

IVC CODE: 319

COMPUTER SCIENCE AND ENGINEERING
(C.S & E.)

FIRST YEAR (w.e.f. 2018-19)
VOCATIONAL PRACTICAL MANUAL

PAPER I: WINDOWS & MS-OFFICE

PAPER II: PROGRAMMING IN 'C'

PAPER III: ENGINEERING DRAWING



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O/o The Commissioner of Intermediate Education
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PAPER – I: WINDOWS & MS OFFICE

COMPUTER SCIENCE AND ENGINEERING
First Year (P.C. 319 / 21)
PAPER – I : WINDOWS & MS OFFICE

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EXPERIMENT No. - 1

- 1. Write and demonstrate the procedure for folder options “Creating folder”, “Moving the folder from one location to another location”, “Renaming the folder” and “Search” the folder in my computer.**

Creating Folder:

Procedure:

Step 1: Right Click on desktop.

Step 2: Select “New” option from the list .

Step 3: Select “Folder” option from the list.

Result: Folder created with the name “New Folder”.

Moving Folder to another location (“D” drive) :

Step 1: Select the folder.

Step 2: Right click on the folder.

Step 3: Select “Cut” option from the list.

Step 4: Open “My Computer” (Double click on “My Computer” icon) on the desktop.

Step 5: Open “Local Dist D:” (Double click on “Local Dist D:” icon) in the “My Computer” icons.

Step 6: Right click and select “Paste” option from the list.

Result: Selected Folder moved to “D” drive.

Renaming the folder

Procedure

Step 1: Select and Right click with mouse folder to be renamed.

Step 2: Select the “Rename” option from the list.

Step 3: Type the new name to be given to the folder.

Step 2: Select “Enter” key from key board.

Result: Folder Renamed with new name.

Searching the folder in My Computer

Procedure:

Step 1: Open “My Computer” (Double click on “My Computer” icon) on the desktop.

Step 2: Type the folder name in the “Search bar” and Select “Enter” key from key board.

Result:

- a. Displayed a list of files and folders with the name and partial name as with the given name along with the other details.

b. The resultant folder location is identified in d:\ drive.

EXPERIMENT No. - 2

2. Write and demonstrate the procedure for control panel options “to create a new user”, “to uninstall a software” and “to add a hardware device”.

To create an user with the name “students” from control panel.

Procedure:

Step 1: Select “Start” button from “taskbar” of the desktop.

Step 2: Select “Control Panel” option from the “Start Menu” options.

Step 3: Select “User Accounts and Family Safety” option from “control panel” options.

Step 4: Select “Add or Remove User Accounts” sub option from “User Accounts” options.

Step 5: Select “Create New Account” option from the opened “Manage Accounts” options.

Step 6: Type the name “Students” in the “new account name” text field.

Step 7: Select the type of the user either “Standard User” or “Administrator” as per requirement.

Step 8: Select “Create Account” button.

Result: An user account with “Students” is created and displayed in the “Manage accounts” along with the “Admin” and “Guest” users.

To uninstall a software or program from control panel.

Procedure:

Step 1: Select “Start” button from “taskbar” of the desktop.

Step 2: Select “Control Panel” option from the “Start Menu” options.

Step 3: Select “Programs” option from “control panel” options.

Step 4: Select “Uninstall a Program” from “Programs and Features” options of “Programs” options.

Step 5: Select the required program from the list displayed and select “uninstall / Change” button appearing on the top of all programs.

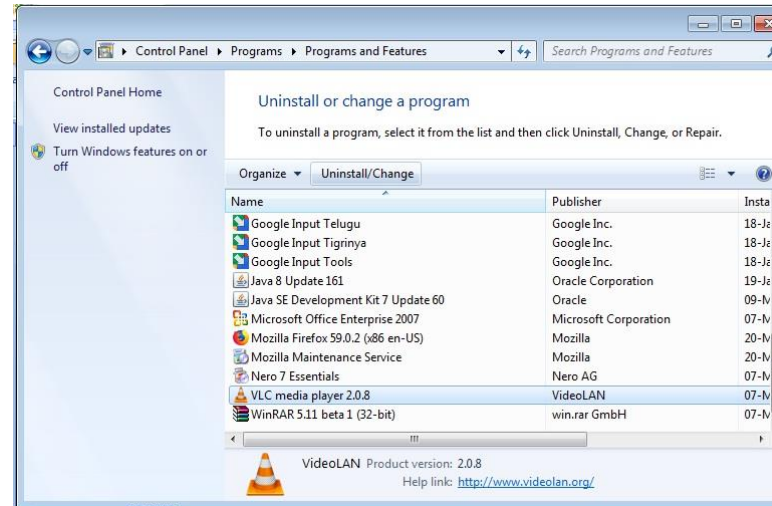


Fig.2.1

Step 6: Select “Next” and finally “Uninstall” options in the consecutive windows appeared.

Output:

Selected program or software uninstalled from the computer system and disappeared from the list of programs previously shown.

To add a hardware device from control panel

Step 1: Select “Start” button from “taskbar” of the desktop.

Step 2: Select “Control Panel” option from the “Start Menu” options.

Step 3: Insert required “Product CD” containing the software of hardware device to be added to the computer.

Step 4: Connect the device to computer physically.

Step 5: Select “Add a device” option from “Hardware and sound” options of “Control panel” options.

Step 6: Select the required device from the list of devices displayed in the appeared window.

Step 7: Locate “CD Drive” to load the required device drivers.

Step 8: Select “Next” and finally “Finish” options in the consecutive windows appeared.

Result:

Required device drivers are installed into the computer and hardware is ready to use.

EXPERIMENT No. - 3

3. Write and demonstrate the functionality of MS –DOS internal External commands.

INTERNAL COMMANDS:

CLS: This command is used to Clear the Screen.

Syntax: CLS

Result: User screen was cleared and the control located at top of the screen.

DATE: This command is used to display or change the system date. The date format is MM / DD / YYYY.

Syntax: DATE

Result: Computer displayed current system date and prompted to new date in the format dd – mm – yy after giving the new date, the system date was changed to the new date.

TIME: This command is used to display or change the system time. The time format is HH / MM / SS. The time must to be entered in 24 hrs internally.

Syntax: TIME

Result: Computer displayed current system time and prompted to new time in the format hr – min – sec - ms after giving the new time, the system time was changed to the new time.

DEL: This command is used to delete a file from the disk.

Syntax: DEL < FILE_NAME >

Result: Folder the with the name given in the del command deleted from the computer.

VER: This command is used to display the current MS.DOS version number.

Syntax: VER

Result: The operating system version displayed like **Microsoft Windows [Version 6.1.7600]**

MD: (Make Directory) This command is used to create a new directory.

Syntax: MD <Directory Name>

Result: New folder the with the name given in the md command created.

CD: (Change Directory) To move from one directory to another directory.

Syntax: CD <DIRECTORY NAME>

Result: Command prompt changed to name given in the cd command.

MS –DOS External commands

PROMPT: To change the system Prompt we can use the Prompt command.

Syntax: PROMPT <text> [options]

CHKDSK: (CHECK DISK) This command is used to display the status information about your disk.

Syntax: CHKDSK <drive>

Result: Displayed the details of drive like “Type of the file system”, “Total disk space”, “Files”, “Indexes”, “Bad sectors”, “Memory used by the drive”, “Memory occupied by the log files”, “available space on the disk”.

DISKCOPY: This command is used to copy contents of one disk into another disk.

Syntax: DISKCOPY <DISK 1> <DISK2>

Result: Copied the contents of one disk to another disk.

LABEL: If you want to change the disk label we can use label command.

Syntax: LABEL <LABEL TEXT>

Result: Drive label changed to the new given label.

FIND: This command is used to find the given string in the specified file. It will displays all the line in which the string.

Syntax: FIND “TEXT” FILENAME

Result: Identified the given text in the given file.

MORE: This command is used to display the output of command page by page.

Syntax: <COMMAND> | MORE

TREE: This command is used to display the files listing in a graphical manner like a tree.

Syntax: TREE [DIRECTORY] [/F]

Result: Displayed all the files and folders in tree structure.

EXPERIMENT No. - 4

4. Write and demonstrate the procedure to print a document using different printer options.

Single page: Printing single page means printing a specific page in a multiple page document or file.

Procedure:

Step 1: Select “Print” option from “Office button”.

Step 2: Select printer from list of printers from “Name” drop down list.

Step 3: Type the page number of the page to be printed in pages option of “Print” dialog box.

Step 4: Select “Print” button in the “Print” dialog box.

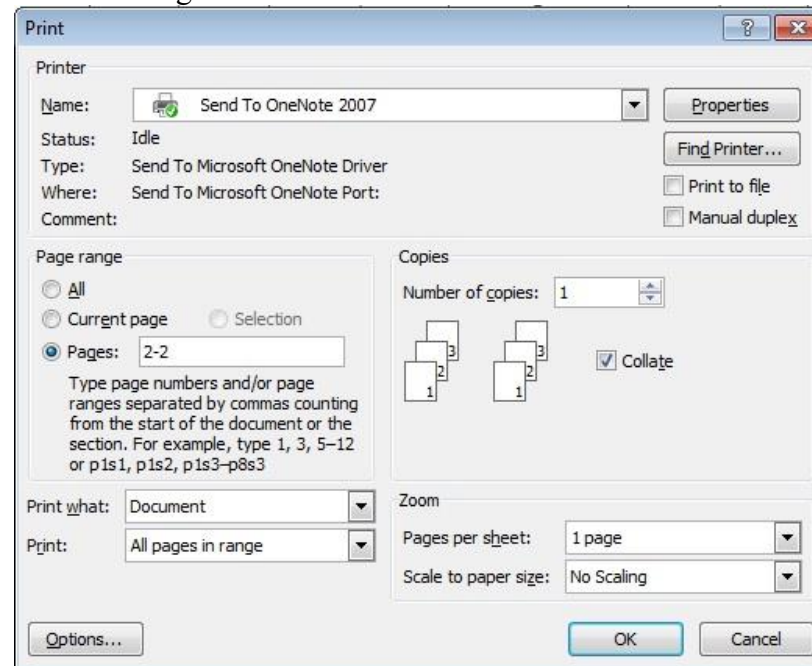


Fig. 4.1

Result: Required page printed by the printer.

Current Page: Printing current page means printing a specific page in a multiple page document or file where the cursor is presently located.

Procedure:

- Step 1: Select “Print” option from “Office button”.
- Step 2: Select printer from list of printers from “Name” drop down list.
- Step 3: Select “Current Page” option of “Print” dialog box.
- Step 4: Select “Print” button in the “Print” dialog box.

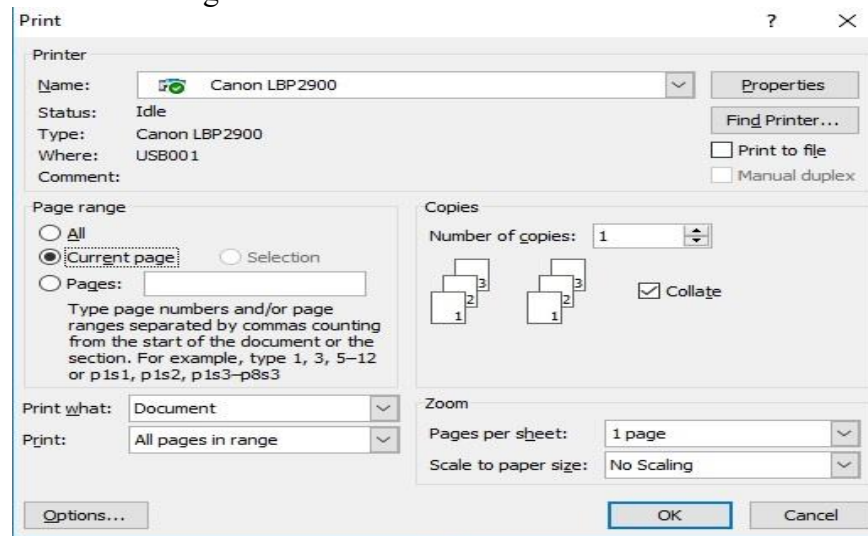


Fig 4.2

Result: Page printed by the printer where the cursor is located.

Multiple pages: Printing multiple pages means printing more than one page in a multiple page document or file.

Procedure:

- Step 1: Select “Print” option from “Office button”.
- Step 2: Select printer from list of printers from “Name” drop down list.
- Step 3: Type the page numbers from and to of the page to be printed in pages option of “Print” dialog box.
- Step 4: Select “Print” button in the “Print” dialog box.

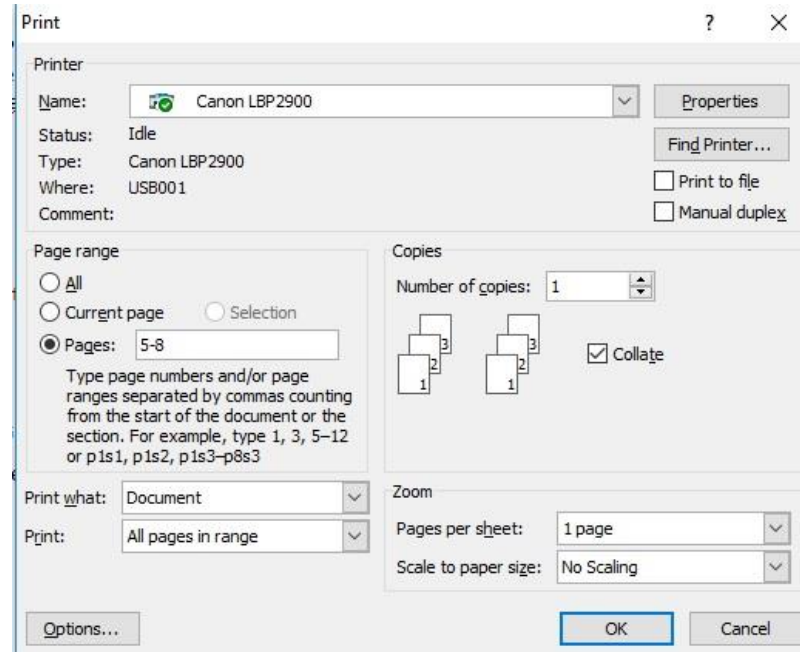


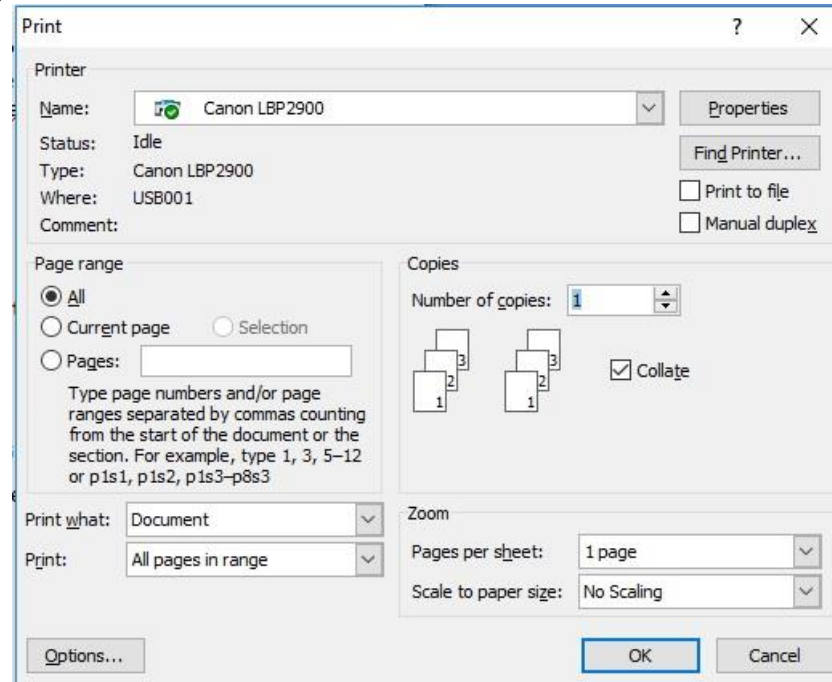
Fig 4.3

Result: Page in give range are printed by the printer.

All Pages: To print all the pages in the document.

Procedure:

- Step 1: Select “Print” option from “Office button”.
- Step 2: Select printer from list of printers from “Name” drop down list.
- Step 3: Select “All Pages” option of “Print” dialog box.
- Step 4: Select “Print” button in the “Print” dialog box.

**Fig. 4.4**

Result: All pages in the document are printed by the printer.

Even Pages: To print “Even Pages” in the document.

Procedure:

Step 1: Select “Print” option from “Office button”.

Step 2: Select printer from list of printers from “Name” drop down list.

Step 3: Select “Even pages” option of “Print” drop down list of print dialog box.

Step 4: Select “Print” button in the “Print” dialog box.

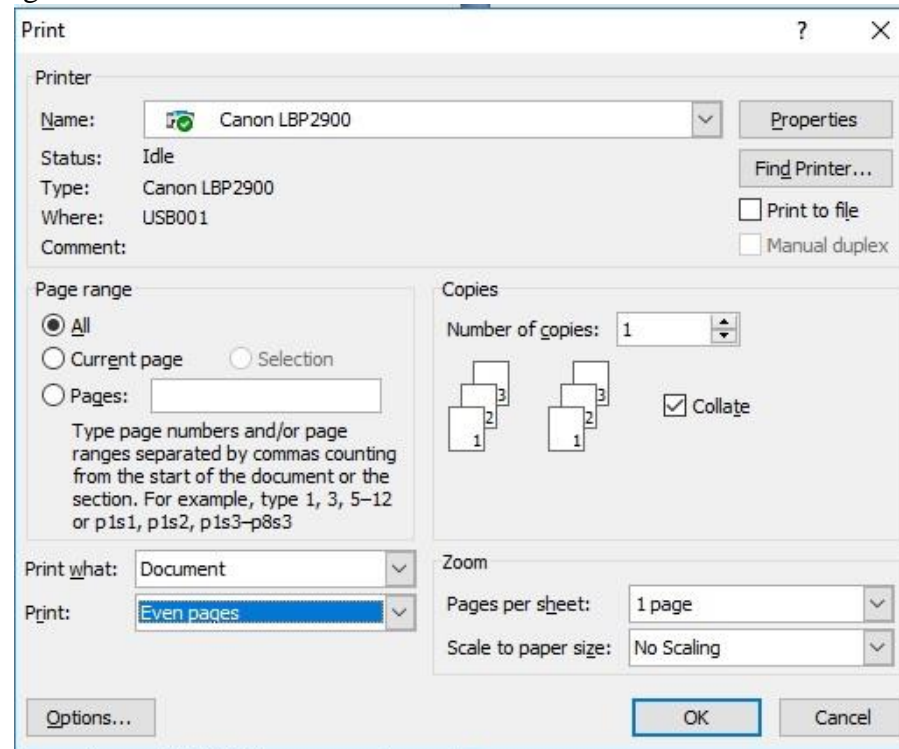


Fig 4.5

Result: Even pages in the document are printed by the printer.

odd Pages: To print “odd Pages” in the document.

Procedure:

- Step 1: Select “Print” option from “Office button”.
- Step 2: Select printer from list of printers from “Name” drop down list.
- Step 3: Select “odd pages” option of “Print” drop down list of print dialog box.
- Step 4: Select “Print” button in the “Print” dialog box.

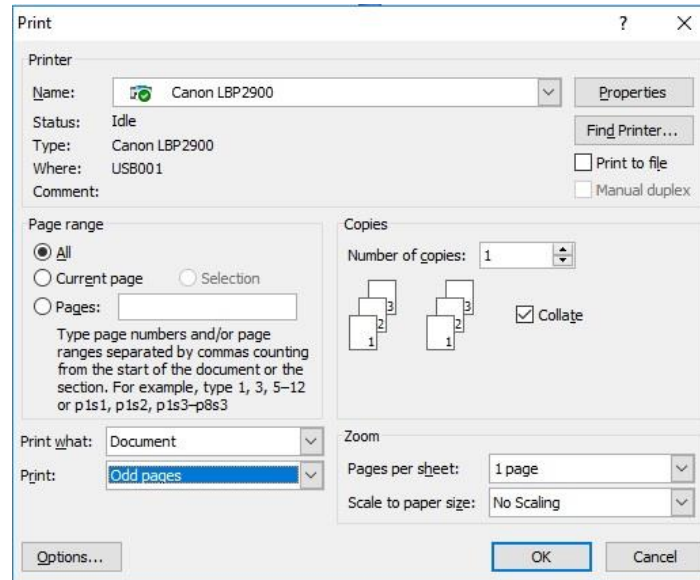


Fig. 4.6

Result: odd pages in the document are printed by the printer.

EXPERIMENT No. - 5**5. Write and demonstrate the procedure to create leave letter in Ms-Word.****Procedure:**

Step 1: Open MS-Word by click on START button; go to All Programs, then select Microsoft Office Word 2007.

Step 2: To open a new document, Click on Office Button then select New - > Blank Document then click on create option.

Step 3: Then select TEXT AREA, and then write Leave Letter as a heading, Select the text, click on bold button to make it bold as “LEAVE LETTER”, and change the font size to 16.

Step 4: Then write date and place in a format as follows DATE: 18/07/2018, Eluru. Then Select the text and make it right by clicking on right alignment button.

Step 5: Then write to address as follows and select this text and make it left by clicking on left alignment button To the Teacher, Sir C.R.R College, Eluru.

Step 6: Then write Subject according to your letter. And select this text and press tab button for two times.

Step 7: Then write the body of the letter according to your letter. And select this text and make it justification by clicking on justify alignment button

Step 8: Then write “Thanking you Sir,” select this text and make it to center by clicking on center alignment button

Step 9: Now write the “From address” as follows Yours Faithfully, K. Rupa Sri Sai. Then make it right by clicking on Right alignment button

Step 10: This is the final step in writing leave letter. In this step, we have to save the letter as “leave letter.docx” by selecting “Save” option from Office button. Then a prompt window will ask you to write a file name. Now you have to give the file name and press the save button.

Result:

Date: 18/07/2018,
Eluru.

To The Teacher,
Sir C.R.R College,
Eluru.

Sub: Requesting for 5 days leave-Reg

Respected Teacher,

I **K. Rupa Sri Sai** studying Intermediate I year in CSE(Voc) in your college. As I am going to my home on the occasion of Ugadi festival and also to celebrate my birthday on the next day. So I kindly request you to grant me leave for 5 days i.e., 24/3/2012-28/3/2012.

Thanking You Sir,

Yours Faithfully,

K. Rupa Sri Sai,
CSE(Voc), I Year.

EXPERIMENT No. - 6

6. Demonstrate the functionality of options “Clipboard”, “Font”, “Paragraph” of “Home” tab of MS –Word by taking some text.

Clipboard: Clip board Contains the options “Paste”, “Cut”, “Copy” and “Format Painter”.

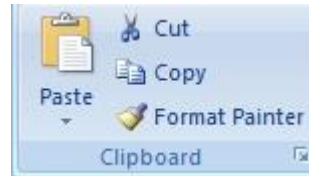


Fig 6.1

Cut: Cut is used to move selected text from one location to another location.

Procedure:

1. Type some text in the word document.
2. Select some text from the typed text.
3. Select “Cut” option from the “Clipboard” options.

Result: Selected text moved to the clip board.

Paste: Paste is used to paste the selected text which is already cut or copied.

Procedure:

1. Type some text in the word document.
2. Select some text from the typed text.
3. Select “Cut” or “Copy” option from the “Clipboard” options.
4. Place the cursor where the selected text to be pasted.
5. Select “Paste” option from the clip board options.

Result: The selected text pasted at the new place where the cursor placed.

Copy: Copy is used to copy selected text from one location to another location and it appears in both locations.

Procedure:

1. Type some text in the word document.
2. Select some text from the typed text.
3. Select “Copy” option from the “Clipboard” options.

Result: Selected text copied to the clip board.

Font: Font contains “Font Face”, “Font Size”, Bold, Under Line, Italic, Strike through, Sub Script, Super Script, Change Case, Text Highlight color, “Font Color”, “Clear Formatting”, Increase font size, Decrease font size.



Fig 6.2

Font Face: it is used to change the font face from the list of different fonts like “Times New Roman”, “Calibri”, “Arial” etc.

Procedure

1. Type some text in the word document.
2. Select the text font face to be changed.
3. Select any font from the drop down list of “Font”.

Result: The selected text is appearing with new i.e. selected font face.

Font size: it is used to change the font size .

Procedure

1. Type some text in the word document.
2. Select the text font size to be changed.
3. Select any font size from the drop down list of “Font size”.

Result: The selected text is appearing with new i.e. selected font size.

B (Bold): It is used to make the selected text bold.

