit image/shape the procedure described in Practical No.5 “Insert and edit images and shapes “may be followed.

XI Precautions (if any)

1. Handle computer system with care.
2. Effects and timing shall be considered.

VII Actual procedure followed

Create a new presentation edit the slide by adding pictures, designs page layout change the sequence of slides.

VIII Resources used (with major specifications)

① Computers system (any desktop or laptop) with basic configuration.

IX Precautions followed

① Handle Computer system with care. ② Effects and timing shall be considered.

X Observations and Calculations

Not Applicable

XI Results

We have learned to the slide presentations.

XII Interpretation Of Results

To create Power Point Presentation in Microsoft power point.

XIII Conclusions and Recommendations (if any)

XIV Practical Related Questions

Note: Below given are few sample questions for reference. Teachers must design more such questions so as to ensure the achievement of identified CO.

1. If you compress the images in the presentation, then what will be the effect on the file?
2. How will you enter a text on blank theme slide?
3. How to start the slide show from any particular slide?
4. What are the different types of layout?

XV Exercise

Note: Below given are few sample questions for reference. Teachers must design more such questions so as to ensure the achievement of identified CO.

1. Prepare a simple slide show of 5 slides displaying your name, middle name, surname, branch, and college name.
2. Prepare a simple slide show of 3 Slide displaying various cartoon characters.

XVI References / Suggestions for further Reading

- <https://business.tutsplus.com/tutorials/powerpoint-presentation-tips--cms-29886>
- <https://www.lifewire.com/ways-to-view-slides-in-powerpoint-2767112>

NXII Assessment Scheme

Performance indicators		Weightage
Process related (10 Marks)		40 %
a.	Tool Selection Ability.	20%
b.	Use of Appropriate tool to perform the identified task(s)	20%
Product related (15 Marks)		60 %
a.	Performed/completed the identified task(s)	20%
b.	Correctness of output achieved	20%
c.	Completed the practical in stipulated time	10%
d.	Correctness of question asked	10%
Total (25 Marks)		100 %

List of Student Team Members

1. Tejas...Bapu..Kumavat
2.
3.
4.

Marks Obtained			Dated signature of Teacher
Process Related(10)	Product Related(15)	Total(25)	

(Space for Answer)

XIX ① If you compress the image in a presentation then the size of the image file used in presentation become smaller. As a result ① clarity of image is reduced ② Not create an adverse impact of ppt.

- ② ① To add text anywhere on a slide click on the insert menu or text box icon the toolbar ② Click and left mouse button while you drag ③ Click inside the text box and start typing.
- ③ ① Product of line layout ② Process or functional layout ③ Fixed position layout and ④ Combination type

Practical No. 19: Internet for different Web Services

I Practical Significance

The Internet carries an extensive range of information resources and services, such as the inter-linked hypertext documents of the World Wide Web (WWW), chatting on Internet, e-mail, video conferencing, e-learning, e-shopping, e-reservation, e-groups, social networking. This practical is useful for developing necessary skills required to get web services.

II Relevant Program Outcomes

Basic knowledge: Apply knowledge of basic mathematics, science and basic engineering to solve the problems related to application of computers and communication services in storing, manipulating and transmitting data, often in the context of a business or other enterprise.

Experiments and practice: Plan to perform experiments, practices and to use the results to solve Information Technology related problems.

Engineering tools: Apply appropriate Information Technology related techniques/ tools with an understanding of the limitations.

The engineer and society: Assess societal, health, safety and legal issues and the consequent responsibilities relevant to practice in the field of Information technology.

Ethics: Apply ethical principles for commitment to professional ethics, responsibilities and norms of practice in the field of Information Technology.

Communication: Communicate effectively in oral and written form.

III Relevant Course Outcomes

Use different types of web browsers.

IV Practical Learning Outcome

Use internet for different web services.

V Practical Skills

Use internet for sending e-mail, video-conferencing, e-learning, e-shopping, e-reservation, e-groups, social networking.

VI Relevant Affective domain related Outcomes

- a. Use of appropriate web servers and web site to retrieve desired information.
- b. Follow ethical practices.

VII Minimum Theoretical Background

To retrieve information one needs to use internet and search relevant information on website. There are many website where almost any information is available. As an internet user, one needs to use desired keywords to get such information. These websites are collection of different web pages stored across web servers. To get the information user can choose any available web browser such as Internet explorer, Google Chrome, Mozilla Firefox, Safari etc.