Procedure

1. Type some text in the word document.
2. Select the text to make bold.
3. Select B from the font options.

Result: The selected text is appearing in bold.

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I(Italic): It is used to make the selected text Italic.

Procedure

1. Type some text in the word document.
2. Select the text to make italic.
3. Select *I* from the font options.

Result: The selected text is appearing in *Italic*.

U (Underline): It is used to under line the selected text.

Procedure

1. Type some text in the word document.
2. Select the text to be under lined.
3. Select U from the font options.

Result: The selected text is appearing with under line.

Strike through: It is used to strike off the selected text.

Procedure

1. Type some text in the word document.
2. Select the text to be strike off.
3. Select ~~abc~~ from the font options.

Result: The selected text is appearing as strikes off.

Subscript: It is used to create small letters below the text base line.

Procedure

1. Type some text in the word document.
2. Select the text to be set at base line.
3. Select subscript option from the font options.

Result: The selected text is appearing at base line of the text.

Super script: It is used to create small letters above the line of text.

Procedure

1. Type some text in the word document.
2. Select the text to be set at base line.

3. Select super script option from the font options.

Result: The selected text is appearing at above the line of text.

Text Highlight color: It is used to high light the text with a colour.

Procedure

1. Type some text in the word document.
2. Select the text to be highlighted.
3. Select “Arrow” of “Text Highlighter” from the font options.
4. Select a colour from the displayed colours.

Result: The selected text is highlighted with the selected colour.

Clear formatting: It is used to clear all the formats applied the selected text and takes to the default font face and size.

Procedure

1. Type some text in the word document.
2. Select the text to be highlighted.
3. Select “Clear formatting” from the font options.

Result: All the previously applied style, highlights and other effect applied on the text are cleared and leaved only the plan text .

EXPERIMENT No. - 7

7. Demonstrate the functionality of “Paragraph” options of “Home” tab of MS –Word by taking some text.

Paragraph options:

Paragraph contains the options “Bullets”, “Numbering”, “Multilevel List”, “Align Text Left”, “Center”, “Align Text Right”, “Justify”, “Line spacing”, “Shading”, “Borders”, “Sort” etc.,

Bullets: Bullets is used to apply bullets in different styles for a list of text items.

Procedure:

1. Type list of items in the document.
2. Select the typed list to be bulleted.
3. Select arrow of the “Bullets” Option of “Paragraph” options.
4. Select type of bullet you want to apply on the selected list.

Result: The selected list of lines in the typed text is representing with type of bullet that we are selected.

Numbering: Numbering is used to apply Numbering in different styles for a list of text items.

Procedure:

1. Type list of items in the document.
2. Select the typed list to be numbered.
3. Select arrow of the “Numbering” Option of “Paragraph” options.
4. Select type of Numbering you want to apply on the selected list.

Result: The selected list of lines in the typed text is representing with type of Numbering that we are selected.

Multilevel List: Multi level list is used to provide multi level numbering to the list of text items.

Procedure:

1. Select arrow of the “Multilevel list” Option of “Paragraph” options.
2. Select type of Multi level list you want to apply on the selected list.
3. Type list of items in the document.

Result: The list of text items we are typing in the document are provided multilevel numbering .

Align Text Left: It is used to set the text at left side margin. By default word text aligns left.

Procedure:

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1. Type some raw data of text in the word document.
2. Select the typed text want to align left.
3. Select “**Align Text Left**” option from the “**paragraph**” options.

Result: The selected text aligned left to the document.

Center: It is used to set the text at middle of the both left and right margins.

Procedure:

1. Type some raw data of text in the word document.
2. Select the typed text want to align Center.
3. Select “**Center**” option from the “**paragraph**” options.

Result: The selected text aligned Center to the both left and right margins.

Align Text Right: It is used to set the text at Right side margin.

Procedure:

1. Type some raw data of text in the word document.
2. Select the typed text want to align right.
3. Select “**Align Text Right**” option from the “**paragraph**” options.

Result: The selected text aligned Right to the document.

Justify: It is used to align the text in between the both left and right margins white space characters will be assigned for equal spacing.

Procedure:

1. Type some raw data of text in the word document.
2. Select the typed text want to Justify.
3. Select “**Justify**” option from the “**paragraph**” options.

Result: Aligned text between both left and right margins, adding extra spaces between words as necessary.

Line Spacing: To change the spacing between multiple lines of text.

Procedure:

1. Type some raw data or some paragraphs of text in the document.
2. Select the Lines of text to be changed the line spacing.
3. Select “**Line spacing**” from “**Paragraph**” options.
4. Select “Line spacing” from the list of “**Line spacing**”.

Result: Selected lines of text are aligned with newly selected line spacing.

Shading: To colour the back ground behind the selected text or paragraph.

Procedure:

1. Type some raw data or some paragraphs of text in the document.
2. Select the Lines of text to be shaded background with colour.
3. Select arrow of “**Shading**” option from “**Paragraph**” options.
4. Select “colour” from the colours displayed.

Result: Selected lines of text are shaded with colour selected.

Sort: Sort is used to sort the different list of words or numerical data either in ascending or descending order.

Procedure:

1. Type list of items in the document.
2. Select the typed list to be sorted
3. Select arrow of the “Sort” Option of “Paragraph” options.
4. Select type of Sorting you want to apply on the selected list.

Result: The selected list of data items in the typed text are sorted as per the requirement.

EXPERIMENT No. - 8

8. Write and demonstrate to create a table with columns “S.L.NO.” , “ YEAR” , “NAME OF THE THEORY SUBJET”, and “NAME OF THE PRACTICAL” in MS – Word.

S.L.NO	YEAR	NAME OF THE THEORY SUBJECT	NAME OF THE PRACTICAL
1.	First Year	Computer Fundamentals & Ms - Office	Windows & Ms - Office
		Programming in ‘c’	Programming in ‘c’
		Accountancy & tally	Engineering Drawing
2.	Second Year	OOPS AND JAVA	OOPS & JAVA
		Relational database management system	SQL, PHOTOSHOP & FLASH
		Data communication & computer networks	Internet Technologies

Procedure:

- Step 1: Open the MS-Word Document.
 Step 2: Select “Insert” tab from the ribbon.
 Step 3: Select “Down Arrow” of “Tables” icon in the “Tables” Button.
 Step 4: Select “Insert Table” from the options.
 Step 5: Provide “No of Rows = 7” and No of Columns= 4”
 Step 6: Select “OK” button of “Insert table” dialog box.
 Step 7: Select “Second, Third and fourth row are the Three Cells” in the “First Column” and “Right Click” on the cells.
 Step 8: Select “Merge Cells” option from the list.
 Step 9: Select “Again Fifth, Six, and Seventh” Cells of “First Column” and “Right Click” on the cells.
 Step 10: Repeat “Step 8”.
 Step 11: Type data “S.L.No, Year, Name of The Theory Subject, Name of The Practical” in the First Row each cell.

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Step 12: Type data “1 and 2” in the First column merges cells.

Step 13: In the same way Type data “First Year and Second Year” in the Second column merges cells.

Step 14: Type data “Computer Fundamentals & Ms – Office, Programming in ‘c’, Accountancy & tally, OOPS AND JAVA, Relational database management system and Data communication & computer networks” in the Third column in the following cells respectively.

Step 15: Type data “Windows & Ms - Office, Programming in ‘c’, Engineering Drawing, OOPS AND JAVA, SQL, PHOTOSHOP & FLASH and Internet Technologies” in the Forth column in the following cells respectively.

Output:

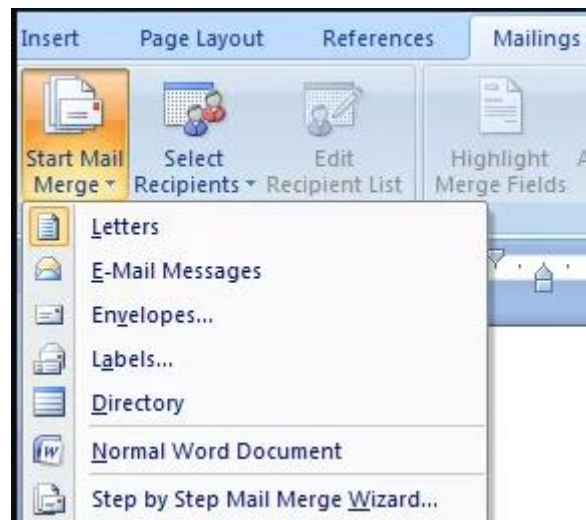
S.L.NO	YEAR	NAME OF THE THEORY SUBJECT	NAME OF THE PRACTICAL
1.	First Year	Computer Fundamentals & Ms - Office	Windows & Ms - Office
		Programming in ‘c’	Programming in ‘c’
		Accountancy & tally	Engineering Drawing
2.	Second Year	OOPS AND JAVA	OOPS & JAVA
		Relational database management system	SQL, PHOTOSHOP & FLASH
		Data communication & computer networks	Internet Technologies

EXPERIMENT No. - 9**9. Demonstrate the procedure of the Mail Merge.**

Mail Merge is a useful tool that allows you to produce multiple letters, labels, envelopes, name tags, and more using information stored in a list, database, or spreadsheet.

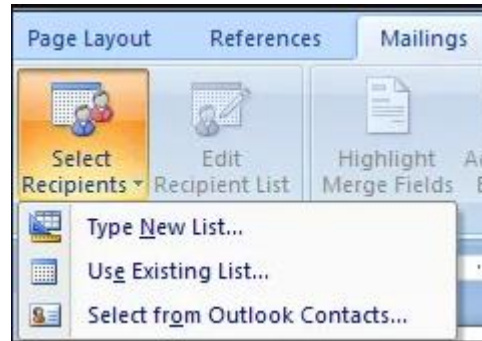
Procedure:**Step 1: Starting Your Mail Merge Document**

Click **Start Mail Merge** on the Mailings ribbon and select the type of document you'd like to create.

**Fig 9.1****Step 2: Selecting Recipients for Mail Merge Letters**

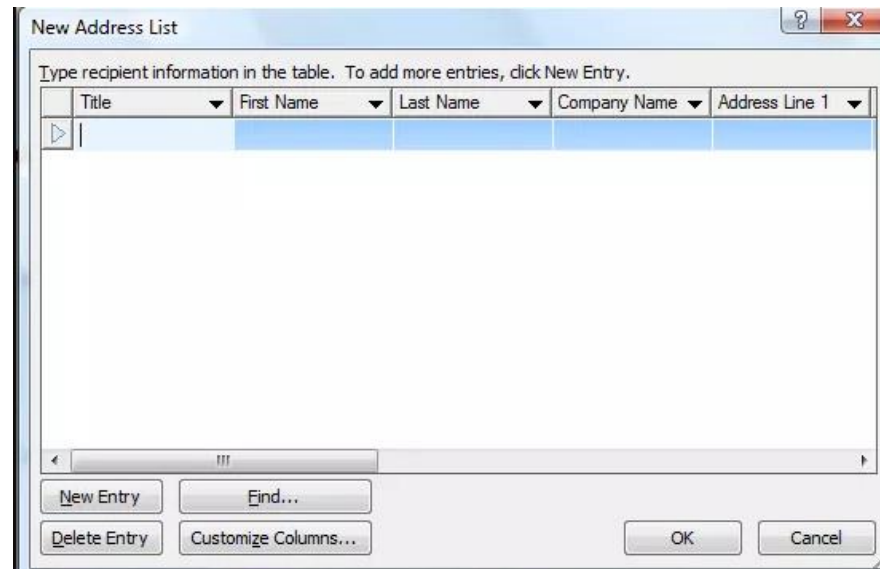
Click **Select Recipients** on the Mailings ribbon to add recipients to the mailing.

You can opt to create a new database of recipients. You can also opt to use an existing list or Outlook contacts.

**Fig 9.2****Step 3: Adding Recipients to Your Mail Merge Database**

In the New Address List box, begin entering your contacts.

To add additional recipients, click the New Entry button. To delete an entry, select it and click Delete Entry.

**Fig 9.3**

Step 4: Adding and Deleting Mail Merge Fields

Click the Customize Columns button. The Customize Columns dialog box opens. Then, click Add, Delete or Rename to alter the field types. You can also use the Move Up and Move Down buttons to rearrange the order of the fields. When you're done, click OK on the New Address List dialog box. Name the data source and click Save.

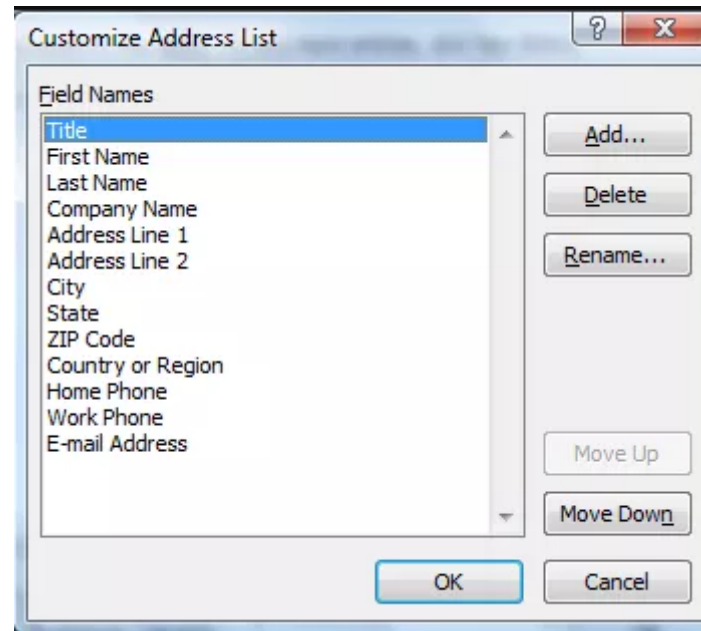


Fig 9.4

Step 5: Inserting a Merge Field in Your Document

To insert a field into your document, click **Insert Merge Field** on the Mailings ribbon. Select the field you would like to insert. The field name appears where you have the cursor located in your document. You can continue to add fields to your document.

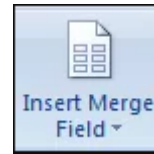


Fig 9.5

Step 6: Finalizing Your Mail Merge Documents

Click the **Finish & Merge** button on the Mailings ribbon.

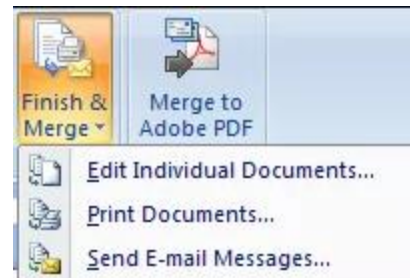


Fig 9.6

You can opt to edit individual documents, print the documents, or email them. If you opt to print or email your documents, you'll be prompted to enter a range. You can opt to print all, one, or a set of contiguous letters.

Experiment No. 10

10. Write and demonstrate the Margins, Page orientation, Size options of “Page Layout” tab in MS-WORD.

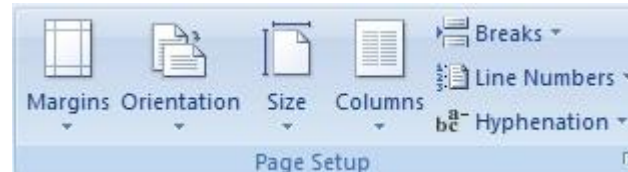


Fig 10.1

Margins: Margins is used to set the page margins for the current working document.

Margins contains options “Last Custom Setting”, “Normal”, “Narrow”, “Moderate”, “Wide” etc.,

Last Custom Setting: is used to set the custom settings given to last worked document if it is selected the margins for the current working document will take margins as the margin given to last worked document.

Procedure:

1. Select down arrow of “**Margins**” option of “**Page Setup**” Options.
2. Select “**Last Custom Setting**”.

Result: Margins of the current working document are fixed as per the last worked document.

Normal: All the margins for the current working document are fixed at equal spacing of “one inch” for all sides left, right, top and bottom.

Procedure:

1. Select down arrow of “**Margins**” option of “**Page Setup**” Options.
2. Select “**Normal**”.

Result: All the margins for the current working document are fixed at equal spacing of “one inch” for all sides left, right, top and bottom.

Narrow: All the margins for the current working document are fixed at equal spacing of half inch for all sides left, right, top and bottom.

Procedure:

1. Select down arrow of “**Margins**” option of “**Page Setup**” Options.
2. Select “**Normal**”.

Result: All the margins of the current working document are fixed at equal spacing of half inch for all sides left, right, top and bottom.

Moderate: To set the margins of the current working document are fixed “one inch” for both left, right sides and “ 0.75 inch” for both top and bottom.

Procedure:

1. Select down arrow of “**Margins**” option of “**Page Setup**” Options.
2. Select “**Moderate**”.

Result: The margins of the current working document are fixed “one inch” for both left, right sides and “ 0.75 inch” for both top and bottom.

Wide: To set the margins of the current working document are fixed “one inch” for both left, right sides and “ 2 inches” for both top and bottom.

Procedure:

1. Select down arrow of “**Margins**” option of “**Page Setup**” Options.
2. Select “**Wide**”.

Result: The margins of the current working document are fixed “one inch” for both left, right sides and “ 2 inches” for both top and bottom.

Page Orientation: Page Orientation is used to fix the document either of “Portrait “ or “Landscape”. By default Word Document is “**Portrait**”.

Portrait: Portrait is used to set the lay out of the current working document vertical. By default Word Document is “**Portrait**”. It prints the document on the paper vertically.

Procedure:

1. Select “Page Layout” tab from the ribbon.
2. Select arrow of “**Orientation**” option of “**Page Setup**” options.
3. Select “**Portrait**” option.

Result: The layout of the current working document is fixed as portrait.

Land Scape: Land Scape is used to set the lay out of the current working document **horizontally**. It prints the document on the paper horizontally.

Procedure:

1. Select “Page Layout” tab from the ribbon.
2. Select arrow of “**Orientation**” option of “**Page Setup**” options.
3. Select “**Landscape**” option.

Result: The layout of the current working document is fixed as Landscape.

Size: It is used to set the current working document as per the different sizes of papers available on the market. The sizes are classified into Letter, Tabloid, Legal, A4, A5, B4, B5 etc.,

Procedure:

1. Select the arrow symbol of “**Size**” option available in “**Page Setup**” options.
2. Select the required Page size available in the list.

Result: The size of the current working document taken size as per selection.

EXPERIMENT No. - 11

11. Write and demonstrate the options of options of “View” tab of MS – Excel.

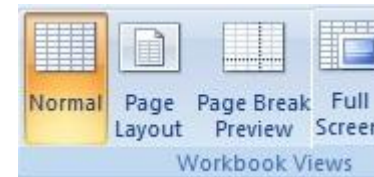


Fig 11.1

Normal: To View the current working work sheet in Normal view.

Procedure:

Step 1: Select “View” tab on the ribbon.

Step 2: Select “Normal View” option of “Workbook views” options.

Result: Work sheet appearing in “Normal view”.

Page Layout: View the work sheet as it will appear on the printed page. Use this view to see where pages begin and end, and to view any headers or footers on the page.

Procedure:

Step 1: Select “View” tab on the ribbon.

Step 2: Select “Page Layout” option of “Workbook views” options.

Result: Work sheet appearing in “Page Layout view”.

Page Break Preview: View a preview of where pages will break when this work sheet is printed.

Step 1: Select “View” tab on the ribbon.

Step 2: Select “Page Break Preview” option of “Workbook views” options.

Result: Work sheet appearing in “Page Break view”.

Full Screen: View the worksheet in full screen mode.

Procedure:

Step 1: Select “View” tab on the ribbon.

Step 2: Select “ Full Screen” option of “Workbook views” options.

Result: Work sheet appearing in “Full Screen view”.

EXPERIMENT No. - 12

12. Write and demonstrate for creating a table for marks gained by different students with columns “ROLL NO”, “NAME OF THE STUDENT”, “GFC”, “ENGLISH”, “CF &MSO”, “Prog. In ‘C’” and “Accountancy and Tally” and compute “Total”, “Average Mark”, “pass or fail” and “Maximum Mark” using “Statistical” commands in MS –EXCEL.

Creating table with the given columns.**Procedure:**

Step 1: Open MS Excel work sheet.

Step 2: Type “**ROLL. NO.**”, “**NAME OF THE STUDENT**”, “**GFC**”, “**ENGLISH**”, “**CF & MSO**”, “**Prog. In 'C'**” and “**Accountancy and Tally**” in the cells “A1”, “B1”, “C1”, “D1”, “E1”, “F1” and “G1” respectively.

Step 3: Type Data “1”, “Bheemesh”, “48”, “45”, “47”, “46”, “49” in the cells “A2”, “B2”, “C2”, “D2”, “E2”, “F2” and “G2” respectively.

Step 4: Type data “2”, “Murthy”, “45”, “42”, “43”, “49”, “39”, in the cells “A3”, “B3”, “C3”, “D3”, “E3”, “F3” and “G3” respectively.

Step 5: Type data “3”, “Prasad”, “46”, “27”, “39”, “48”, “41”, in the cells “A4”, “B4”, “C4”, “D4”, “E4”, “F4” and “G4” respectively.

Step 6: Type data “4”, “Sastry”, “14”, “42”, “36”, “31”, “49”, in the cells “A5”, “B5”, “C5”, “D5”, “E5”, “F5” and “G5” respectively.

Step 7: Type data “5”, “Devi Labba”, “40”, “45”, “48”, “42”, “44”, in the cells “A6”, “B6”, “C6”, “D6”, “E6”, “F6” and “G6” respectively.

Result:

ROLL. NO.	NAME OF THE STUDENT	GFC	ENGLISH	CF & MSO	Prog. In 'C'	Accountancy and Tally
1	Bheemesh	48	45	47	46	49
2	Murthy	45	42	43	49	39
3	Prasad	46	27	39	48	41
4	Sastry	14	42	36	31	49
5	Devi Labba	40	45	48	42	44

Computing “Total Marks” of each Student.**Procedure:**

Step 1: Select the cells from “C2” to “G2”.

Step 2: Select “Auto sum” or “ Σ ” button “Editing” icons of “Home” ribbon.

Step 3: Place cursor in the cell “H2”.

Step 4: Drag the “Cursor” until the cell “H6”.

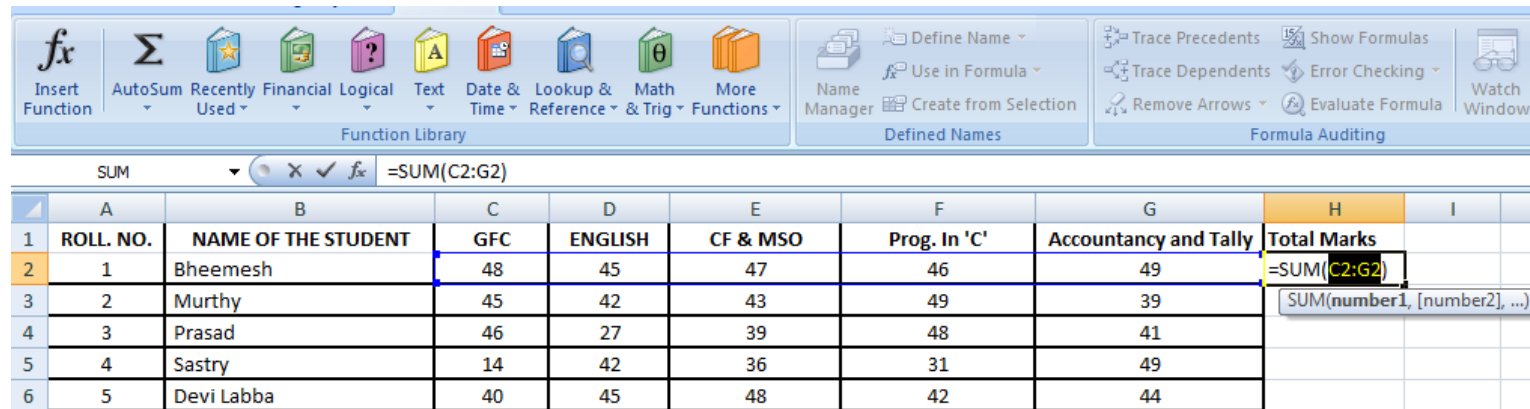


Fig. 13.1

Compute “Average mark” got by the student among five subjects.

Procedure:

Step 1: Select the cells from “C2” to “G2”.

Step 2: Select “Function Library tab in More Functions its display a drop down list in the list select Statistical function its again display another drop down list in the list select AVERAGE” in the formals ribbon.

Step 3: Place cursor in the cell “H2”.

Step 4: Drag the “Cursor” until the cell “H6”.

	A	B	C	D	E	F	G	H	I
1	ROLL. NO.	NAME OF THE STUDENT	GFC	ENGLISH	CF & MSO	Prog. In 'C'	Accountancy and Tally	Total Marks	Average Marks
2	1	Bheemesh	48	45	47	46	49	235	=AVERAGE(C2:G2)
3	2	Murthy	45	42	43	49	39	218	
4	3	Prasad	46	27	39	48	41	201	
5	4	Sastry	14	42	36	31	49	172	
6	5	Devi Labba	40	45	48	42	44	219	

Function Arguments

AVERAGE

Number1 C2:G2 = {48,45,47,46,49}

Number2 = number

= 47

Returns the average (arithmetic mean) of its arguments, which can be numbers or names, arrays, or references that contain numbers.

Number1: number1,number2,... are 1 to 255 numeric arguments for which you want the average.

Formula result = 47

[Help on this function](#)

OK Cancel

Fig 12.2

Computing “Result” of the student “Pass” or “Fail”

Note: If the student got more than 17 marks in all subject his result will be treated as “Pass” else he is “Fail”.

Procedure:

Step 1: Select the cells of H2 column (Pass/Fail) where conditional formatting is to be applied.

Step 2: =IF(AND(C2>=18,D2>=18,E2>=18,F2>=18,G2>=18),"PASS","FAIL")

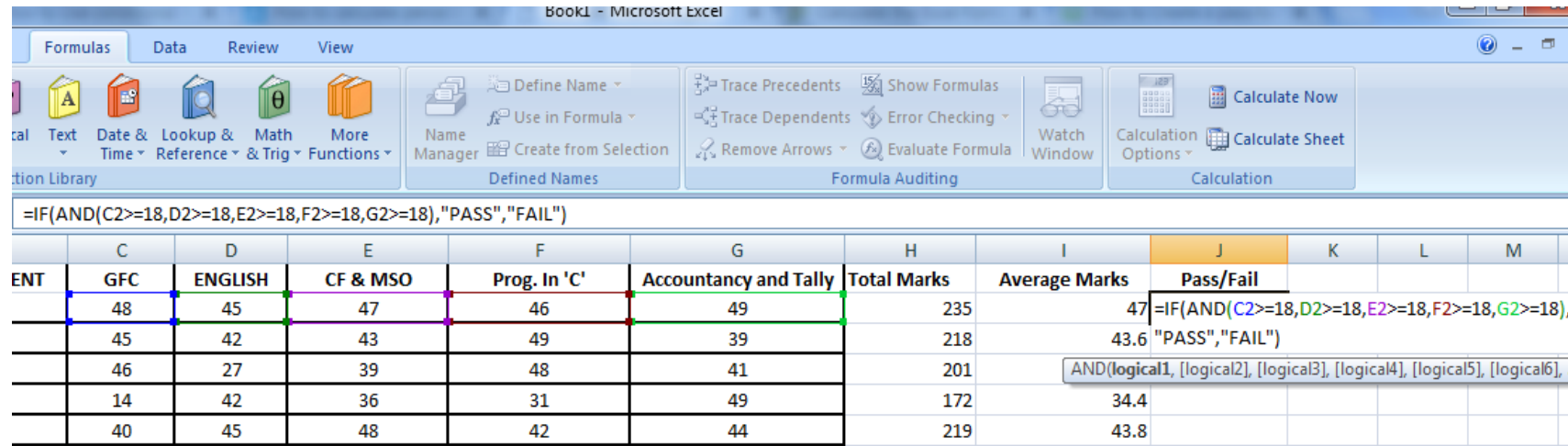


Fig 12.3

Step3: Click Enter.

Step 4: Drag the “Cursor” until the cell “H6”.

A	B	C	D	E	F	G	H	I	J
ROLL. NO.	NAME OF THE STUDENT	GFC	ENGLISH	CF & MSO	Prog. In 'C'	Accountancy and Tally	Total Marks	Average Marks	Pass/Fail
1	Bheemesh	48	45	47	46	49	235	47	PASS
2	Murthy	45	42	43	49	39	218	43.6	PASS
3	Prasad	46	27	39	48	41	201	40.2	PASS
4	Sastry	14	42	36	31	49	172	34.4	FAIL
5	Devi Labba	40	45	48	42	44	219	43.8	PASS

Fig 12.4

Computing “Maximum” marks got in each subject among all the students and display the final table

Step 1: Select the cells from “C2” to “C6”.

Step 2: Select “Function Library tab in More Functions its display a drop down list in the list select Statistical function its again display another drop down list in the list select MAX” in the formals ribbon.

Step 3: Place cursor in the cell “C8”.

Step 4: Drag the “Cursor” until the cell “G8”.

MAX =MAX(C2:C6)

A	B	C	D	E	F	G	H	I	J
ROLL. NO.	NAME OF THE STUDENT	GFC	ENGLISH	CF & MSO	Prog. In 'C'	Accountancy and Tally	Total Marks	Average	Pass/Fail
1	Bheemesh	48	45	47	46	49	235	47	PASS
2	Murthy	45	42	43	49	39	218	43.6	PASS
3	Prasad	46	27	39	48	41	201	40.2	PASS
4	Sastry	14	42	36	31	49	172	34.4	FAIL
5	Devi Labba	40	45	48	42	44	219	43.8	PASS

Max.Marks of Subject: =MAX(C2:C6)

Function Arguments

MAX

Number1: C2:C6 = {48;45;46;14;40}

Number2: = number

= 48

Returns the largest value in a set of values. Ignores logical values and text.

Number1: number1,number2,... are 1 to 255 numbers, empty cells, logical values, or text numbers for which you want the maximum.

Formula result = 48

[Help on this function](#)

OK Cancel

Fig. 12.5

Final Resultant Table:

A	B	C	D	E	F	G	H	I	J
ROLL. NO.	NAME OF THE STUDENT	GFC	ENGLISH	CF & MSO	Prog. In 'C'	Accountancy and Tally	Total Marks	Average	Pass/Fail
1	Bheemesh	48	45	47	46	49	235	47	PASS
2	Murthy	45	42	43	49	39	218	43.6	PASS
3	Prasad	46	27	39	48	41	201	40.2	PASS
4	Sastry	14	42	36	31	49	172	34.4	FAIL
5	Devi Labba	40	45	48	42	44	219	43.8	PASS
	Max.Marks of Subject:	48	45	48	49	49			

Fig.12.6

EXPERIMENT No. – 13

13. Write and demonstrate for creating a table for the details of different employees with columns Emp.Id, Emp. Name, Designation and salary and use “Inserting Row”, “Deleting Row” and “Sort” in MS-Excel.

a) **Create a worksheet with the given columns.**

Procedure:

Step 1: Open MS Excel work sheet.

Step 2: Type “**Emp. Id**”, “**Emp.Name**”, “**Designation**”, “**Salary**” in the cells “A1”, “B1”, “C1” and “D1” respectively.

Step 3: Type Data “1”, “Sankari”, “Record Asst.” and “12000” in the cells “A2”, “B2”, “C2” respectively.

Step 4: Type data “1002”, “Devi”, “Lecturer” and “38000” in the cells “A3”, “B3”, “C3” respectively.

Step 5: Type data “3”, “Puruhootika”, “Principal” and “80000” in the cells “A4”, “B4”, “C4” respectively.

Step 6: Type data “4”, “Bhramaramba”, “Lab. Asst.” and “18000” in the cells “A5”, “B5”, “C5” respectively.

Step 6: Type data “5”, “Maha Lakshmi”, “Lecturer.” and “38000” in the cells “A5”, “B5”, “C5” respectively.

Result:

Emp. Id	Emp.Name	Designation	Salary
1	Sankari	Record Asst.	12000
2	Kamakshi	Lecturer	38000
3	Puruhootika	Principal	80000
4	Bhramaramba	Lab. Asst.	18000
5	Maha Lakshmi	Lecturer	38000

b) **Sorting the above table in Ascending order of “Salary”.**

Step 1: Select the cell range you want to sort.....

Step 2: Select the **Data** tab on the Ribbon, and then click the Sort command.

Step 3: The Sort dialog box will appear. ...

Step 4: Decide the **sorting** order (either ascending or descending).....

Step 5: Once selected, click **OK**.

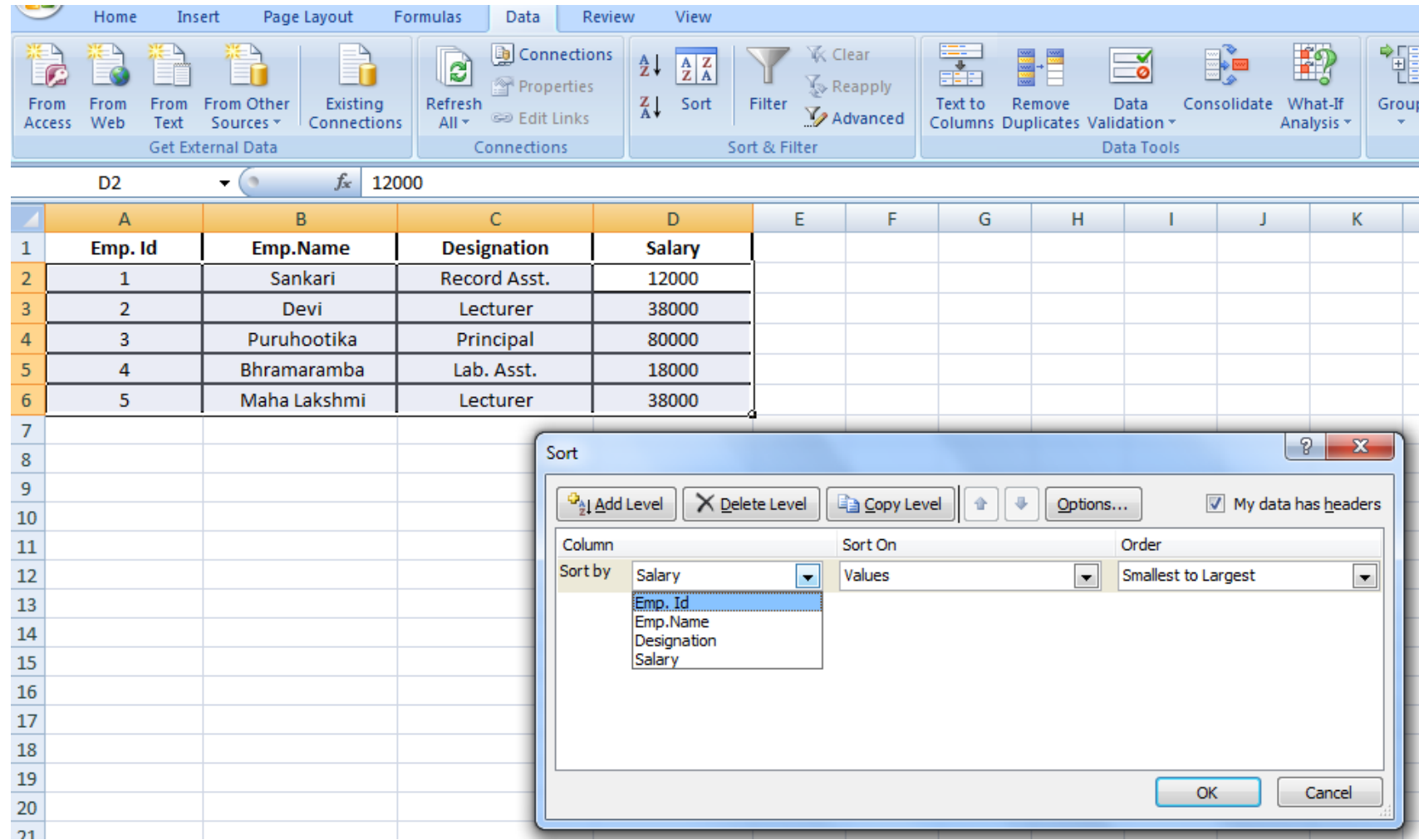


Fig. 13.1

Result: The cell range will be sorted by the selected column.

c) Inserting “Row” with Name = “Saraswathi” designation =”HOD” and Salary= “50000” between Principal and Lecturers.

Step 1: Select row with the number “6”.

Step 2: Right click on row “6” and select “Insert” option from the list.

Step 3: Type the data in the cells “B5”, “C5” and D5 as “Saraswathi”, “HOD” and “50000”.

	A	B	C	D
1	Emp. Id	Emp.Name	Designation	Salary
2	1	Sankari	Record Asst.	12000
3	4	Bhramaramba	Lab. Asst.	18000
4	2	Devi	Lecturer	38000
5	5	Maha Lakshmi	Lecturer	38000
6		Saraswathi	HOD	50000
7	3	Puruhootika	Principal	80000

Fig. 13.2

d) Deleting the row with employee name “Maha Lakshmi”.

Step 1: Select row with the number “5”.

Step 2: Right click on row “5” and select “Delete” option from the list.

	A	B	C	D
	Emp. Id	Emp.Name	Designation	Salary
	1	Sankari	Record Asst.	12000
	4	Bhramaramba	Lab. Asst.	18000
	2	Devi	Lecturer	38000
		Saraswathi	HOD	50000
	3	Puruhootika	Principal	80000

Fig. 13.3

EXPERIMENT No. - 14

14. Demonstrate the procedure for creating different types of charts and graphs for different pass percentages in different years.

Table with raw data to creating tables:

Year	2015 March	2016 March	2017 March	2018 March
Pass Percentage	52	68	74	82

To create a chart:

- Step 1: Select the **cells**, including the **column titles** and **row labels**.
- Step 2: Click the **Insert** tab.
- Step 3: In the Charts group and click on Column Chart.
- Step 4: Select the first of the 2-D Column Charts

A horizontal axis can be added by

- Step 1: Highlight the chart
- Step 2: In Chart Tools at the top select Layout and Axis Titles
- Step 3: Select Primary Horizontal Axis Title
- Step 4: Select Title below Axis.

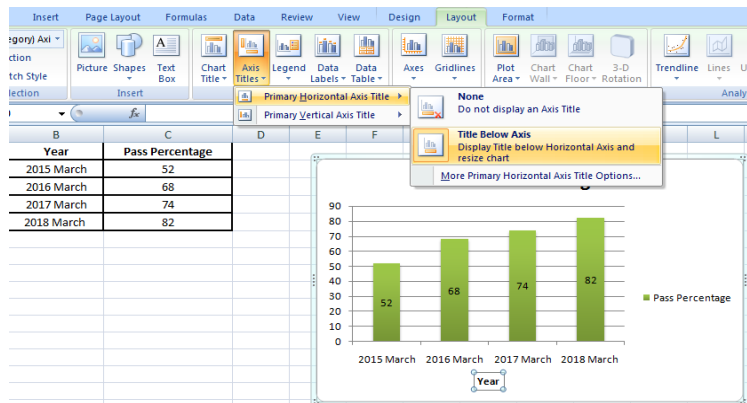


Fig. 14.1

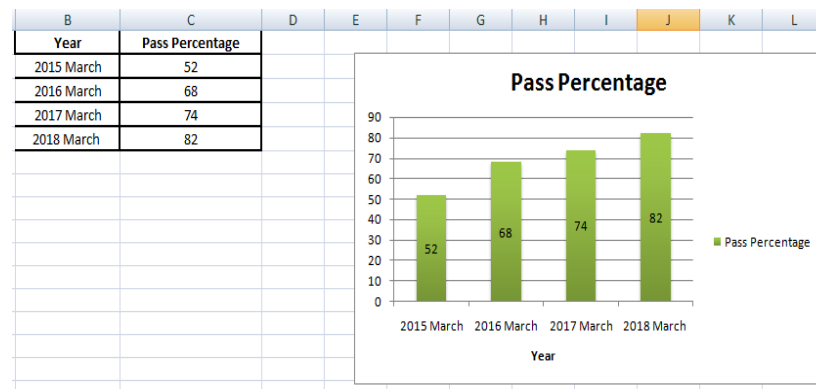


Fig. 14.2

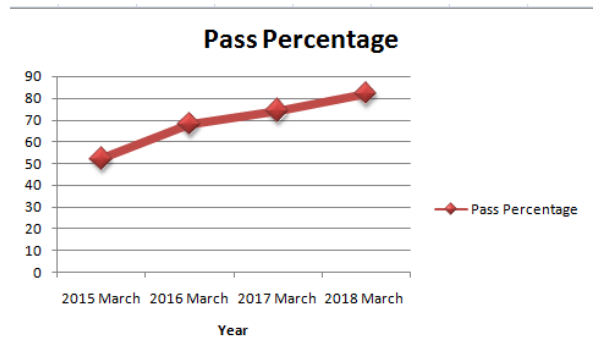


Fig. 14.3

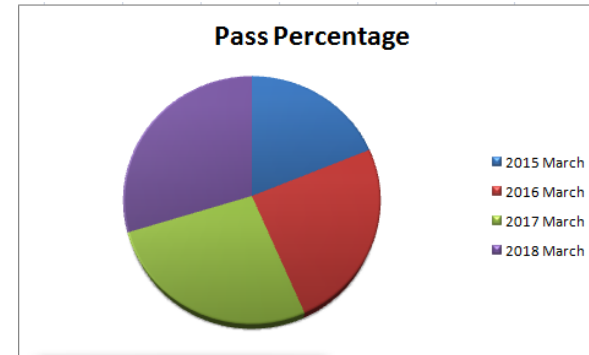


Fig. 14.5

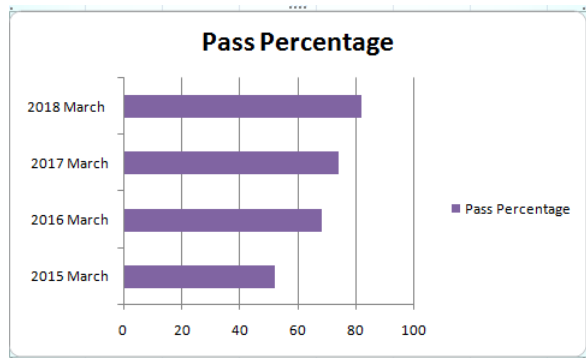


Fig.14.4

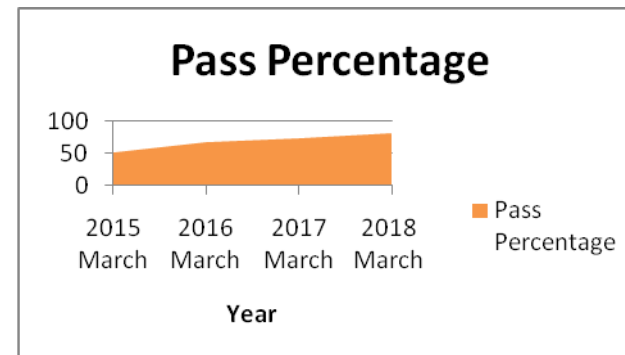


Fig. 14.6

EXPERIMENT No. - 15

15. Demonstrate the functionality of “filter” by creating a table with columns “ADMISSION NO”, “NAME OF THE STUDENT”, “GENDER”, “COURSE NAME” and “SECOND LANGUAGE” in MS-Excel.

Procedure:

Create a worksheet with the given columns by taking some raw data in the rows.

ADMISSION NO	STUDENT NAME	GENDER	COURSE NAME	SECOND LANGUAGE
143001	B. UDAYA LAKSHMI	FEMALE	BPC	HINDI
143002	M.TILAK	MALE	C.S.E	G.F.C
143003	T. RAMA LAKSHMI	MALE	MPC	SANSKRIT
143004	V.R.S.K.S. SASTRY TANIKELLA	MALE	MPC	TELUGU
143005	VASA JACOB	MALE	C.S.E	G.F.C
143006	B.SAMITHA	FEMALE	CEC	HINDI
143007	Y.NAGA LAKSHMI	FEMALE	M.P.H.W(F)	G.F.C
143008	G.JAGADEESWARI	FEMALE	M.P.H.W(F)	G.F.C
143009	K.G.SUBRAHAMANYAM	MALE	A.E.T	G.F.C
143010	K.GANGADHARA RAO	MALE	A.E.T	G.F.C
143011	V.V.MANIKANTA	MALE	MPC	HINDI
143012	G.DHANA LAKSHMI	FEMALE	BPC	TELUGU
143013	CH.VIGNESWARA RAO	MALE	A.E.T	G.F.C
143014	N.SURESH REDDY	MALE	CEC	TELUGU
143015	M.SINDHU KUMARI	MALE	C.S.E	G.F.C
143016	K.VENU	FEMALE	CEC	TELUGU
143017	M. VAISHNAVI	FEMALE	M.L.T.	TELUGU
143018	M.NAGA LAKSHMI	FEMALE	BPC	HINDI
143019	S.VANI SINDHU	FEMALE	BPC	HINDI
143020	N.VENKATESWARA RAO	MALE	ET	G.F.C
143021	U. GANGA BHAVANI	FEMALE	M.P.H.W(F)	G.F.C
143022	N.SRINIVASA RAO	MALE	C.S.E	G.F.C
143023	GANGA BHAVANI	FEMALE	M.P.H.W(F)	G.F.C
143024	M.ARUN KUMAR	MALE	ET	G.F.C

Procedure:

Step 1: Type ADMISSION NO in cell A1, STUDENT NAME in cell B1, GENDER in cell C1, COURSE NAME in cell D1, SECOND LANGUAGE in cell E1 respectively in a work sheet.

Step 2: Repeat **Step 1** to enter all the remaining data in the cells A2 to E 25.

Result:

ADMISSION NO	STUDENT NAME	GENDER	COURSE NAME	SECOND LANGUAGE
143001	B. UDAYA LAKSHMI	FEMALE	BPC	HINDI
143002	M.TILAK	MALE	C.S.E	G.F.C
143003	T. RAMA LAKSHMI	MALE	MPC	SANSKRIT
143004	V.R.S.K.S. SASTRY TANIKELLA	MALE	MPC	TELUGU
143005	VASA JACOB	MALE	C.S.E	G.F.C
143006	B.SAMITHA	FEMALE	CEC	HINDI
143007	Y.NAGA LAKSHMI	FEMALE	M.P.H.W(F)	G.F.C
143008	G.JAGADEESWARI	FEMALE	M.P.H.W(F)	G.F.C
143009	K.G.SUBRAHAMANYAM	MALE	A.E.T	G.F.C
143010	K.GANGADHARA RAO	MALE	A.E.T	G.F.C
143011	V.V.MANIKANTA	MALE	MPC	HINDI
143012	G.DHANA LAKSHMI	FEMALE	BPC	TELUGU
143013	CH.VIGNESWARA RAO	MALE	A.E.T	G.F.C
143014	N.SURESH REDDY	MALE	CEC	TELUGU
143015	M.SINDHU KUMARI	MALE	C.S.E	G.F.C
143016	K.VENU	FEMALE	CEC	TELUGU
143017	M. VAISHNAVI	FEMALE	M.L.T.	TELUGU
143018	M.NAGA LAKSHMI	FEMALE	BPC	HINDI
143019	S.VANI SINDHU	FEMALE	BPC	HINDI
143020	N.VENKATESWARA RAO	MALE	ET	G.F.C
143021	U. GANGA BHAVANI	FEMALE	M.P.H.W(F)	G.F.C
143022	N.SRINIVASA RAO	MALE	C.S.E	G.F.C
143023	GANGA BHAVANI	FEMALE	M.P.H.W(F)	G.F.C

143024	M.ARUN KUMAR	MALE	ET	G.F.C
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Identifying the students in the course 'C.S.E.' in the above table using filter in MS –Excel.

Procedure:

Step 1: Select Column 'D'.

Step 2: Select "Sort and Filter" option of "Editing" options of "Home" tab.

Step 3: Select "Filter" option.

Result: A button with Arrow is appeared in column "D"

Step 4: Select the above button.

Step 5: Deselect all the remaining options and select "C.S.E." option from the list and select "OK" button.

Result: All the remaining records are hided and showing the table as below.

ADMISSION NO	STUDENT NAME	GENDER	COURSE NAME	SECOND LANGUAGE
143002	M.TILAK	MALE	C.S.E	G.F.C
143005	VASA JACOB	MALE	C.S.E	G.F.C
143015	M.SINDHU KUMARI	MALE	C.S.E	G.F.C
143022	N.SRINIVASA RAO	MALE	C.S.E	G.F.C

Identifying the FEMALE students in the above table using filters filter in MS –Excel.

Procedure:

Step 1: Select Column 'C'.

Step 2: Select "Sort and Filter" option of "Editing" options of "Home" tab.

Step 3: Select "Filter" option.

Result: A button with Arrow is appeared in column "C"

Step 4: Select the above button.

Step 5: Deselect all the remaining options and select "FEMALE" option from the list and select "OK" button.

Result: All the remaining records are hided and showing the table as below.