VIII Circuit diagram / Experimental set-up / Work Situation

-Not Applicable-

X Resources required

Sr. No.	Name of Resource	Specification	Qty.	Remarks
1	Computer System	Any desktop or laptop computer with basic configuration	One computer system for each student	
2	Web Browser	Internet Explorer, Google Chrome, Opera, Mozilla Firefox or any other web browser		Web browsers on computer system may be made available pre loaded or students may be given the set up copy and asked to load the same on their computer systems.

X Procedure

1. Open a website with web browser-
 - a. Open a web browser window.
 - b. Type Uniform Resource Locator (URL) inside the address bar of web browser window and press 'Enter' key.
2. Create user account for e-mail-
 - a. Open a web browser window.
 - b. Type Uniform Resource Locator (URL) inside the address bar of web browser window and press 'Enter' key.
 - c. Click on hyperlink create account to open registration form.
 - d. Enter required fields in the form and confirm the registration.
3. Send e-mail to different users-
 - a. Open a web browser window.
 - b. Type Uniform Resource Locator (URL) inside the address bar of web browser window and press 'Enter' key.
 - c. Type user id and password and click on login/sign in.
 - d. To create and send new mail, click on *Compose* button.
 - e. Type email id at "To:" to whom the message has to be sent.
 - f. Type subject at "Subject:".
 - g. Type the body of the mail.
 - h. If users want to attach a file, click at "Attach" and select file to be attached and click "Open".
 - i. Click at "Send" option.
4. Perform chatting on Internet-
 - a. Open Messenger application and sign in using Email_Id/User Name and password and click on sign in button.
 - b. From the list of friends, select the name of a person with whom user want to talk.
 - c. Types the message for e.g. 'Hi, how are you?' and click on 'Send' button.
 - d. Read the reply from friend and type next message in the same window with 'send' button.
5. Perform video conferencing-

- a. Check the cameras at each location; make sure all the images are clear.
- b. Check audio input, whether it's through a microphone, a telephone or speakers on computer, to assure high-quality sound output.
- c. Choose the video conferencing software that user want to use and install the software on computer.
- d. Experiment with audio output to make sure that speakers or headphones received audio communications without interference.

XI Precautions

1. Email address is written properly.
2. Follow the instruction related to safe use of Internet.

XII Actual procedure followed

- ① Open a website with web browser.
- ② Create user account for email.

XIII Resources used (with major specifications)

- ① Computer system or any desktop or laptop computer with basic configuration.
- ② Web browser such as Chrome, Internet Explorers or Mozilla Firefox.

XIV Precautions followed

You should write email address properly and follow the instruction related to safe use of Internet.

XV Observations and Calculations

- Not Applicable -

XVI Results

- ① In this way, we know that Internet for different web services.

XVII Interpretation of results

Used various when service like email, chatting system etc.

XVIII Conclusions and Recommendations (if any)

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.....

XIX Practical Related Questions

Note: Below given are few sample questions for reference. Teachers must design more such questions so as to ensure the achievement of identified CO.

1. Enlist any three chatting environment.
2. Write procedure to create new group in messenger.
3. Write procedure to create signature while sending e-mail.

XX Exercise

Note: Below given are few sample questions for reference. Teachers must design more such questions so as to ensure the achievement of identified CO.

1. Open any search engine and search information about ICT.
2. Open following web and view complete session. Write down important points.
<http://nptel.ac.in/courses/110105079/58>

XXI References / Suggestions for further Reading

1. <https://informatics.buzdo.com/p914-internet-services.htm>
2. <http://mark.random-article.com/weber/inet/week3.html>

XXII Assessment Scheme

Performance indicators		Weightage
Process related (10 Marks)		40 %
a.	Tool Selection Ability.	20%
b.	Use of Appropriate tool to perform the identified task(s)	20%
Product related (15 Marks)		60 %
a.	Performed/completed the identified task(s)	20%
b.	Correctness of output achieved	20%
c.	Completed the practical in stipulated time	10%
d.	Correctness of question asked	10%
Total (25 Marks)		100 %