ADMISSION NO	STUDENT NAME	GENDER	COURSE NAME	SECOND LANGUAGE
143001	B. UDAYA LAKSHMI	FEMALE	BPC	HINDI
143006	B.SAMITHA	FEMALE	CEC	HINDI
143007	Y.NAGA LAKSHMI	FEMALE	M.P.H.W(F)	G.F.C
143008	G.JAGADEESWARI	FEMALE	M.P.H.W(F)	G.F.C
143012	G.DHANA LAKSHMI	FEMALE	BPC	TELUGU
143016	K.VENU	FEMALE	CEC	TELUGU
143017	M. VAISHNAVI	FEMALE	M.L.T.	TELUGU
143018	M.NAGA LAKSHMI	FEMALE	BPC	HINDI
143019	S.VANI SINDHU	FEMALE	BPC	HINDI
143021	U. GANGA BHAVANI	FEMALE	M.P.H.W(F)	G.F.C
143023	GANGA BHAVANI	FEMALE	M.P.H.W(F)	G.F.C

Identifying the students who have their second language as HINDI using filter in MS – Excel.

Procedure:

Step 1: Select Column 'E'.

Step 2: Select "Sort and Filter" option of "Editing" options of "Home" tab.

Step 3: Select "Filter" option.

Result: A button with Arrow is appeared in column "E"

Step 4: Select the above button.

Step 5: Deselect all the remaining options and select "HINDI" option from the list and select "OK" button.

Result: All the remaining records are hided and showing the table as below.

ADMISSION NO	STUDENT NAME	GENDER	COURSE NAME	SECOND LANGUAGE
143001	B. UDAYA LAKSHMI	FEMALE	BPC	HINDI
143006	B.SAMITHA	FEMALE	CEC	HINDI
143011	V.V.MANIKANTA	MALE	MPC	HINDI
143018	M.NAGA LAKSHMI	FEMALE	BPC	HINDI
143019	S.VANI SINDHU	FEMALE	BPC	HINDI

EXPERIMENT No. -16

16. Demonstrate the procedure to create a Power point presentation by taking the subject “GENERATIONS OF COMPUTERS” in minimum of five slides.

Procedure:

Opening Power point:

- Step 1: Select “Start” Button from task bar.
- Step 2: Select “All Programs” from “Start” menu options.
- Step 3: Select “Microsoft Office” from “All Programs”.
- Step 4: Select “Microsoft office Power Point 2007” from “Microsoft Office” options.

Saving Power point Presentation:

- Step 1: Select “Save” option from “Microsoft Office Button”.
- Step 2: Select “My Computer” in the “Save as” window.
- Step 3: Goto the location where the “ppt” has to stored.
- Step 4: Give name to ppt at “name” text field and select “Save” button.

Inserting new slide:

- Step 1: Select “New Slide” option from “Slide” option of “Home” tab.
- Step 2: Click on the slide to type the text- align the text using standard tool bar.
- Step 3: In order to insert new slide repeat step 1.

Output:

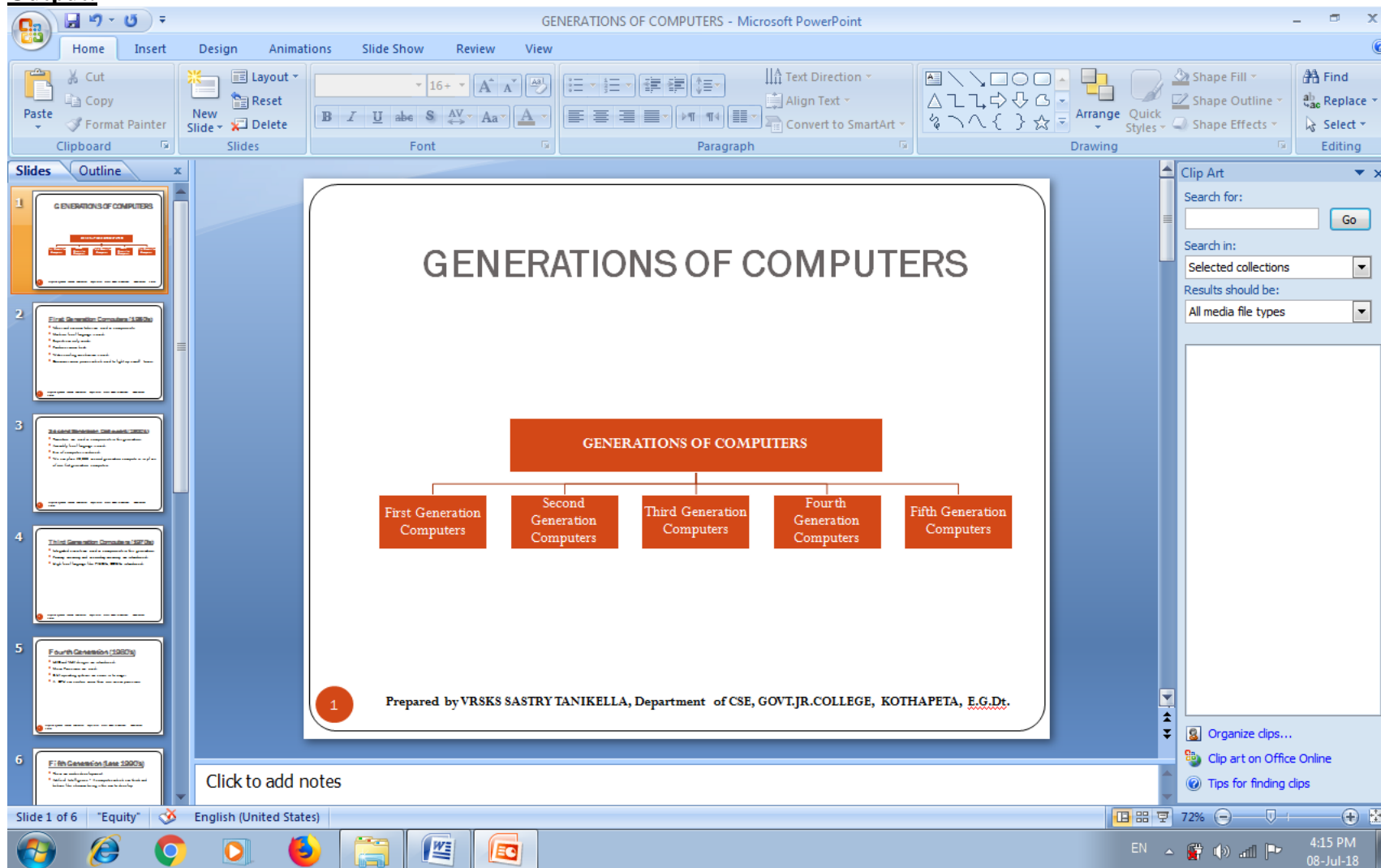


Fig 16.1

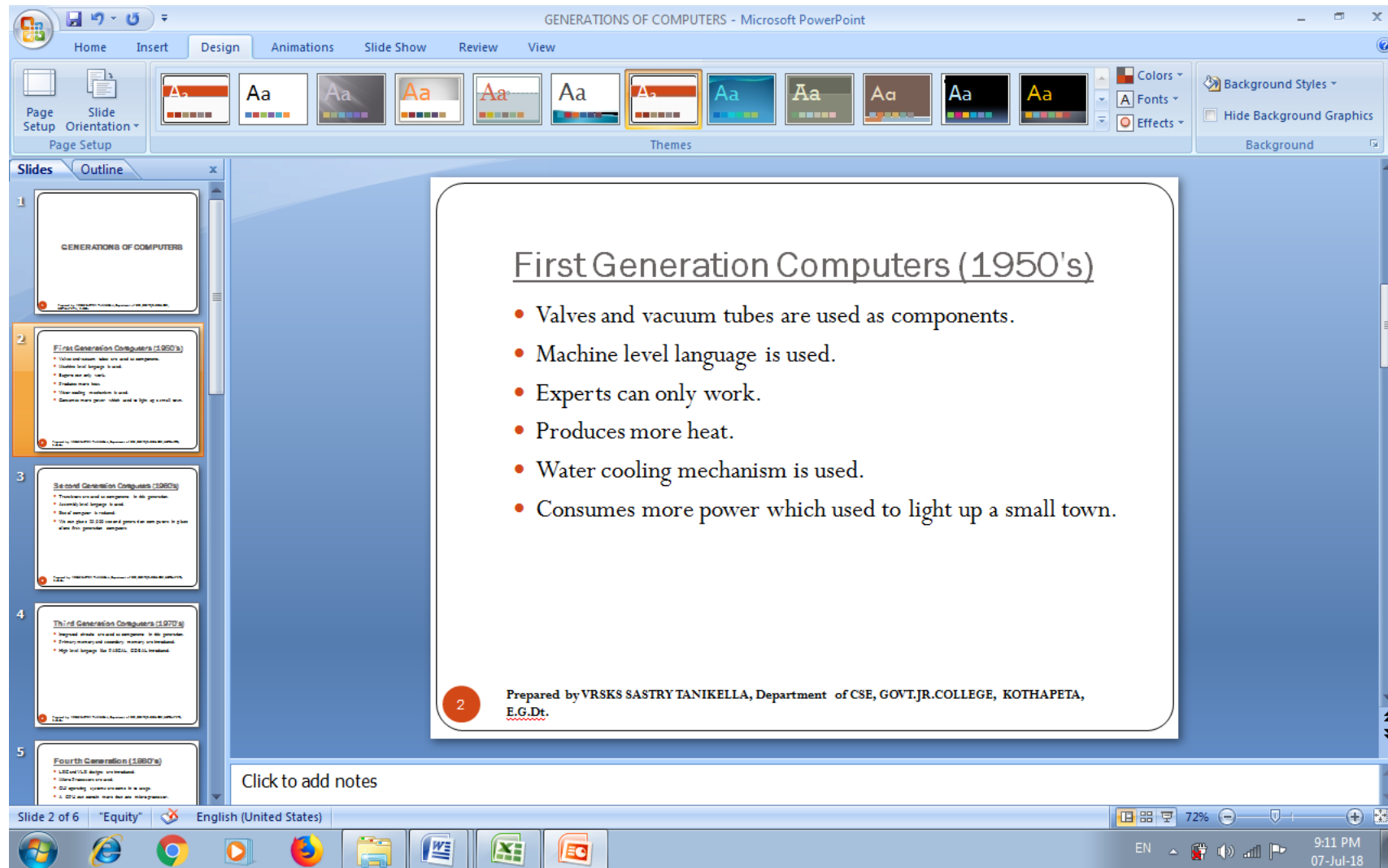


Fig 16.2

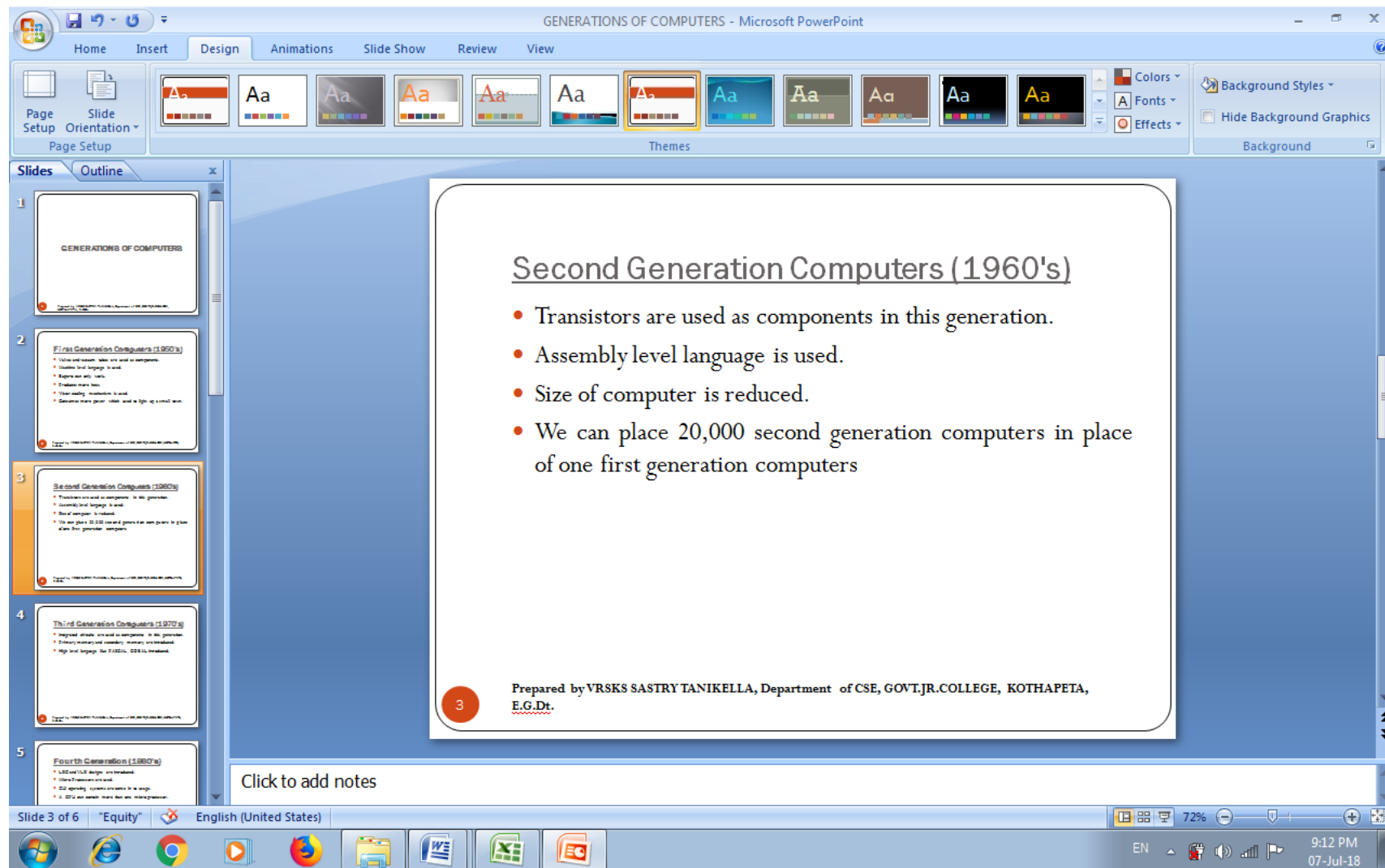


Fig 16.3

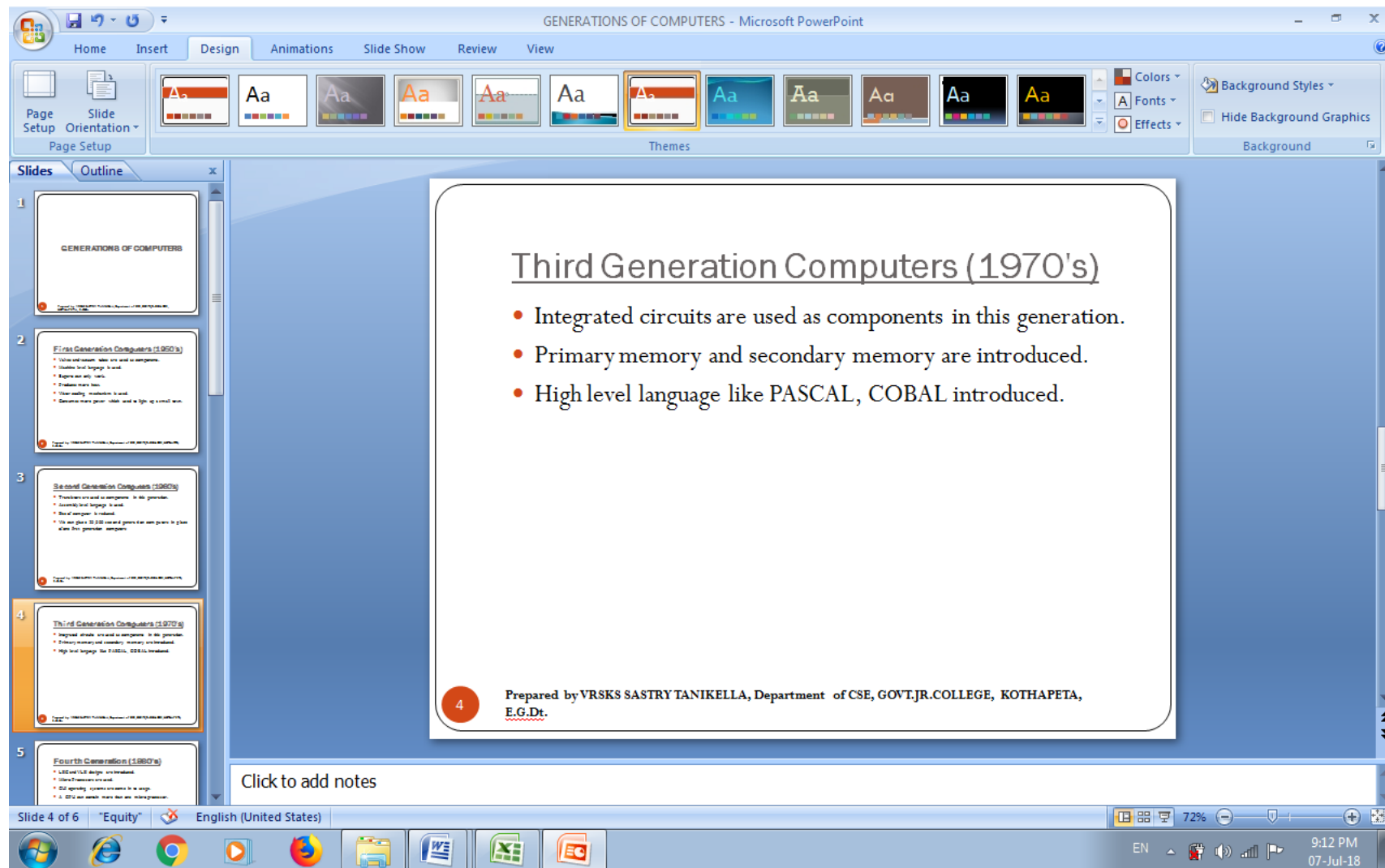


Fig 16.4

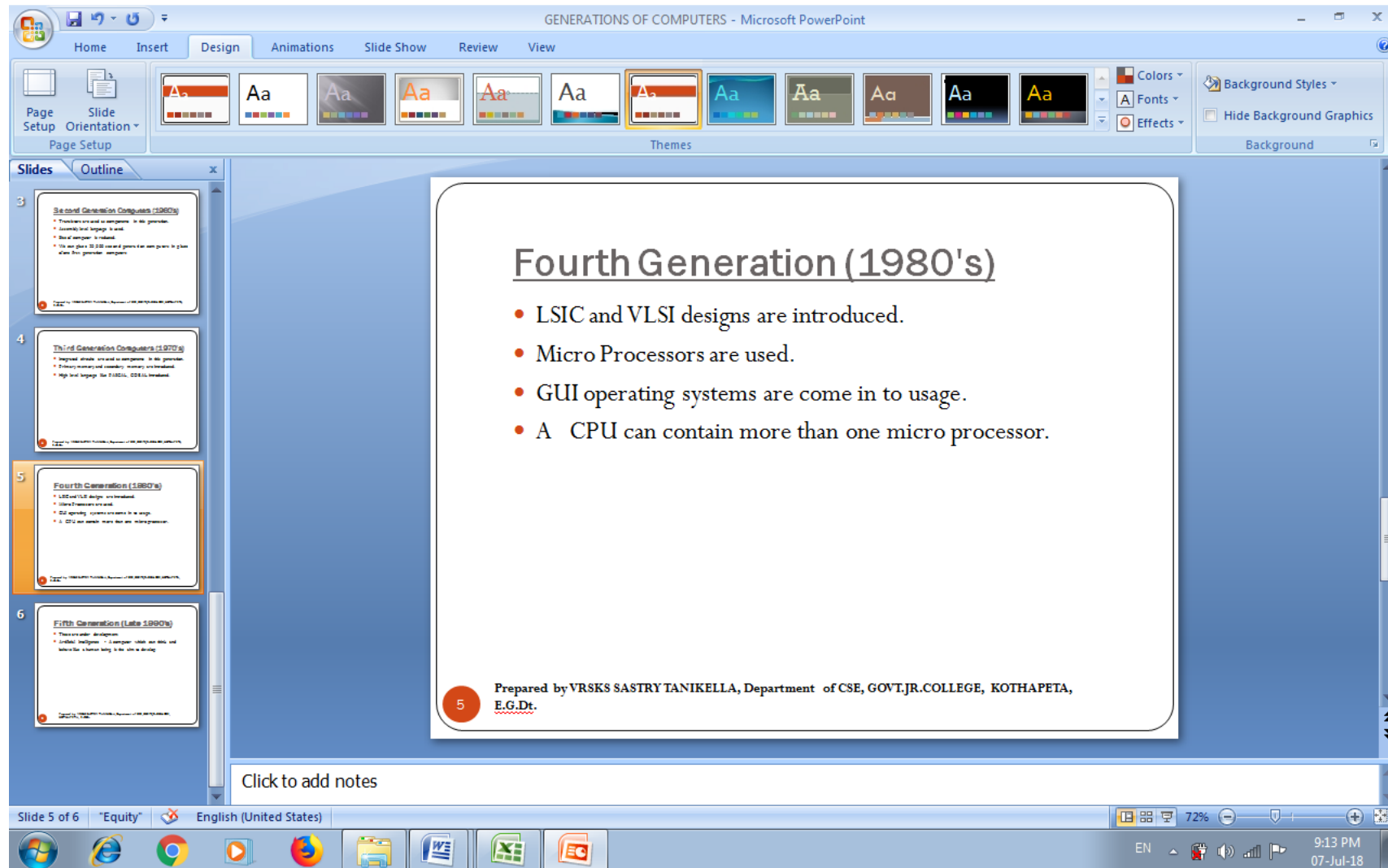


Fig 16.5

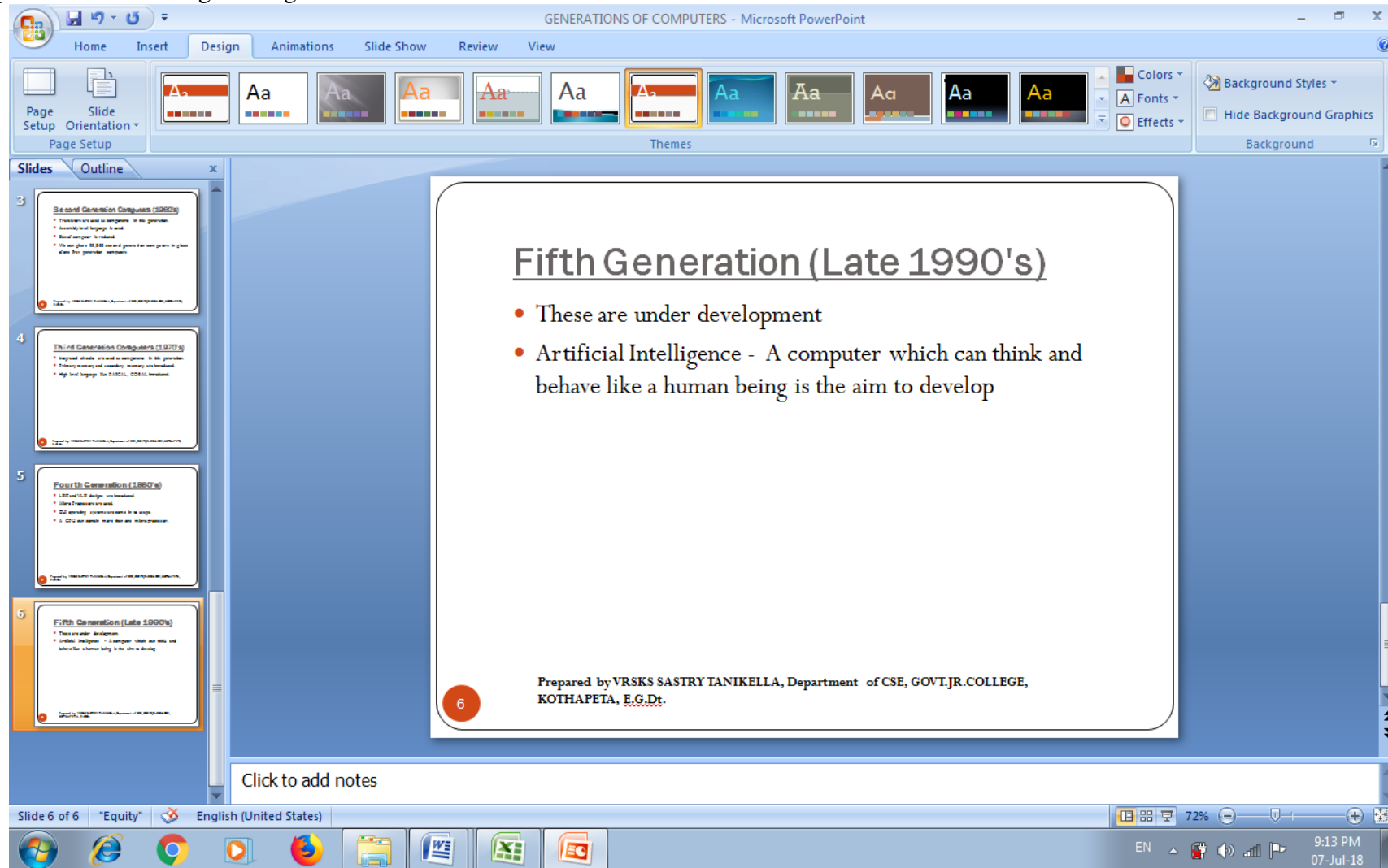


Fig 16.6

EXPERIMENT No. -17

17. Demonstrate the procedure for Applying the “Animation” and “Transition” for the power point presentation “GENERATIONS OF COMPUTERS”.

Procedure: Each slide may have the different slide layouts depending on the content.

Step 1: Text/Content, for that select the object.

Step 2: Select “Custom animation” from “Animations” options of “Animations” tab.

Step 3: Select “Add Effect” from “Custom Animation” window.

Step 4: Select the “Required Affect”.

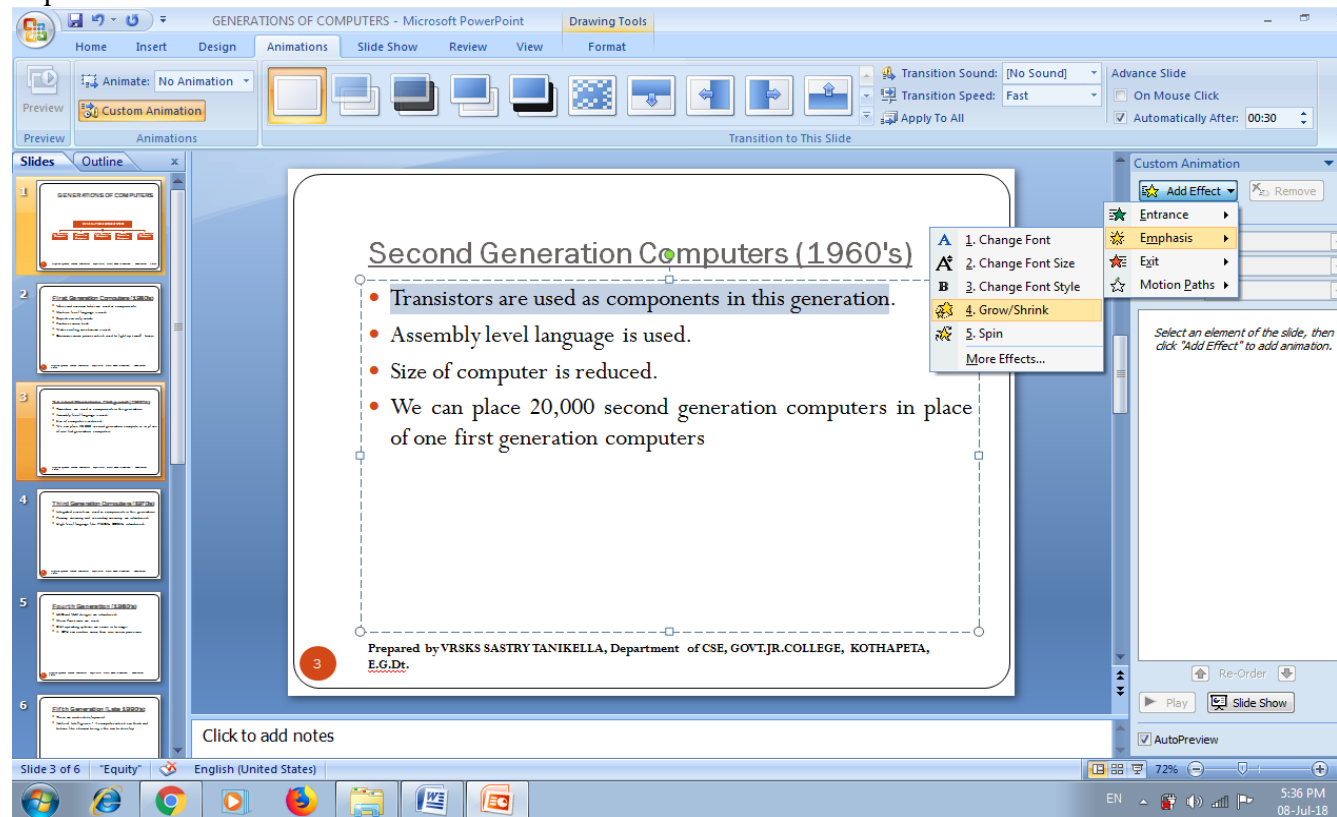


Fig 17.1

Procedure:

Step 1: After creating all the slides- By holding Ctrl key select all the slides.

Step 2: Select the Animations tab.

Step 3: Locate the Transition to This Slide group.

Step 4: Click the More drop-down arrow to display all transition effects.

Step 5: Click a slide transition effect to apply it to the selected slide.

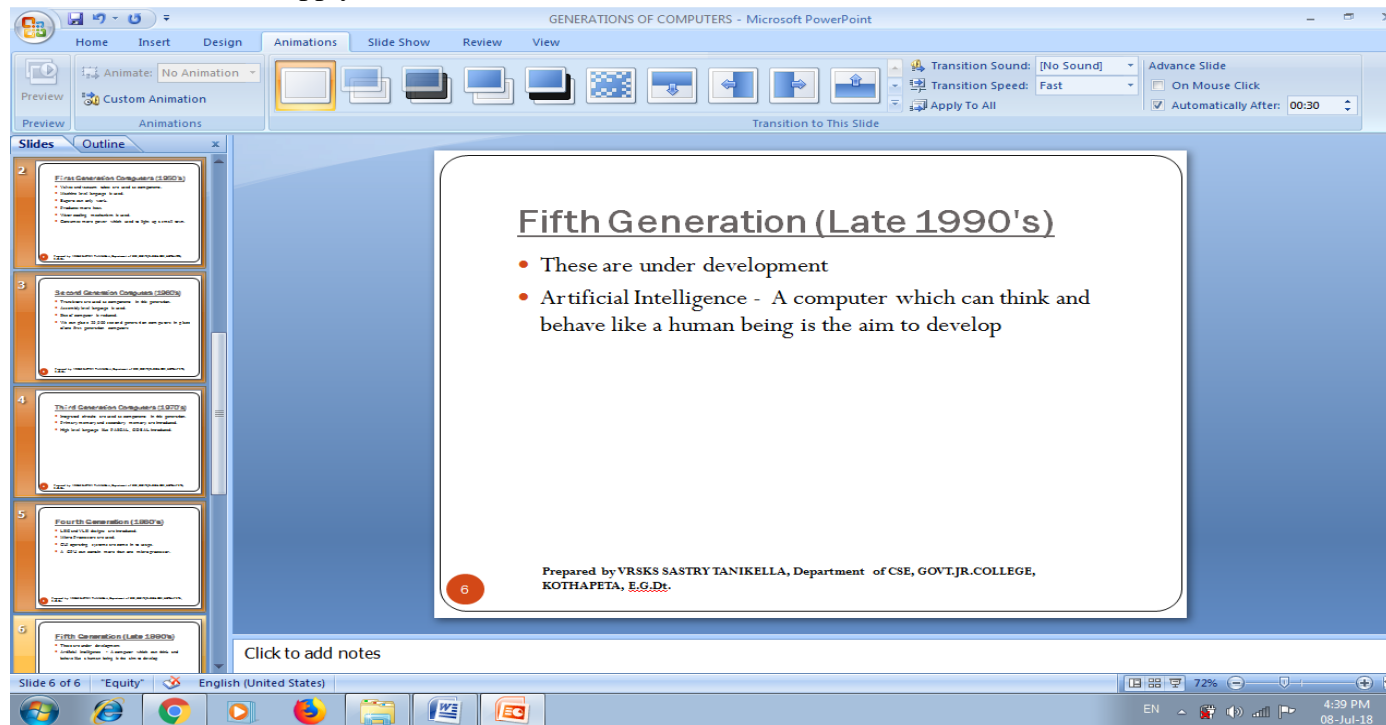


Fig. 17.2

Result: All the slides are displaying with the animations those are applied to the text and object with in Transition time.

COMPUTER SCIENCE AND ENGINEERING
First Year (P.C. 319 / 21)
PAPER – I : WINDOWS & MS OFFICE
QUESTION BANK

SECTION - I

1. Write and demonstrate the procedure for folder options “Creating folder”, “Moving the folder from one location to another location”, “Renaming the folder” and “Search” the folder in my computer.
2. Write and demonstrate the procedure for control panel options “to create a new user”, “to uninstall a software” and “to add a hardware device.
3. Write and demonstrate the functionality of MS –DOS internal External commands.
4. Write and demonstrate the procedure to print a document using different printer options.
5. Write and demonstrate the procedure to create leave letter in Ms-Word.
6. Demonstrate the functionality of options “Clipboard”, “Font” options of “Home” tab of MS –Word by taking some text.
7. Demonstrate the functionality of “Paragraph” options of “Home” tab of MS –Word by taking some text.
8. Write and demonstrate to create a table with columns “S.L.NO.” , “ YEAR” , “NAME OF THE THEORY SUBJET”, and “NAME OF THE PRACTICAL” in MS – Word.
9. Demonstrate the procedure of the Mail Merge.
10. Write and demonstrate the Margins, Page orientation, Size options of “Page Layout” tab in MS-WORD.

11. Write and demonstrate the options of options of **“View”** tab of **MS – Excel**.
12. Write and demonstrate for creating a table for marks gained by different students with columns **“ROLL NO”**, **“NAME OF THE STUDENT”**, **“GFC”**, **“ENGLISH”**, **“CF &MSO”**, **“Prog. In ‘C’”** and **“Accountancy and Tally”** and compute **“Total”**, **“Average Mark”**, **“pass or fail”** and **“Maximum Mark”** using **“Statistical”** commands in **MS –EXCEL**.
13. Write and demonstrate for creating a table for the details of different employees with columns **Emp.Id**, **Emp. Name**, **Designation** and **salary** and use **“Inserting Row”**, **“Deleting Row”** and **“Sort and Filter”** in **MS-Excel**.
14. Demonstrate the procedure for creating different types of charts and graphs for different pass percentages in different years.
15. Demonstrate the functionality of **“filter”** by creating a table with columns **“ADMISSION NO”**, **“NAME OF THE STUDENT”**, **“GENDER”**, **“COURSE NAME”** and **“SECOND LANGUAGE”** in **MS-Excel**.
16. Demonstrate the procedure to create a Power point presentation by taking the subject **“GENERATIONS OF COMPUTERS”** in minimum of five slides.
17. Demonstrate the procedure for Applying the **“Animation”** and **“Transition”** for the power point presentation **“GENERATIONS OF COMPUTERS”**.

COMPUTER SCIENCE AND ENGINEERING
First Year (P.C. 319 / 21)
PAPER – I : WINDOWS & MS OFFICE
MODEL QUESTION PAPER

Time : 3 hours

Max. Marks : 50

Section - I

1 x 40 = 40 Marks

2. Write and demonstrate the procedure for control panel options “to create a new user”, “to uninstall a software” and “to add a hardware device.

Section – II

Record

5 Marks

Viva

5 Marks

Note 1.: In practical examination, only the serial number of the questions will be given. The examiner shall decode it with question bank and give the questions by taking **draw**.

COMPUTER SCIENCE AND ENGINEERING
First Year (P.C. 319 / 21)
PAPER – I : WINDOWS & MS OFFICE
SCHEME OF VALUATION

Time : 3 hours

Max. Marks : 50

Section - I

1 x 40 = 40 Marks

- (i) Procedure : 10 Marks
- (ii) Demonstration : 20 Marks
- (iii) Result : 10 Marks.

Demonstration includes doing experiment on the computer system and explanation of the experiment by the student.

Section – II

- Record : 5 Marks**
- Viva : 5 Marks**

PAPER – II : PROGRAMMING IN – C

COMPUTER SCIENCE AND ENGINEERING
First Year (P.C. 319 / 22)
PAPER – II : PROGRAMMING IN ‘C’
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Experiment – 1 Performing Arithmetic Operations.**Aim:-Addition ,Subtraction, Multiplication, Division and Modulus operation on two integers**

Description:- This program calculates the Arithmetic Operations

ALGORITHM:

- 1) Start
- 2) Calculate add = a + b.
- 3) Calculate sub=a-b.
- 4) Calculate mul = a*b.
- 5) Calculate div = a/b.
- 6) Calculate mod = a % b.
- 7) Print add, sub, mul, div, mod values.
- 8) stop

PROGRAM:

```
#include <stdio.h>
#include<conio.h>
void main()
{
    int a=40,b=20, add,sub,mul,div,mod;
    add = a+b;
    sub = a-b;
    mul = a*b;
    div = a/b;
    mod = a%b;
    printf("Addition of a, b is : %d\n", add);
    printf("Subtraction of a, b is : %d\n", sub);
    printf("Multiplication of a, b is : %d\n", mul);
```

```
printf("Division of a, b is : %d\n", div);
printf("Modulus of a, b is : %d\n", mod);
}
```

output :

Addition of a,b is : 60
Subtraction of a,b is : 20
Multiplication of a, b is :800
Division of a, b is : 2
Modulus of a, b is : 0

Viva questions:

- 1.What are the operators in c?
2. What are the header file in c?
- 3.What is the defference between division and modulo division?

Experiment – 2 Calculating Simple Interest**Aim:-To calculate Simple Interest.****Description:**The formula to calculate simple interest is: $\text{simple interest} = \text{principle} \times \text{rate} \times \text{time} / 100$ **ALGORITHM:**

- 1) Start
- 2) Read principle, rate, time values.
- 3) Calculate
 $\text{simple_interest} = \text{principle_amount} \times \text{rate_of_intrest} \times \text{time} / 100.$
- 4) Print simple_interest.
- 5) Stop.

PROGRAM:-

```
#include <stdio.h>
int main()
{
    float principle, rate, time, simple_interest;
    printf("Enter the principle :");
    scanf("%f", &principle);
    printf("Enter the rate :");
    scanf("%f", &rate);
    printf("Enter the time :");
    scanf("%f", &time);
    simple_interest = principle * rate * time / 100;
    printf("Simple interest is %0.2f", simple_interest);
    return 0;
}
```

INPUT:

Enter the principle :5400

Enter the rate :8

Enter the time :3

OUTPUT:

Simple interest is 1296.00

Viva questions:

- 1.What are the data types in c?
- 2.How many bytes for float data type inc ?
- 3.What are the input statements in c?

Experiment – 3 Calculating Total, Average and Percentage based on a Student Marks

Aim:-To calculate total, average and percentage based on a student marks.

Description:

Step by step descriptive logic to find total, average and percentage.

- Input marks of five subjects. Store it in some variables say eng, phy, chem, math and comp.
- Calculate sum of all subjects and store in total = eng + phy + chem + math + comp.
- Divide sum of all subjects by total number of subject to find average i.e. average = total / 5.
- Calculate percentage using percentage = (average / 500) * 100.

ALGORITHM:

- 1) Start
- 2) Read marks of all subjects
Like eng, phy, chem, math, comp.
- 3) Calculate total=eng + phy + chem + math + comp.
- 4) Calculate average = total/5.0.
- 5) Calculate percentage = (total/500.0)*100.
- 6) Print total, average, percentage marks of a student.
- 7) Stop.

PROGRAM:

```
#include <stdio.h>
#include<conio.h>
int main()
    float eng, phy, chem, math, comp;
    float total, average, percentage;
    printf("Enter marks of five subjects: \n");
    scanf("%f%f%f%f%f", &eng, &phy, &chem, &math, &comp);
    total = eng + phy + chem + math + comp;
    average = total / 5.0;
    percentage = (total / 500.0) * 100;
```

```
printf("Total marks = %.2f\n", total);
    printf("Average marks = %.2f\n", average);
    printf("Percentage = %.2f", percentage);
    return 0;
}
```

INPUT : Enter marks of five subjects: 85 72 66 81 73

OUTPUT: Total marks = 377

Average marks = 75.400002Percentage = 75.400002

Viva questions:

- 1.What is variable?
- 2.How to calculate average mark for a student?
- 3.What is formula for percentage?

Experiment – 4 Calculating Compound Interest**Aim:-To calculate compound interest.****Description:-** Compound Interest formula

$$CI = P \left(1 + \frac{R}{100} \right)^T$$

:

Logic to calculate compound interest

Input principle amount. Store it in some variable say principle. Input time in some variable say time. Input rate in some variable say rate. Calculate compound interest using formula, $CI = \text{principle} * \text{pow}((1 + \text{rate} / 100), \text{time})$. Finally, print the resultant value of CI.

ALGORITHM:**1) Start****2) Read principle, rate, time values.****3) Calculate (compound interest) $CI = \text{principle} * \text{pow}((1 + \text{rate} / 100), \text{time})$.****4) Print the resultant value of CI****5) Stop.****PROGRAM:**

```
#include <stdio.h>
#include <math.h>
int main()
{
    float principle, rate, time, CI;
    printf("Enter principle (amount): ");
    scanf("%f", &principle);
    printf("Enter time: ");
    scanf("%f", &time);
    printf("Enter rate: ");
```

```
scanf("%f", &rate);
CI = principle* (pow((1 + rate / 100), time));
printf("Compound Interest = %f", CI);
return 0;
}
```

INPUT:

Enter principle (amount):100
Enter time:1
Enter rate:2

OUTPUT:

Compound Interest = 102.000000

Vivaquestions:

1. What is difference between simple interest and compound interest?
2. Why you should include math.h header file in this program?

Experiment – 5 check the given number is Even or Odd.**Aim:-To check whether the given number is even or odd.****Description:**

A number exactly divisible by 2 leaving no remainder, is known as even number. Programmatically, if any number modulo divided by 2 equals to 0 then, the number is even otherwise odd.

ALGORITHM:

- 1) Start
- 2) Read number from user in num variable
- 3) Even-odd(n)

If $(n \% 2 = 0)$ then

- 4) Print number is even
- 5) else
- 6) Print number is odd
- 7) Stop.

PROGRAM:

```
#include <stdio.h>
#include<conio.h>
int main()
{
    int num;
    printf("Enter any number to check even or odd: ");
    scanf("%d", &num);
    if(num % 2 == 0)
    {
        printf("Number is Even.");
    }
    else
```

```
{
    printf("Number is Odd.");
}
}
```

INPUT: Enter any number to check even of odd: 2**OUTPUT :** Number is Even**Vivaquestions:**

1. What are the even numbers?
2. What are the odd numbers?
3. What are the assignment operators in c?

Experiment – 6 Conversion of Centimeters into Meters and Kilometers.**Aim:- To perform conversion of centimetres to metres and kilometres**

Description:- This program does the data conversions for this just input a number so that the number entered is in centimeters the output is in meters and kilometers

ALGORITHM:

- 1)Start
- 2) read length in cm(centimeters)
- 3) convert centimeter into meter
Meter=cm/100.0
- 4)Convert centimeter into kilometer
Km=cm/100000.0
- 5)print length in meters meter
- 6) print length in kilometers km.
- 7)stop.

PROGRAM:

```
#include <stdio.h>
#include<conio.h>
int main()
float cm, meter, km;
printf("Enter length in centimeter: ");
scanf("%f", &cm);
meter = cm / 100.0;
km = cm / 100000.0;
printf("Length in Meter = %.2f m \n", meter);
printf("Length in Kilometer = %.2f km", km);
return 0;
}
```

INPUT: Enter length in centimeter3.5**OUTPUT:**

Length in Meter = 0.035000m

Length in Kilometer = 0.000035km

Experiment -7 Print Multiplication Table.**Aim:- To print multiplication table.****Description:**

Input a number from user to generate multiplication table. Store it in some variable say num. To print multiplication table we need to iterate from 1 to 10. Run a loop from 1 to 10, increment 1 on each iteration. The loop structure should look like for(i=1; i<=10; i++). Inside loop generate multiplication table using num * i and print in specified format.

Start

Read Number

Counter = 0

Loop until Counter =10

Add 1 to Counter

Counter X Number

Display Product

End

#include <stdio.h>

int main()

{

int i, num;

printf("Enter number to print table: ");

scanf("%d", &num);

for(i=1; i<=10; i++)

{

printf("%d X %d = %d\n", num, i, (num*i));

}

}

INPUT: Enter number to print table :5**OUTPUT:**

5 X 1 = 5

5 X 2 = 10

5 X 3 = 15

5 X 4 = 20

5 X 5 = 25

5 X 6 = 30

5 X 7 = 35

5 X 8 = 40

5 X 9 = 45

5 X 10 = 50

Vivaquestion:

- 1.What are the input statement in c?
- 2.What are the looping statements?
- 3.What are the increment and decrement operators?

Experiment -8 Biggest among Three Numbers

Aim:-To find biggest number among three.

Description:Input three numbers and compare each numbers with the other numbers by using if statements, finally prints the numerically greatest number.

ALGORITHM:

Step 1: Start

Step 2: Declare variables num1, num2.num3.

Step 3: Read variables a, b and c.

Step 4: num1>num2

 If num1>num3

 Display num1 is the largest number.

 Else

 Display num3 is the largest number.

Else

 If num2>num3

 Display num2 is the largest number.

 Else

 Display num3 is the greatest number.

Step 5: Stop

PROGRAM:

```
#include <stdio.h>
```

```
#include<conio.h>
```

```
void main()
```

```
{
```

```
  int a, b, c;
```

```
  printf("Enter the values of num1, num2 and num3\n");
```

```
  scanf("%d %d %d", &num1, &num2, &num3);
```

```
  printf("num1 = %d\t num2 = %d\t num3 = %d\n", num1, num2, num3);
```

```
    if (a>b)
    {
        if (a>c)
        {
            printf("a is the greatest among three \n");
        }
    }
else
{
    printf("c is the greatest among three \n");
}
}
else if (b> )
    printf("b is the greatest among three \n");
else
    printf("c is the greatest among three \n");
}
```

INPUT: Enter the values of num1,num2.num3

20 34 23

OUTPUT: num2 is greatest among three

Vivaquestions:

- 1.What are the decision making statements?
- 2.What are the relational operators?
- 3.What is nested loop?

Experiment -9 Sum of N natural numbers**Aim:-To find sum of N natural numbers.**

Descriptive logic to find sum of n natural numbers:-Input upper limit to find sum of natural numbers. Store it in some variable say N.Initialize another variable to store sum of numbers say sum = 0.In order to find sum we need to iterate through all natural numbers between 1 to n. Initialize a loop from 1 to N, increment loop counter by 1 for each iteration. The loop structure should look like “**for(i=1; i<=N; i++)**”.Inside the loop add previous value of sum with i. Which is sum = sum + i.Finally after loop print the value of sum.

ALGOROTHAM:

- 1) Start
- 2) Read n.
- 3) Initialize i=1.
- 4) Initialize sum =0.
- 5) Calculate sum=sum+i.
- 6) calculate i=i+1
- 7) If i<=n, then goto step 7 else goto step 5.
- 8) Print the sum .
- 9) Stop.

PROGRAM:

```
#include <stdio.h>
#include<conio.h>
int main()
{
    int i, n, sum=0;
    /* Input upper limit from user */
    printf("Enter upper limit: ");
    scanf("%d", &n);
    /* Find sum of all numbers */
    for(i=1; i<=n; i++)
    {
```

```
        sum += i;
    }
```

```
    printf("Sum of first %d natural numbers = %d", n, sum);
}
```

INPUT: Enter upper limit : 2**OUTPUT :** Sum of first 2 natural numbers = 3**Vivaquestions:**

- 1.What are the natural numbers?
- 2.What is iteration?
- 3.What is exit control loop?

Experiment -10 Palindrome number

Aim:-To check the given number is palindrome or not.

Description:-Input a number from user. Store it in some variable say num.Find reverse of the given number. Store it in some variable say reverse.Compare num with reverse. If both are same then the number is palindrome otherwise not.