List of Student Team Members

1. Tejas...Bapu...Kumavat
2.
3.
4.

Marks Obtained			Dated signature of Teacher
Process Related(10)	Product Related(15)	Total(25)	

(Space for Answer)

XIX
 0) WhatsApp message is a aware and cross platform instant messaging service for smart phone it uses the instead for make voice clause one to done video call send text

- ii) Facebook - Messenger is an instant messaging services and software application which originally developed as Facebook chat in soon (FB).
- iii) Google - Google hangout is a communication platform developed by google which includes instant messaging video chat sms and voip features.
- 2) At first we need to select groups option and select our family members or friends colleagues and add them in that and give the common name to the group and in thus way we can create.
- 3) In the setting or "option" of a email you can find the signature section to putting the desired signature for example if you are a gmail user just open your gmail account and go the gear icon which lie on the upper right corner of the gmail. After that you will see the option of setting, just click of the gmail. Then on the setting page you will see a signature box write the signature you want in it.

Practical No. 20: Browser Settings and Uses

Practical Significance

Now days Internet is very useful to get many services/applications such as e-Mail, Chat, Video-Conferencing, e-learning, e-shopping, e-Reservation. In order to use Internet effectively, we need to use browser with different settings. This practical is useful to develop this skill.

Relevant Program

Experiments and practice: Plan to perform experiments, practices and to use the results to solve Information Technology related problems.

Engineering tools: Apply appropriate Information Technology related techniques/ tools with an understanding of the limitations.

Environment and sustainability: Apply Information Technology related engineering solutions for sustainable development practices in environmental contexts.

Individual and team work: Function effectively as a leader and team member in diverse/multidisciplinary teams.

Communication: Communicate effectively in oral and written form.

III Relevant Course Outcomes

Use different types of web browsers.

IV Practical Learning Outcome

Apply the given setting option in browsers.

Use the specified option for effective searching in search engine.

V Practical Skills

Basic settings of web browsers- history, extension, default page, default search engine, creating and retrieving bookmarks, use search engines effectively for searching the content.

VI Relevant Affective domain related Outcomes

1. Follow safety practices.
2. Practice good housekeeping.

VII Minimum Theoretical Background

While working with internet one needs to use available browser which make communication with web server. The user needs to understand basic settings of web browser. The web browser setting contains history, default web page, default search engine etc. One can make use of bookmarks to open certain webpages instantly. Cookies are also important in web browser to make sure that computer can be easily recognized in upcoming sessions with same web site.

VIII Circuit diagram / Experimental set-up / Work Situation

-Not Applicable-

IX Resources required

Sr. No.	Name of Resource	Specification	Qty.	Remarks
1	Computer System	Any desktop or laptop with basic configuration	One computer system for each student	Internet connection
2	Browser	Internet Explorer, Google Chrome, Opera, Mozilla Firefox or any other web browser		

X Procedure

1. Open the browser. Go to Internet Options. Set and Unset the Default Page, Default Search Engine, Default Browser.
2. Go to "Privacy". Clear browsing data: download history, clear browsing history, and cookies and plug in data, cache images and files, passwords, auto fill form data.
3. Set or Unset cookies data.
4. Click on *Extensions*: enable or disable plug in.

XI Precautions (if any)

1. Ensure auto-save field is disabled.
2. Disable auto save username and password.

XII Actual procedure followed

Open the browser, go to internet option set and unset the default page default search engine.

XIII Resources used (with major specifications)

Any desktop or laptop with basic configuration

XIV Precautions followed

- (1) Ensure auto-save field is disabled or
- (2) Disable auto-save username and password.

XV Observations and Calculations

- Not Applicable -

XVI Results

In this way we can use browser and their setting.

XVII Interpretation of Results

.....
.....

XVIII Conclusions and Recommendations (if any)

.....
.....

(Space for Answer)

XIX

- ① To open Internet Explorer.
- i) In the top corner of the browser click the tools icon.
 - ii) Click internet option.
 - iii) In the General find the search and click setting.
 - iv) Select google.
 - v) Click set as default.
 - vi) Click close.

② Cookies stores small amount of data in the computer related to specific website and be accessed by the servers as well as the client for ex. if you have to load website will store the data in the website and then show you.

③ There are many advantage of history. Some of this:

- i) We can search easily through this web history.
- ii) We remember that what we search on web.
- iii) There is a record of the all history.