ALGORITHMAM:

```

1) Start
2)input n
3)rev = 0, num=n
4) while(n!=0)
begin
rev = (rev * 10) + (n % 10);
n =n/ 10;
end
5) if(rev==n)
print 'it is a palindrome'
else
print 'it is not a palindrome'
5) stop

```

PROGRAM:

```

#include <stdio.h>
#include<conio.h>
int main()
{
int n, num, rev = 0;
printf("Enter any number to check palindrome: ");
scanf("%d", &n);
num = n;

```

```

while(n != 0)
{
rev = (rev * 10) + (n % 10);
n /= 10;
}
/* Check if reverse is equal to 'num' or not */
if(rev == num)
{
printf("%d is palindrome.", num);
}
else
{
printf("%d is not palindrome.", num);
}
}

```

INPUT: Enter any number to check palindrome : 121

OUTPUT: 121 is palindrome

INPUT: Enter any number to check palindrome : 123

OUTPUT: 123 is not palindrome

Vivaquestions:

- 1.Give some examples of palindrome numbers?
- 2.Give some examples of palindrome string?
- 3.What is Entry control loop?

Experiment -11**Print the Number Pattern**

Aim:-To print the number pattern given below.

1
123
1234.... Etc.

Description:- Pattern consists of N rows (where N is the total number of rows to be printed). Each row consists of exactly $i * 2 - 1$ columns (where i is the current row number). Iterate through rows, run an outer loop from 1 to N. To print columns, run an inner loop from 1 to $i * 2 - 1$ (where i is the current row number). Inside this loop print the value of j (where j is the current column number).

Algorithm:-

Start

Enter number of rows

```
for(i=1; i<=n; i++)
{
    for(j=1; j<=(i*2-1); j++)
    {
        printf("%d", j);
    }
}
```

Print n

Stop

PROGRAM:-

```
#include <stdio.h>
int main()
{
    int i, j, n;
    printf("Enter number of rows: ");
    scanf("%d", &n);
    for(i=1; i<=N; i++)
    {
```

```
for(j=1; j<=(i*2-1); j++)
    {
        printf("%d", j);
    }

    printf("\n");
}
}
```

INPUT : Enter number of rows : 9

OUTPUT:

```
1
123
12345
123456
1234567
```

Vivaquestions:

1. What is iteration?
- 2.

Experiment-12**Perfect Number**

Aim:-To check a given number is perfect or not.

Description:- C Program checks whether a given number is perfect number. Perfect number is a number which is equal to sum of its divisor. For eg,divisors of 6 are 1,2 and 3. The sum of these divisors is 6. So 6 is called as perfect number.

Algorithm:-

```
Start
Input number
for (i = 1; i <= (number - 1); i++)
rem = number % i;
    if (rem == 0)
sum = sum + i;
if (sum == number)
print the number is perfect number
else
print the number is not perfect number
stop
```

PROGRAM:

```
#include <stdio.h>
int main()
{
    int number, rem, sum = 0, i;
    printf("Enter a Number\n");
    scanf("%d", &number);
    for (i = 1; i <= (number - 1); i++)
    {
        rem = number % i;
```

```
if (rem == 0)
    {
        sum = sum + i;
    }
}
if (sum == number)
    printf("Entered Number is perfect number");
else
    printf("Entered Number is not a perfect number");
return 0;
}
```

INPUT:

Enter a Number 6

OUTPUT:

Entered Number is perfect number

INPUT:

Enter a Number 12

OUTPUT:

Entered Number is not perfect number

Viva questions:

1. Give some examples of perfect numbers?
2. What are the decision making statements?

Experiment -13**Fibonacci Series****Aim:-To generate a Fibonacci series**

Description:- C Program generates fibonacci series. In fibonacci series the first two numbers in the Fibonacci sequence are 0 and 1 and each subsequent number is the sum of the previous two. For example fibonacci series is 0, 1, 1, 2, 3, 5, 8,13, 21.....

ALGORITHM:

- 1)Start
- 2)Declare variables i, fib1,fib2 , fib3
- 3)Initialize the variables, fib1=0, fib2=1, and fib3
- 4)Enter the number of terms of Fibonacci series to be printed
- 5)print First two terms of series
- 6)initialize count=2
- 7while(count<=n)
 - fib3=fib1+fib2
 - count++
 - fib1=fib2
 - fib2=fib3
 - increase the value of count each time by 1 to print fib3
- 8)stop

PROGRAM

```
#include <stdio.h>
void main()
{
    int fib1 = 0, fib2 = 1, fib3, limit, count = 0;
    printf("Enter the number to generate the Fibonacci Series \n");
    scanf("%d", &n);
    printf("Fibonacci Series is ...\n");
    printf("%d\n", fib1);
```

```
printf("%d\n", fib2);
    count = 2;
    while (count <=n)
    {
        fib3 = fib1 + fib2;
        count++;
        printf("%d\n", fib3);
        fib1 = fib2;
        fib2 = fib3;
    }
}
```

INPUT:

Enter the limit to generate the Fibonacci Series5

OUTPUT:

Fibonacci Series is 011235

Viva questions:

- 1.What is difference between while and do-while statement?
- 2.What is increment and decrement operators?

Experiment -14**Armstrong number**

Aim:-To check the given number is Armstrong number or not.

Description:

An Armstrong number of 3 digits, the sum of cubes of each digits is equal to the number itself. For example: $153 = 1*1*1 + 5*5*5 + 3*3*3=153$ is an Armstrong number.

ALGORITHM:

1. Start
2. Read n
- 3.num=n
- 4.result=0
5. If n is not equal to 0,
begin
remainder=n%10
result += remainder*remainder*remainder;
n=n/10;
end
- 6 if result=num
Print the given number is Armstrong number
Else
7. print the given number is not Armstrong number
8. Stop

PROGRAM:

```
#include <stdio.h>
int main()
{
    int num, n, remainder, result = 0;
    printf("Enter a three digit integer: ");
    scanf("%d", &n);
    num = n;
    while (n != 0)
```

```
{
    remainder = n%10;
    result += remainder*remainder*remainder;
    n=n/10;
}

if(result == num)
    printf("%d is an Armstrong number.",number);
else
    printf("%d is not an Armstrong number.",number);
return 0;
}
```

INPUT:

Enter a three digit integer: 370

OUTPUT:

370 is an Armstrong number.

INPUT:

Enter a three digit integer:120

OUTPUT:

120 is not an armstrong number.

Vivaquestions:

1. Give some examples of Armstrong numbers?
2. What are the looping statements?

Experiment -15 Factorial of a Given number Using functions

Aim:-To find the Factorial of a given number Using user defined function.

Description:The factorial of a positive integer n is equal to $1*2*3*...n$. You will learn to calculate the factorial of a number using for loop in this example.

ALGORITHM:

Step 1: Start

Step 2: Declare variables number ,factorial and i.

Step 3: Initialize variables

factorial←1

i←1

Step 4: Read value of n

Step 5: Repeat the steps until i=n

factorial←factorial*i

i←i+1

Step 6: Display factorial

Step 7: Stop

PROGRAM:-

```
#include<stdio.h>
```

```
long factorial(int);
```

```
main()
```

```
{
```

```
int number;
```

```
long fact = 1;
```

```
printf("Enter a number to calculate it's factorial\n");
```

```
scanf("%d",&number);
```

```
printf("Factorial of %d = %d\n", number, factorial(number));
```

```
return 0;
```

```
}
```

```
long factorial(int n)
```

```
{
int i ;
long result = 1;
for( i = 1 ; i<= n ; i++ )
result = result*i;
return ( result );
}
```

INPUT : Enter a number to calculate it's factorial 5

OUTPUT :Factorial of 5 = 120

Viva questions:

- 1.How many bytes for long integer?
- 2.What is factorial of 8 number?
- 3.What is function?

Experiment -16**Addition of Matrices****Aim:-To perform Addition of 2 Two Dimensional Matrices.****Description: Addition of two matrices is only possible if both matrices are of same size.****ALGORITHM:**

1. Start
2. Declare variables and initialize necessary variables
3. Enter the element of matrices by row wise using loops
4. Check the number of rows and column of first and second matrices
5. If number of rows of first matrix is equal to the number of columns of second matrix, go to step 6. Otherwise, print matrix addition is not possible and go to step 3.
- 6.add the matrices using nested loops.
7. Print the addition in matrix form as console output.
- 8.Stop

```
#include <stdio.h>
```

```
int main()
{
    int m, n, i, j, a[10][10], b[10][10], c[10][10];
    printf("Enter the number of rows and columns of a matrix:\n");
    scanf("%d%d", &m, &n);
    printf("Enter the number of rows and columns of b matrix:\n");
    scanf("%d%d", &p, &q);
    if((m!=p)|| (n!=q))
    {
        Printf("matrices not compatible for addition\n")
    }
    else
    printf("Enter the elements of first matrix:\n");
    for (i = 0; i < m; i++)
        for (dj= 0; j < n; j++)
```

```
        scanf("%d", &a[i][j]);
    printf("Enter the elements of second matrix:\n");
    for (i = 0; i < m; i++)
        for (j = 0 ; j < n; j++)
            scanf("%d", &b[i][j]);
    printf("Sum of entered matrices:-\n");
    for (i = 0; i < m; i++) {
        for (j = 0 ; j < n; j++) {
            c[i][j] = a[i][j] + b[i][j];
            printf("%d\t", c[i][j]);
        }
        printf("\n");
    }
    return 0;
}
```

input :Enter the number of rows and columns of a matrix:2 2
 Enter the number of rows and columns of b matrix:2 2
 Enter the elements of first matrix: 4 8 1 5
 Enter the elements of second matrix: 2 1 6 8
output : Sum of entered matrices :- 6 9
 6 9

Viva questions:

- 1.What is array?
- 2.What is the use of array?
- 3.What is nested loop?

Experiment -17**Multiplication of Two Matrices****Aim:- To find the Product of Two Dimensional Matrices****Description:** Multiplication of two matrixes is only possible if first matrix has size $m \times n$ and other matrix has size $n \times r$.**ALGORITHM:**

1. Start
2. Declare variables and initialize necessary variables
3. Enter the element of matrices by row wise using loops
4. Check the number of rows and column of first and second matrices
5. If number of rows of first matrix is equal to the number of columns of second matrix, go to step 6. Otherwise, print matrix multiplication is not possible and go to step 3.
6. Multiply the matrices using nested loops.
7. Print the product in matrix form as console output.
8. Stop

PROGRAM

```
#include <stdio.h>
int main(){
    int m, n, p, q, c, d, k, sum = 0;
    int a[10][10], b[10][10], product[10][10];
    printf("Enter number of rows and columns of first matrix\n");
    scanf("%d%d", &m, &n);
    printf("Enter number of rows and columns of second matrix\n");
    scanf("%d%d", &p, &q);
    if (n != p)
        printf("The matrices can't be multiplied with each other.\n");
    else
    {
        printf("Enter elements of first matrix\n");
        for (i = 0; i < m; i++)
            for (j = 0; j < n; j++)
                scanf("%d", &a[i][j]);
        printf("Enter elements of second matrix\n");
        for (i = 0; i < p; i++)
```

```
            for (j = 0; j < q; j++)
                scanf("%d", &b[c][d]);

            for (i = 0; i < m; i++) {
                for (j = 0; j < q; j++) {
                    for (k = 0; k < p; k++)
                    {
                        product = sum + first[c][k]*second[k][d];
                    }
                    multiply[c][d] = sum;
                    sum = 0;
                }
            }
            printf("Product of the matrices:\n");
            for (c = 0; c < m; c++) {
                for (d = 0; d < q; d++)
                    printf("%d\t", multiply[c][d]);
                printf("\n");
            }
            return 0;
        }
    }
```

input : Enter number of rows and columns of first matrix 2 2
 Enter elements of first matrix : 5 2 3 2
 Enter elements of second matrix : 4 1 2 4

output : Product of the matrices: 24 13 16 9

Viva questions?

1. What is two dimensional array?
2. What is array size?
3. What is string?

Experiment -18**Sorting Elements in Ascending order**

To sort the elements in ascending order using arrays.

Description:-This program will implement a one-dimensional array of some fixed size, filled with some random numbers, then will sort all the filled elements of the array.

1. Create an array of fixed size (maximum capacity), lets say 10.
2. Take n, a variable which stores the number of elements of the array, less than maximum capacity of array.
3. Iterate via for loop to take array elements as input, and print them.
4. The array elements are in unsorted fashion, to sort them, make a nested loop.
5. In the nested loop, the each element will be compared to all the elements below it.
6. In case the element is greater than the element present below it, then they are interchanged
7. After executing the nested loop, we will obtain an array in ascending order arranged elements.

PROGRAM:

```
#include <stdio.h>
#include<conio.h>
void main() {
    int i, j, a, n, number[30];
    printf("Enter the value of N \n");
    scanf("%d", &n);

    printf("Enter the numbers \n");
    for (i = 0; i < n; ++i)
        scanf("%d", &number[i]);
    for (i = 0; i < n; ++i) {
        for (j = i + 1; j < n; ++j) {
            if (number[i] > number[j])
```

```
{
    a = number[i];
        number[i] = number[j];
        number[j] = a;
    }
}
    printf("The numbers arranged in ascending order are given below
\n");
    for (i = 0; i < n; ++i)
        printf("%d\n", number[i]);
}
```

INPUT : Enter the value of N 5

Enter the numbers 5

15
10
9
4

OUTPUT : The numbers arranged in ascending order are given below

4
5
9
10
15

Viva questions:

1. What is sorting?
2. Define Array?
3. What is nested loop.

Experiment -19 Storing Student information using Structure**Aim:-To Store Information and Display it Using Structure.**

Description:-In this program, a structure, student is created.

This structure has three members: name (string), roll (integer) and marks (float).

Then, we created a structure array of size 50 to store information of 50 students.

Algorithm:-

Start the program

Initialize the structure variable

Enter the name of student

Enter the roll number of the student

Enter the student name, roll no, marks

Print the student name, roll no, and marks

Stop

PROGRAM:-

```
#include <stdio.h>
```

```
struct student
```

```
{  
    char name[50];  
    int roll;  
    float marks;
```

```
} s;
```

```
int main()
```

```
{  
    printf("Enter information:\n");  
    printf("Enter name: ");  
    scanf("%s", s.name);  
    printf("Enter roll number: ");  
    scanf("%d", &s.roll);  
    printf("Enter marks: ");  
    scanf("%f", &s.marks);
```

```
    printf("Displaying Information:\n");  
    printf("Name: ");  
    puts(s.name);  
    printf("Roll number: %d\n",s.roll);  
    printf("Marks: %.1f\n", s.marks);  
    return 0;  
}
```

input : Enter information :

Enter name : geetha

Enter roll number : 12

Enter marks : 66

output : Displaying information :

Name : geetha

Roll number : 12

marks : 66

Viva questions:

1. What is structure?
2. What is difference between structure and array?
3. What is struct?

COMPUTER SCIENCE AND ENGINEERING

First Year (P.C. 319/22)

PAPER – II : Programming in C

QUESTION BANK

Section – I

1. Write and Execute a C-Program to Addition ,Subtraction, Multiplication, Division and Modulus opetation on two integers.
2. Write and execute a C-Program to caluclae Simple Interest.
3. Write and executeC-Program to calculate total, average and percentage based on a student marks.
4. Write and execute C-program to calculate compound interest.
5. Write and execute C-program to check the given number is even or odd.
6. Write and executeC-program to perform conversion of centimetres to metres and kilometres
7. Write and execute C-program to print multiplication table.
8. Write and execute C-Program to find biggest number among three.
9. Write and execute C-Program to find sum of N natural numbers.
10. Write and execute C-Program to check the given number is Palindrome or not.
11. Write and execute C-Program to print the number pattern given below.

1
12
123... etc.

12. Write and execute C-Program to check a given number is perfect or not.
13. Write and execute C-Program to generate a Fibonacci series.
14. Write and execute C-Program to check the given number is Armstrong number or not.
15. Write and execute C-Program to find the Factorial of a given number Using user defined function.
16. Write and execute C-Program for Adding 2 Two Dimensional Matrices.
17. Write and execute C-Program for Multiplication of 2 Two Dimensional Matrices.
18. Write and execute C-Program to sort the elements in ascending order using arrays.

19. Write and execute a C-Program to Store Information and Display it Using Structure.

Section –II

Record : 5

Viva : 5

COMPUTER SCIENCE AND ENGINEERING

First Year

PRACTICAL SCHEME OF VALUATION KEY

**Subject : Programming in 'C' (319 / 22)
Paper – II**

Time : 3 hours

Max. Marks : 50

Section - I

1 x 40 = 40 Marks

1. Write and Execute a C-Program to check the given number is Armstrong or not?

Section-II

Record	:	5 Marks
Viva	:	5 Marks

PAPER – III : ENGINEERING DRAWING

COMPUTER SCIENCE AND ENGINEERING
First Year (319/23)
PAPER – III: ENGINEERING DRAWING
INDEX

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2.	Lettering and Dimensioning.....	98
3.	Dimensioning -rules and systems of dimensioning – dimensioning a given drawing....	103
4.	Bisecting a line - perpendiculars - parallel lines - division of a line.....	108
5.	Tangent lines touching circles internally and externally.....	111
6.	Polygons - Regular polygons - circumscribed and inscribed in circles	112
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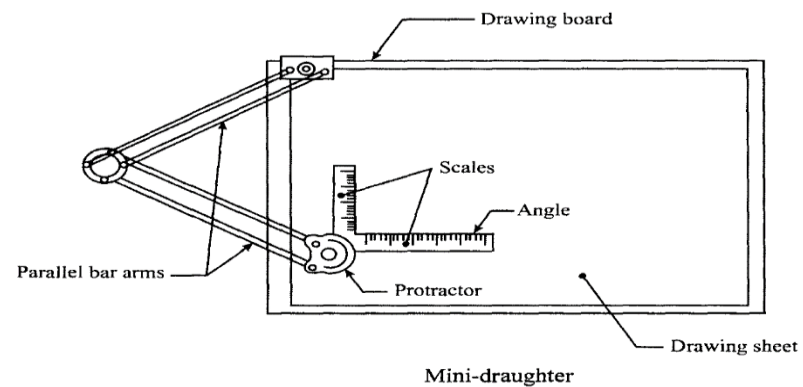
EXPT: 1 Drawing instruments and their uses

Equipment and Instruments:

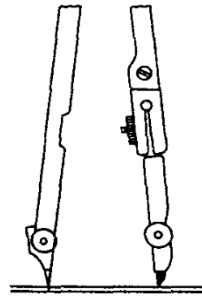
- | | | |
|------------------|-------------------|-------------------|
| 1. Drawing board | 2. Mini drafter | 3. Instrument box |
| 4. Set squares | 5. Protractor | 6. Scales |
| 7. French curves | 8. Drawing sheets | 9. Pencils |
| 10. Templates | 11. T-Square. | |

Drawing board

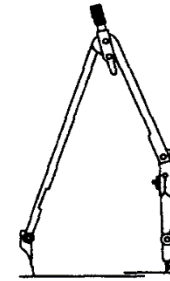
Until recently drawing boards used are made of well seasoned softwood of about 25 mm thick with a working edge for T-square. Nowadays mini-draughters are used instead of T-squares which can be fixed on any board. The standard size of board depends on the size of drawing sheet size required.



Instrument box:



(a) Sharpening and position of
compass lead

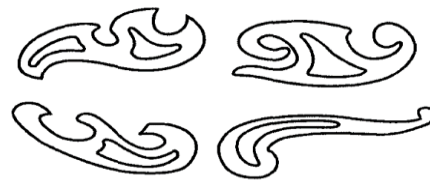


(b) Position of the lead leg to
draw larger circles

Scales are used to make drawing of the objects to proportionate size desired. These are made of wood, steel or plastic BIS recommends eight set-scales in plastic/cardboard with designations M1, M2 and so on as shown in Table 1.1 Set of scales

French Curves

French curves are available in different shapes (Fig. 1.4). First a series of points are plotted along the desired path and then the most suitable curve is made along the edge of the curve. A flexible curve consists of a lead bar inside rubber which bends conveniently to draw a smooth curve through any set of points.



(a) French curves

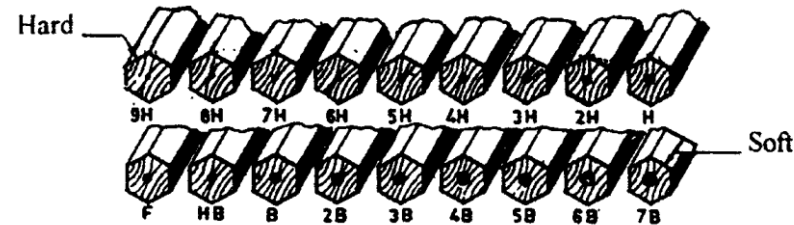


(b) Flexible curve

Templates

Pencils:

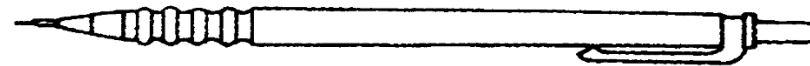
Pencils with leads of different degrees of hardness or grades are available in the market. The hardness or softness of the lead is indicated by 3H, 2H, H, HB, B, 2B, 3B, etc. The grade HB denotes medium hardness of lead used for general purpose. The hardness increases as the value of the numeral before the letter H increases. The lead becomes softer, as the value of the numeral before B increases



Pencil Leads

The selection of the grade depends on the line quality desired for the drawing. Pencils of grades H or 2H may be used for finishing a pencil drawing as these give a sharp black line. Softer grade pencils are used for sketching work. HB grade is recommended for lettering and dimensioning.

Nowadays mechanical pencils are widely used in place of wooden pencils. When these are used, much of the sharpening time can be saved. The number 0.5, 0.70 of the pen indicates the thickness of the line obtained with the lead and the size of the lead diameter. Micro-tip pencils with 0.5 mm thick leads with the following grades are recommended.



Mechanical Pencil

HB Soft grade for Border lines, lettering and free sketching

H Medium grade for Visible outlines, visible edges and boundary lines

2H Hard grade for construction lines, Dimension lines, Leader lines, Extension lines, Centre lines.

Hatching lines and Hidden lines.

DRAWING SHEETS AND SIZES :

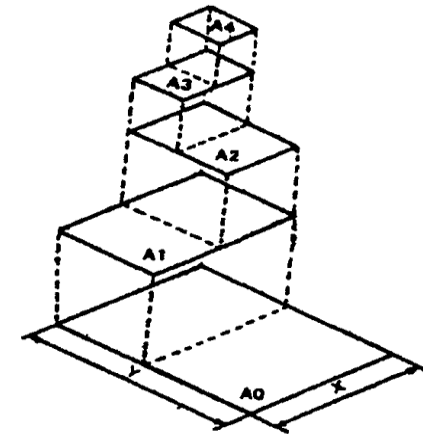
Sheet sizes: A0, A1, A2, A3, A4, A5. Layout of drawing sheet sizes of title block and its contents

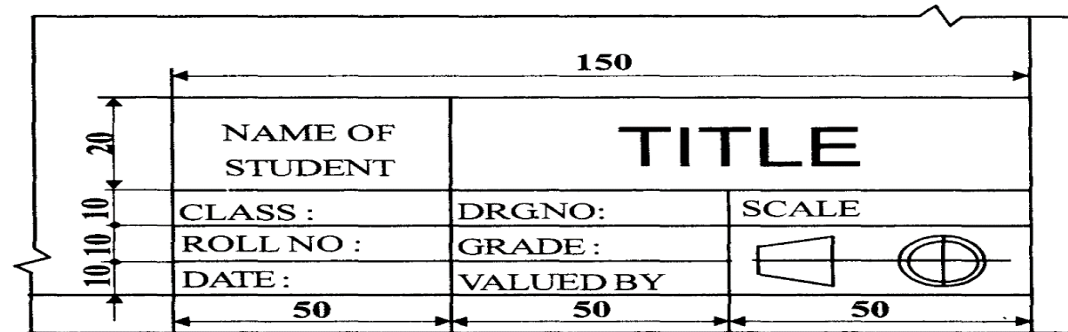
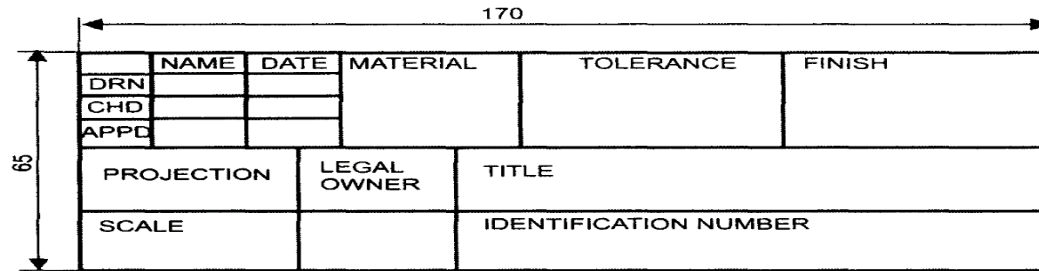
TitleBlock

The title block should lie within the drawing space at the bottom right hand corner of the sheet. The title block can have a maximum length of 170 mm providing the following information.

1. Title of the drawing.
2. Drawing number.
3. Scale.
4. Symbol denoting the method of projection.
5. Name of the firm, and

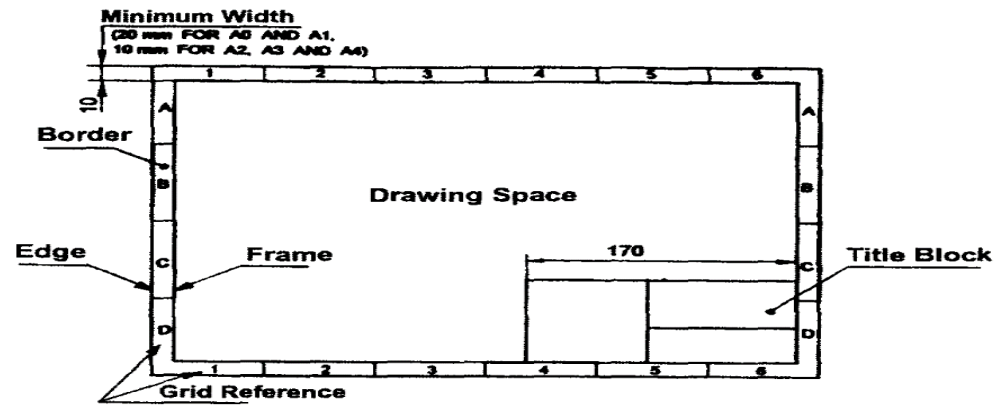
Designation	Dimension, mm Trimmed size
A0	841 × 1189
A1	594 × 841
A2	420 × 594
A3	297 × 420
A4	210 × 297



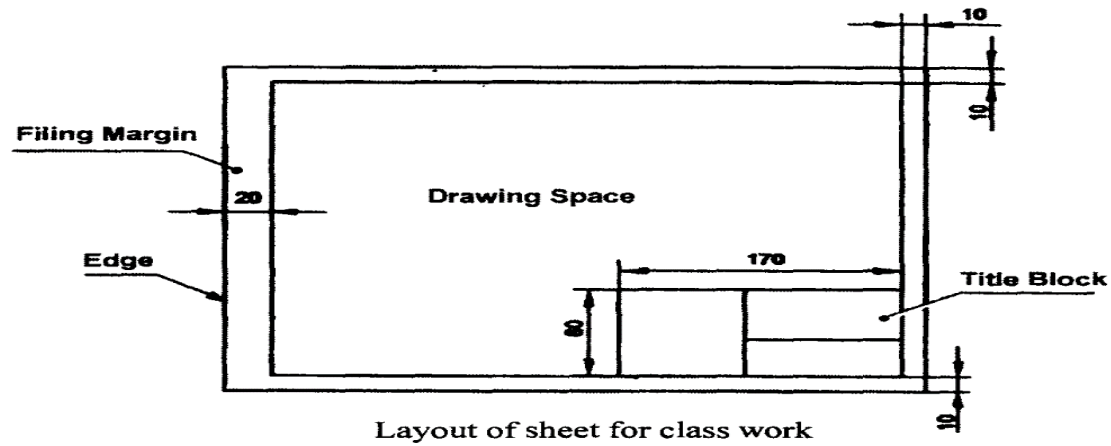


The title block used on shop floor and one suggested for students' class work

Drawing Sheet Layout (IS 10711: 2001)



General features of a drawing sheet



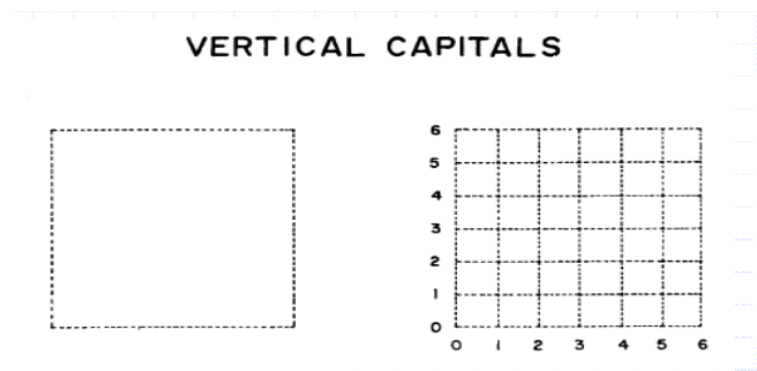
Layout of sheet for class work

EXPT: 2 Lettering and Dimensioning

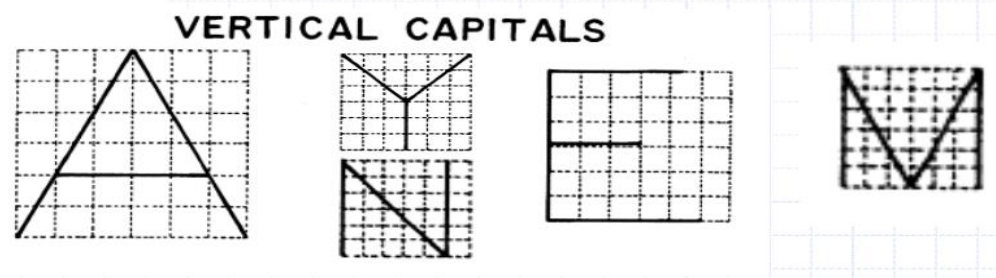
Developing good lettering is a personal skill which takes practice. Letters must be formed properly. They must be open shaped very legible.

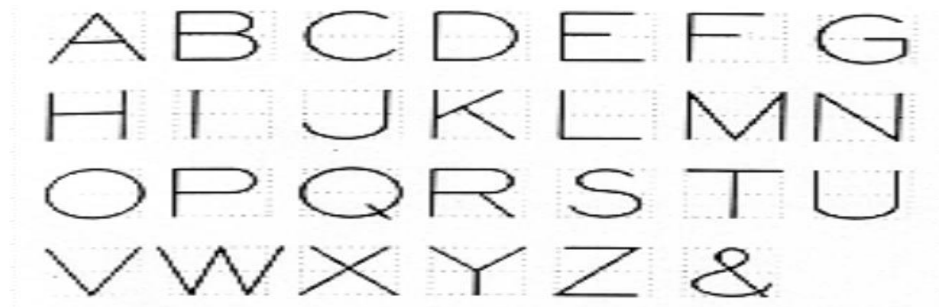
Clear communication is essential to avoid mistakes and reduce waste.

Lettering may be done using a drafting type pencil, lead holder or technical pen. Whichever tool is used, the letters must properly have formed and very black



Vertical capital letters are preferred for most technical work. They are formed within a 6 by 6 grid.

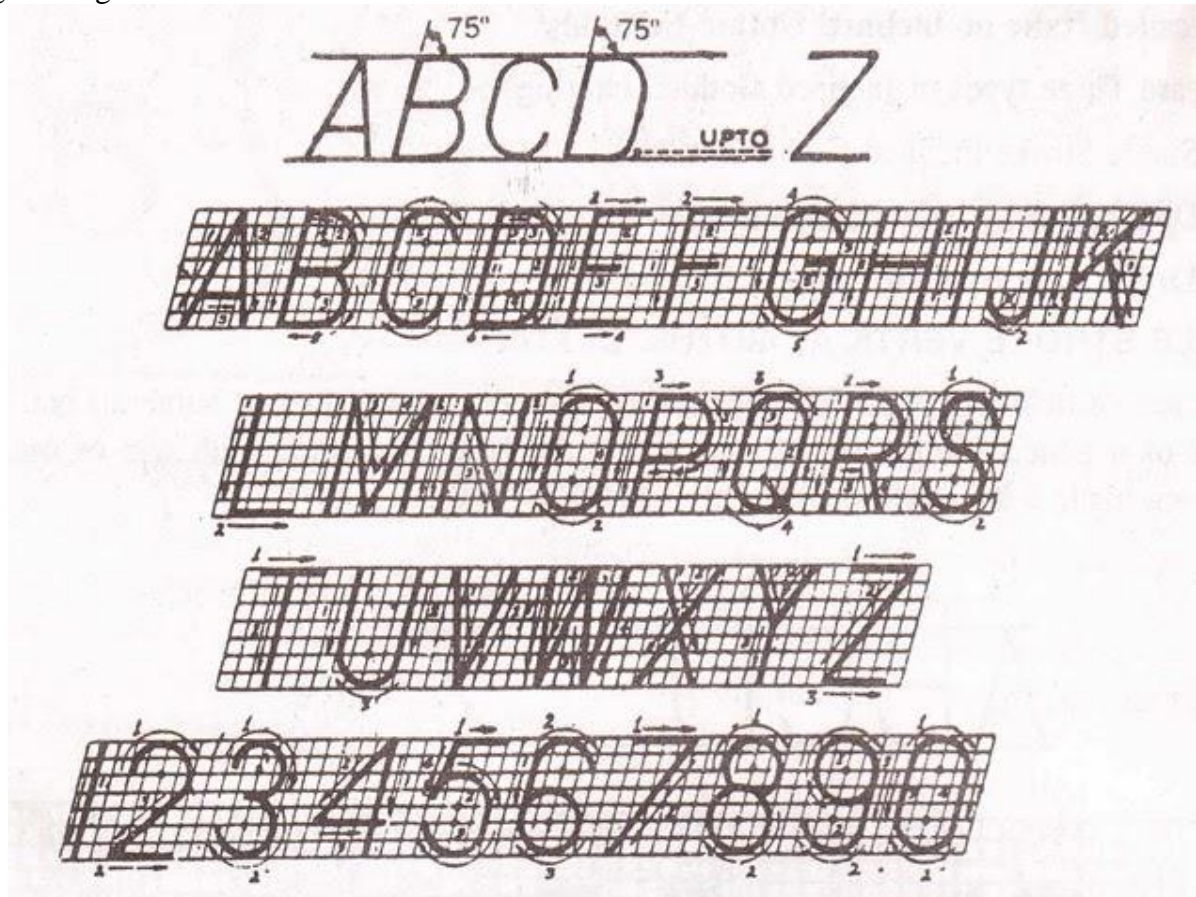




Single Stroke Gothic Lettering



Inclined Lettering



Fractional Lettering:

The diagram illustrates fractional lettering on a grid. It shows two rows of fractions and a bottom row of four examples labeled (a) through (d).

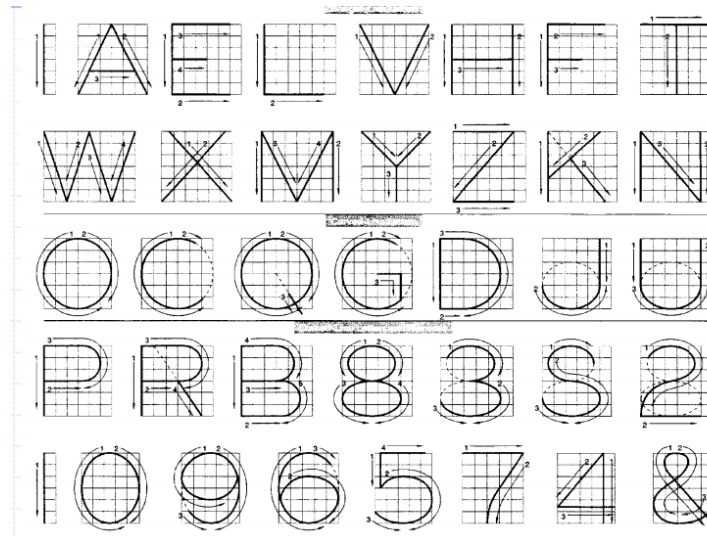
Row 1: Fractions twice as tall
 This row shows three pairs of fractions: $2\frac{1}{2}$, $\frac{3}{4}$, and $4\frac{1}{8}$. Red double-headed arrows indicate the height of the numerators and denominators. A red arrow points to the text "Fractions twice as tall" above the grid.

Row 2: $\frac{1}{16}$ apart
 This row shows three pairs of fractions: $3\frac{7}{8}$, $6\frac{3}{8}$, and $\frac{5}{6}$. A red arrow points to the text " $\frac{1}{16}$ apart" above the grid.

Row 3: Spacing examples
 This row shows four examples of fraction spacing, each with a blue arrow pointing to the word "RIGHT" and a label below it.

- (a) $\frac{5}{8}$ with a space between the numerator and denominator. The label "Wrong!" is placed below the second $\frac{5}{8}$.
- (b) $\frac{1}{4}$ with a space between the numerator and denominator. The label "Wrong!" is placed below the second $\frac{1}{4}$.
- (c) $\frac{1}{2}$ with a space between the numerator and denominator. The label "Wrong!" is placed below the second $\frac{1}{2}$.
- (d) $\frac{25}{32}$ with a space between the numerator and denominator. The label "Wrong!" is placed below the second $\frac{25}{32}$.

 The word "Spaces" is written above the first example.



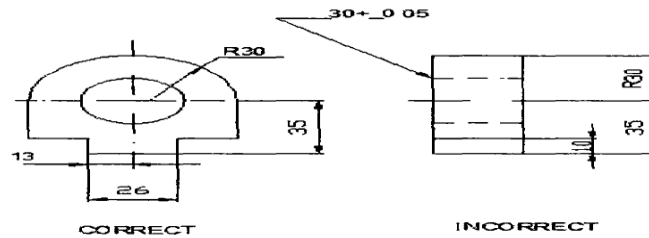
Lettering – Vertical Gothic Font

Lettering Proportions

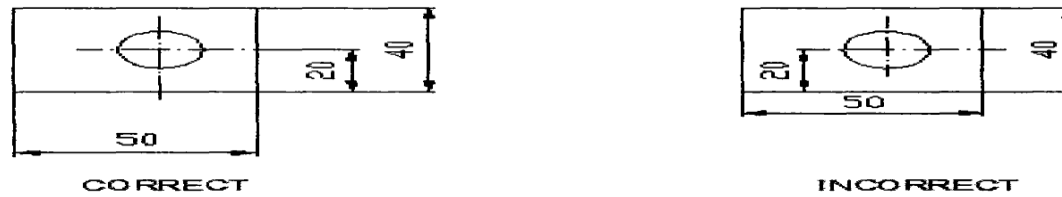
Recommended Size (height h) of Letters / Numerals	
Main Title	5 mm, 7 mm, 10 mm
Sub-Titles	3.5 mm, 5 mm
Dimensions, Notes, etc.	2.5 mm, 3.5 mm, 5 mm

EXPT: 3 Dimensioning -rules and systems of dimensioning – dimensioning a given drawing

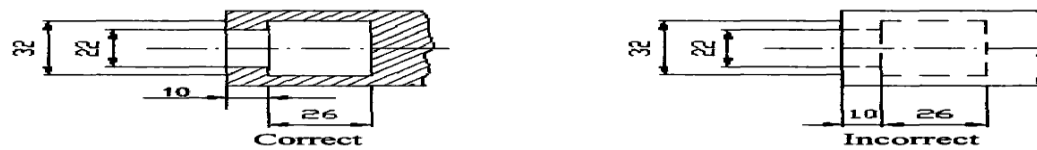
Drawing of a compo Indent, in addition to providing complete shape description, must also furnish information regarding the size description. These are provided through the distances between the surfaces, location of holes, nature of surface finish, type of material, etc. The expression of these features on a drawing, using lines, symbols, figures and notes is called dimensioning.



Placing the Dimensions where the Shape is Best Shown



Placing Dimensions Outside the View

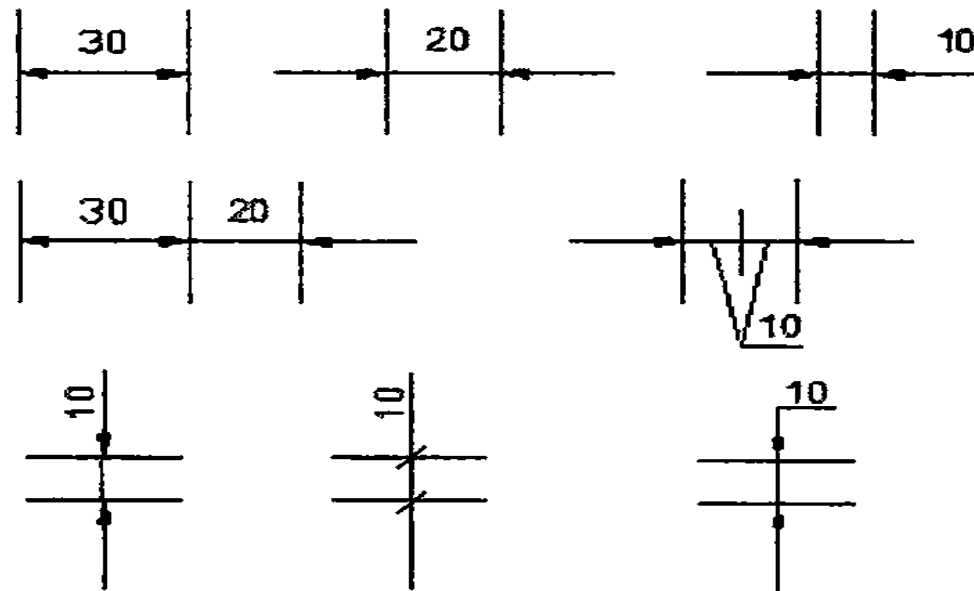


Marking the dimensions from the visible outlines

Execution of Dimensions

Projection and dimension lines should be drawn as thin continuous lines. projection lines should extend slightly beyond the respective dimension line.

Projection lines should be drawn perpendicular to the feature being dimensioned. If the space for dimensioning is insufficient, the arrow heads may be reversed and the adjacent arrow heads may be replaced by a dot (Fig.2.19). However, they may be drawn obliquely, but parallel to each other in special cases, such as on tapered feature (Fig.2.20).



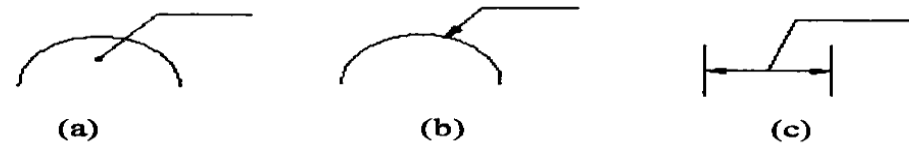
Dimensioning in Narrow Spaces

A leader line is a line referring to a feature (object, outline, dimension). Leader lines should be inclined to the horizontal at an angle greater than 30° . Leader line should terminate,

(a) with a dot, if they end within the outline of an object (Fig.2.21a).

(b) with an arrow head, if they end on outside of the object (Fig.2.21b).

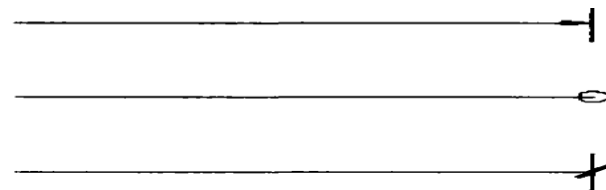
(c) without a dot or arrow head, if they end on dimension line (Fig.2.21c).



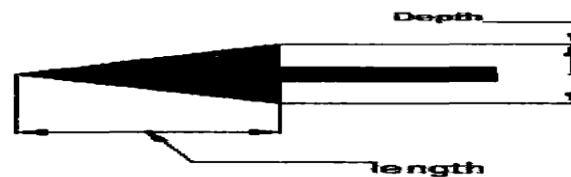
Termination of leader lines

Dimension Termination and Origin Indication

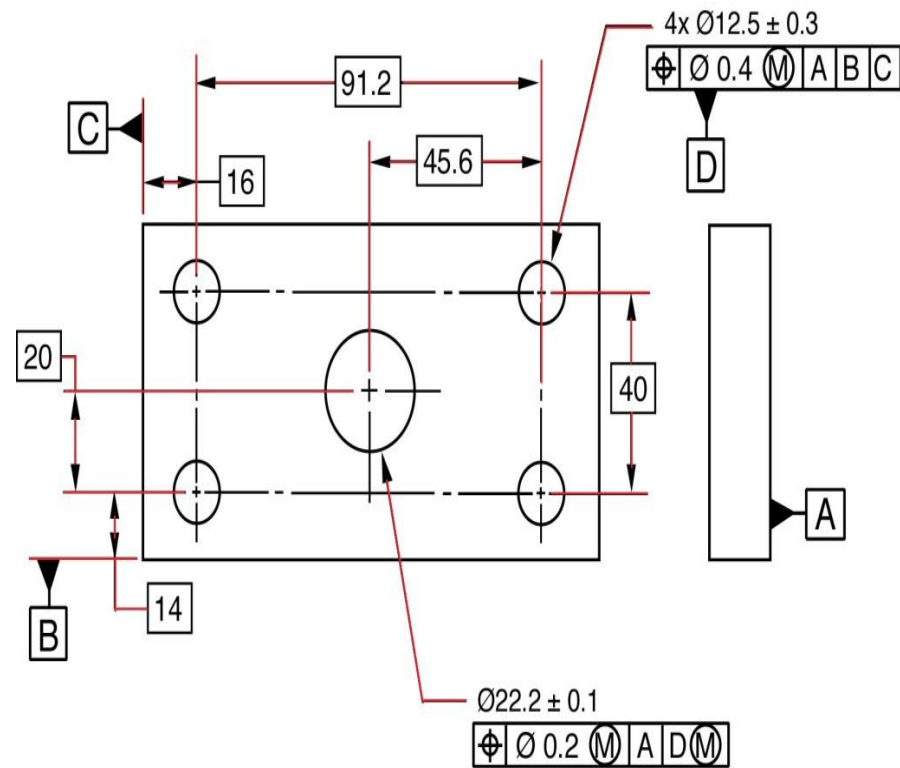
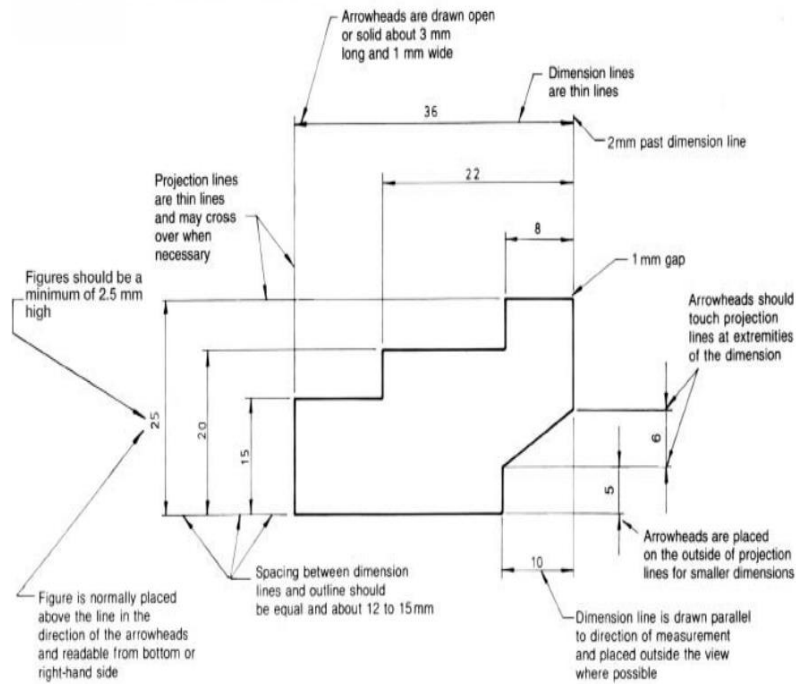
Dimension lines should show distinct termination in the form of arrow heads or oblique strokes or where applicable an origin indication (Fig.2.22). The arrow head included angle is 15°. The origin indication is drawn as a small open circle of approximately 3 mm in diameter. The proportion length to depth 3 : 1 of arrow head is shown in Fig.2.23.

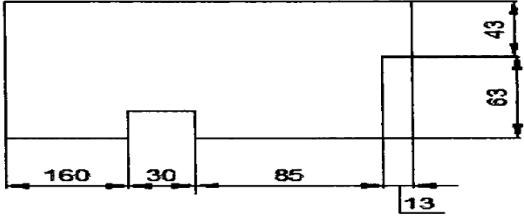


Termination of Dimension Line

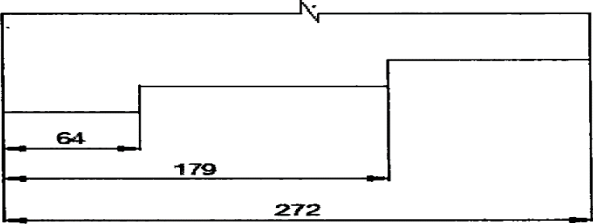


Proportions of an Arrow Head



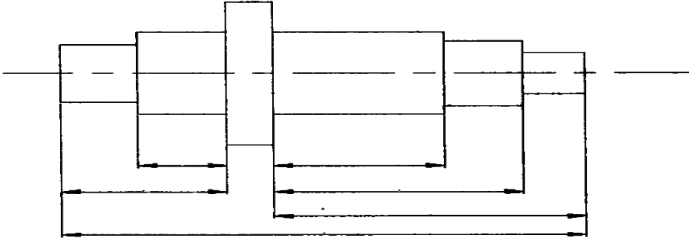


Chain Dimensioning



Parallel Dimensioning

Different types of Dimensions:



Combined Dimensioning

UNIDIRECTIONAL AND ALIGNED DIMENSIONING :

EXPT: 4 Bisecting a line - perpendiculars - parallel lines - division of a line

Perpendicular Lines to a Line at a Point:

Method:-1

Step 1: Using P as a center, make two arcs of equal radius or more continuous arc (R1) to intercept line A-B on either side of point P, at points S and T.

Step 2: Swing larger but equal arcs (R2) from each of points S and T to cross each other at point U.

Step 3: A line from P to U is perpendicular to line A-B at point

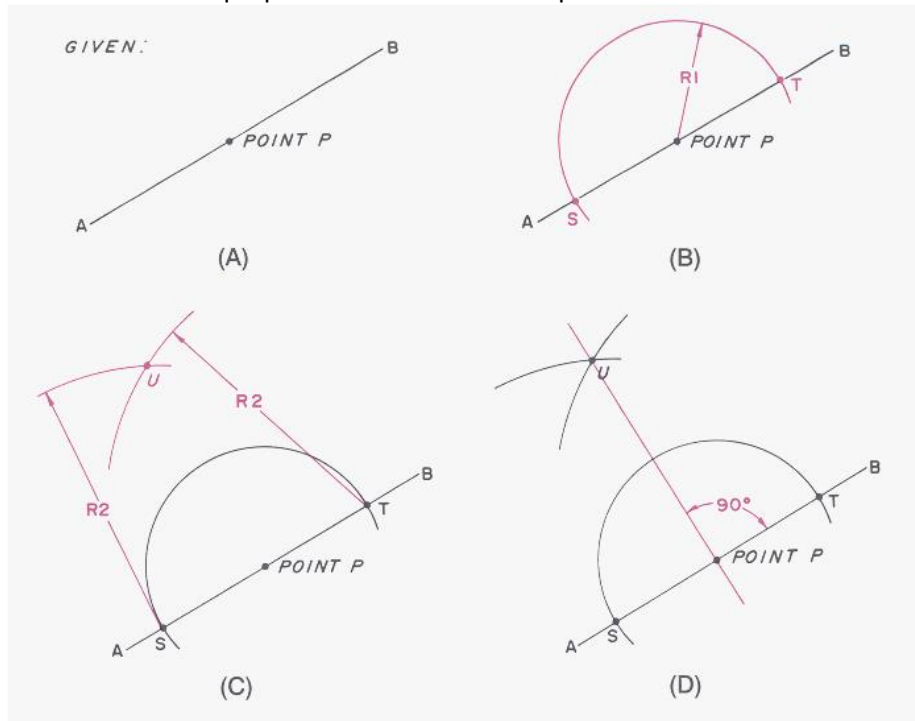
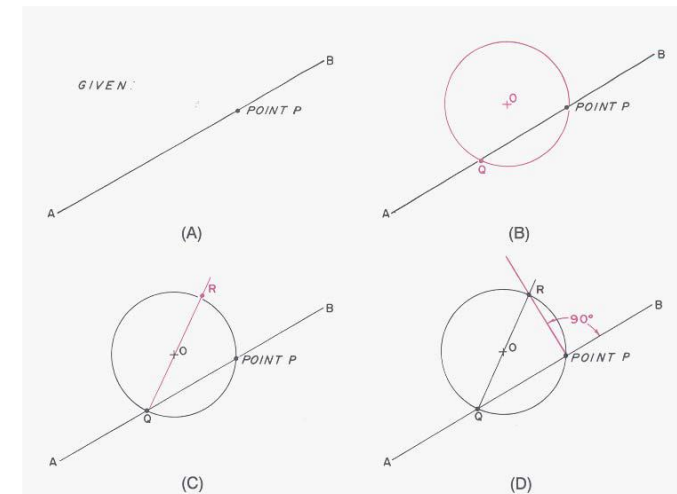


Figure 1 perpendicular line, to a point outside the line

Method 2



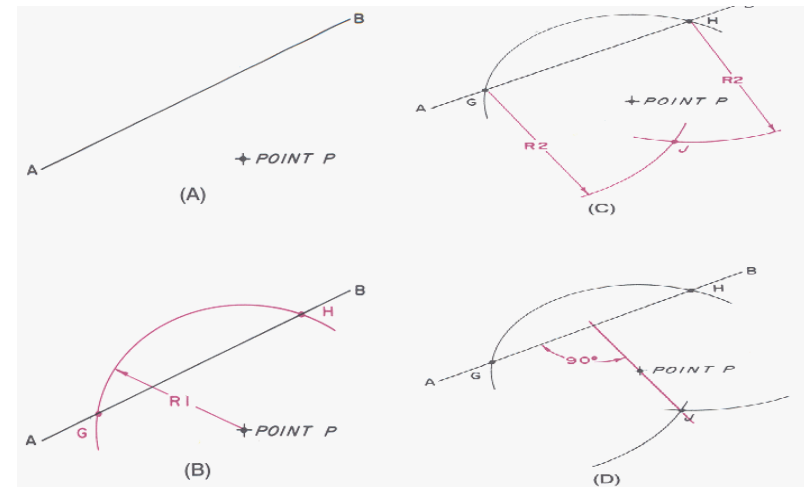
Given: Line A-B with point P on the line. Step 1: Swing an arc of any convenient radius whose center O is at any convenient location NOT on line A-B, but positioned to make the arc cross line A-B at points P and Q. Step 2: A line from point Q through center O intercepts the opposite side of the arc at point R. Step 3: Line R-P is perpendicular to line A-B (A right angle has been inscribed in a semicircle)

Figure 2 draw a perpendicular line, to a point on the line

Perpendicular to a line from a Point Not on the Line

Given: Line A-B and point P. Step 1: Using P as a center, swing an arc (R1) to intercept line A-B at points G and H. Step 2: Swing larger, but equal length arcs (R2) from each of the points G and H to intercept each other at point J. Step 3: Line P-J is perpendicular to line A-B

Figure 3 draw a perpendicular line, to a point outside the line



DIVIDE A LINE IN TO Number of EQUALPARTS:

Given: Line A-B. Step 1: Draw a construction line AC that starts at end A of given line AB. This new line is longer than the given line and makes an angle of not more than 30° with it. Step 2: Find a scale that will approximately divide the line AB into the number of parts needed (11 in the example below), and mark these divisions on the line AC. There are now 'n' equal divisions from A to D that lie on the line AC (11 in this example). Step 3: Set the adjustable triangle to draw a construction line from point D to point B. Then draw construction lines through each of the remaining 'n-1' divisions parallel to the first line BD by sliding the triangle along the straight edge. The original line AB will now be accurately divided.

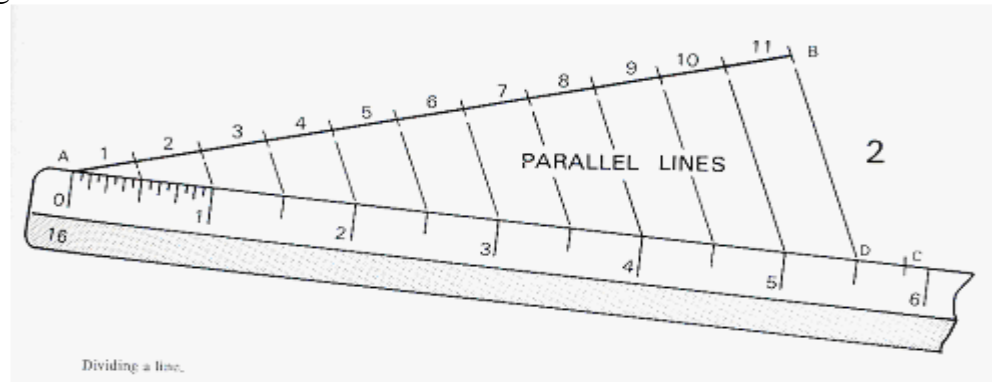
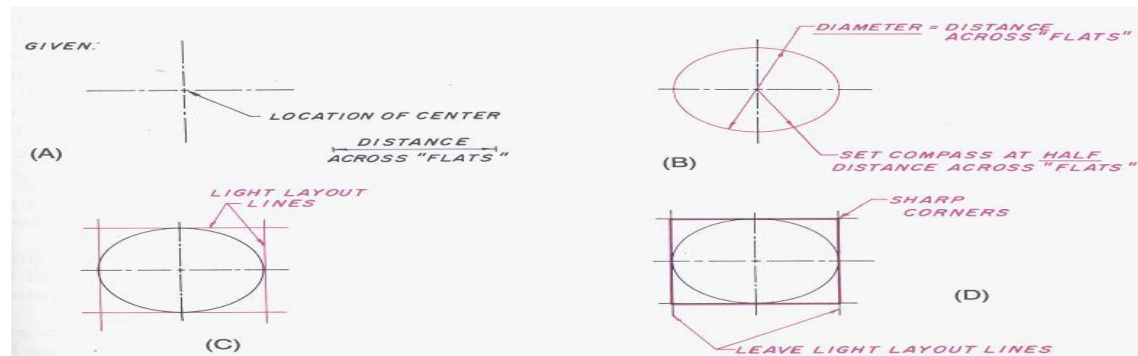


Figure 4 divide a line in to a number of equal parts



EXPT: 5 Tangent lines touching circles internally and externally**To Draw A Circle Tangent to a Line at a Given Point**

Given: Given line AB and a point on the line.

Step 1: At P erect a perpendicular to the line.

Step 2: Set off the radius of the required circle on the perpendicular.

Step 3: Draw circle with radius CP.

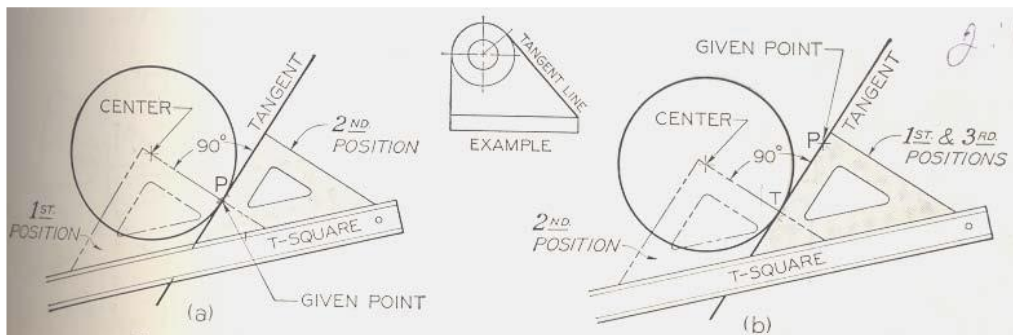
To Draw a Tangent to A Circle through a Point**Method-1**

Given: Point P on the circle.

Move the T-square and triangle as a unit until one side of the triangle passes through the point P and the center of the circle; then slide the triangle until the other side passes through point P, and draw the required tangent.

Method-2

Given: Point P outside the circle. Move the T-square and triangles as a unit until one side of the triangle passes through point P and, by inspection, is the tangent to the circle; and then slide the triangle until the other side passes through the center of the circle, and lightly mark the point of tangency T. Finally move the triangle back to its starting position and draw the required tangent.



EXPT: 6 Polygons - Regular polygons - circumscribed and inscribed in circles**How to Draw a Square****Method-1**

Given: The locations of the center and the required distance across the sides of a square.

Step 1: Lightly draw a circle with a diameter equal to the distance around the sides of the square. Set the compass at half the required diameter.

Step 2: Using triangles, lightly complete the square by constructing tangent lines to the circle. Allow the light construction lines to project from the square, with outerasing them.

Step 3: Check to see that there are four equal sides and, if so, darken in the actual square using the correct line thickness.

Method-2

Given one side AB. Through point A, draw a perpendicular. With A as a center, and AB as radius; draw the arc to intersect the perpendicular at C. With B and C as centers, and AB as radius, strike arcs to intersect at D. Draw line CD and BD.

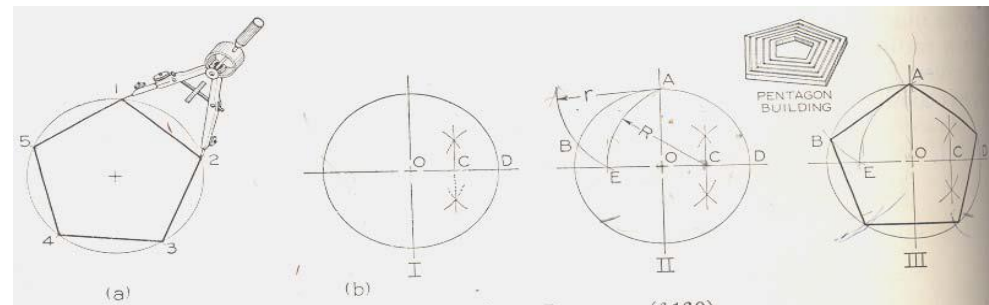
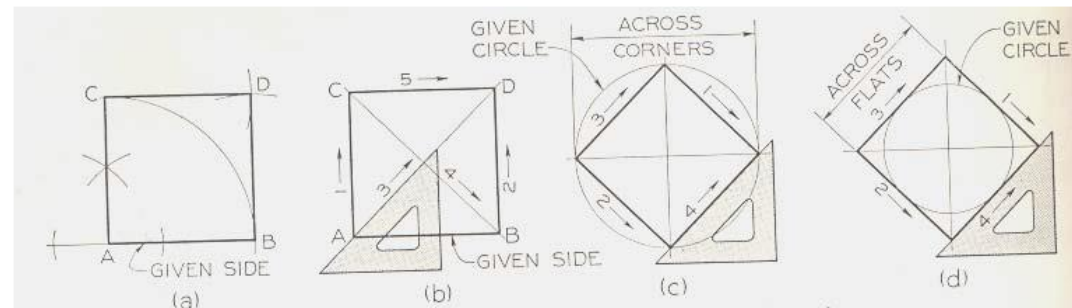
L. How to Draw A Pentagon (5 Sides)

Given: The locations of the pentagon center and the diameter that will circumscribe the pentagon.

Step 1: Bisect radius OD at C.

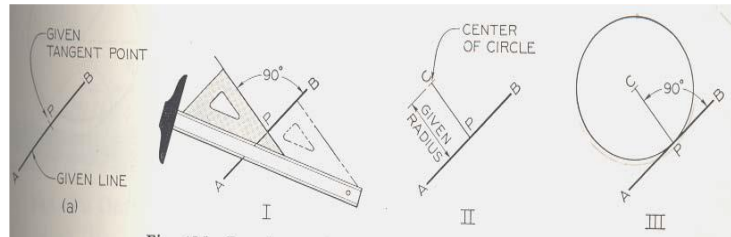
Step 2: With C as center, and CA as radius, strike arc AE. With A as center, and AE as radius, strike arc EB.

Step 3: Draw line AB, then set off distances AB around the circumference of the circle and draw the sides through these points.

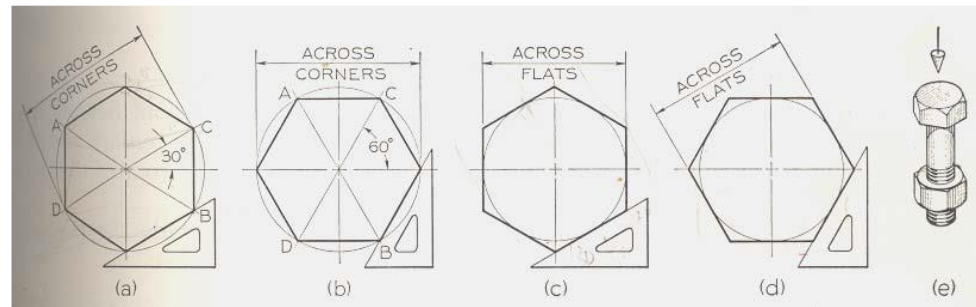
How to Draw A Hexagon (6 Sides)**To Draw Any Sided Regular Polygon**

To construct a regular polygon with a specific number of sides, divide the given diameter using the parallel line method as shown in fig below.

In this example, let us assume seven-sided regular polygon. Construct an equilateral triangle (0-7-8) with the diameter (0-7) as one of its sides.



Draw a line from the apex (point 8) through the second point on the line (point2).
 Extend line 8-2 until it intersects the circle at point 9. Radius 0-9 will be the size of each side of the figure. Using radius 0-9 step off the corners of the seven sides polygon and connect the points.

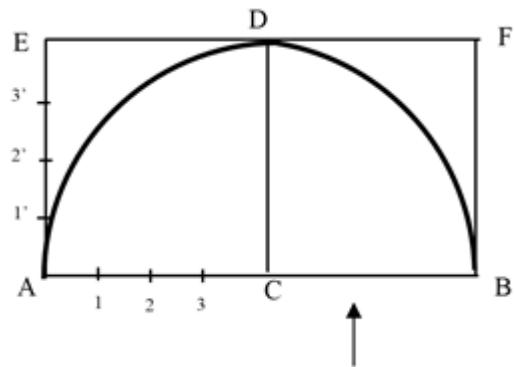
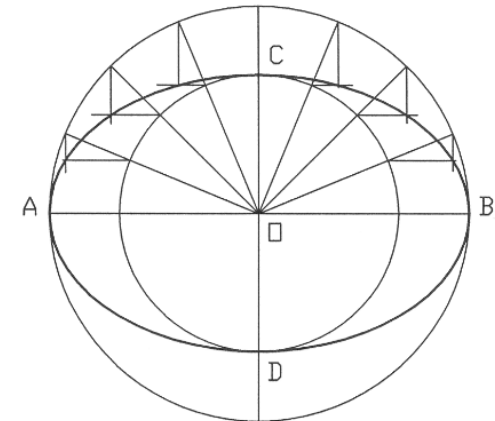


EXPT: 7 Conic sections - Definitions of focus, directrix, eccentricity

Construction of Ellipse by Concentric circles method

Procedure:

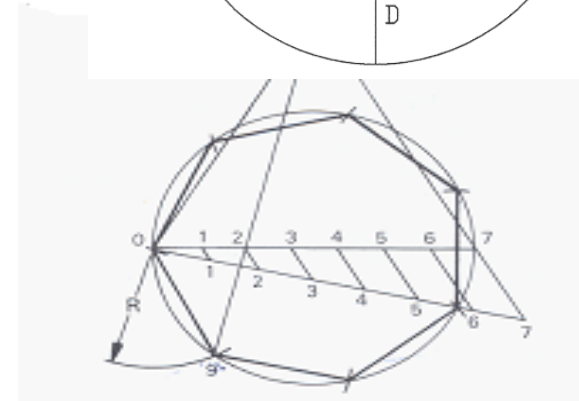
1. The procedure for drawing an ellipse by the Concentric Circle method is described below: Two circles are drawn with the major and minor diameters of 60 mm and 40 mm respectively.
2. Then the circle is divided into a number of equal radial divisions. They intersect both the inner and the outer circles of minor and major diameters respectively.
3. Now from the intersecting points of the outer circle and the inner circle vertical and horizontal lines are drawn respectively.
4. The intersecting points of the vertical and the horizontal lines give the locus of the ellipse. They are joined to obtain the required ellipse.



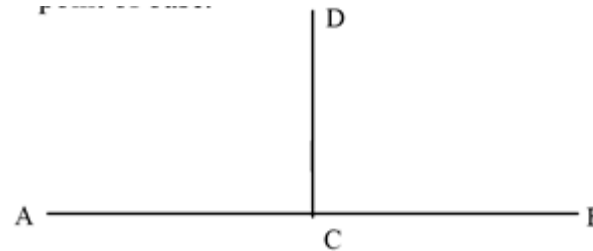
Construction of parabola by rectangular method.

The two parabolas can be drawn by oblong (rectangle method) such that their axes meet at a point. We need to draw 2 parabolas in different directions.

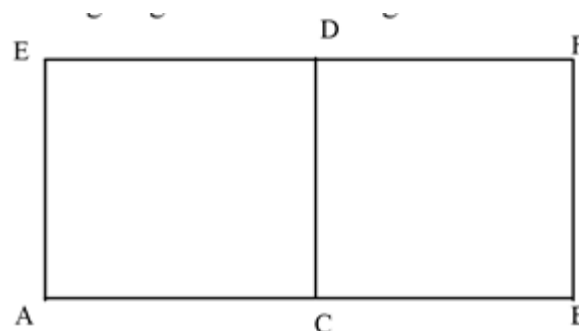
1. Draw base AB=125, & axis CD = 85 at mid point of base.



at



2. Construct a rectangle on ABCD by taking length as 125 and height as 85.

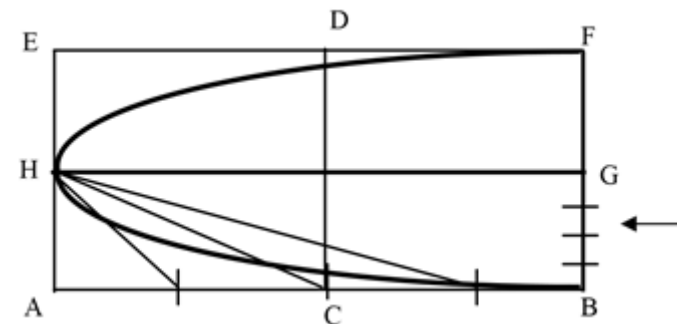


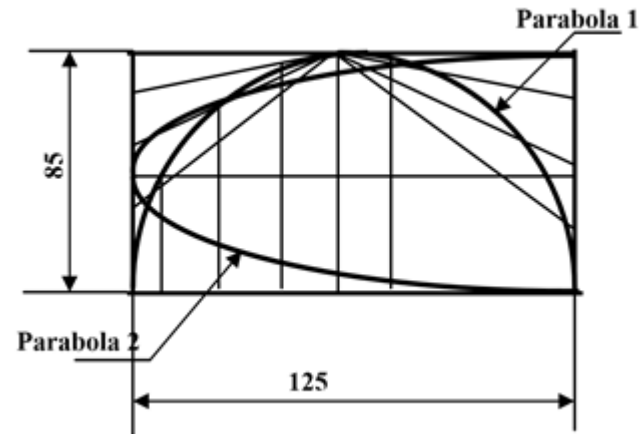
3. Divide AC & AE into same no. of equal parts & label them as 1,2,3.. & 1',2',3'...

Draw the parabola obtained in two equal parts of rectangle by symmetry.

For the 2nd parabola, draw an axis GH at midpoint of CD at 90° to it. Now, BF becomes the base and GH becomes the axis. Draw the parabola by oblong method.

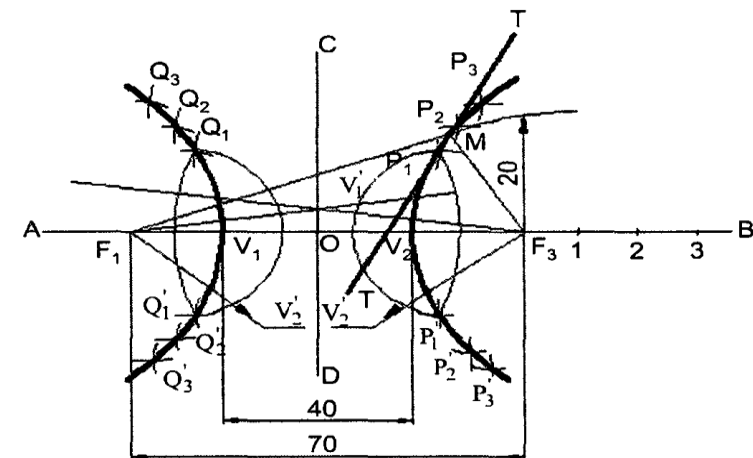
For the 2nd parabola, divide BG & BA into same no. of equal parts and join from H, etc to get the parabola. Above figure is shown separately for understanding. But actually, both parabolas have to be drawn in the same rectangle





Construct a hyperbola with its foci 70 mm apart and the major axis (distance between the vertices) as 40 mm. Draw a tangent to the curve at a point 20 mm from the focus.

1. Draw the transverse and conjugate axes AB and CD of the hyperbola and locate F_1 and F_2 the foci and V_1 and V_2 the vertices.
2. Mark number of points 1,2,3 etc., on the transverse axis, which need not be equidistant.
3. With centre F_1 and radius V_11 , draw arcs on either side of the transverse axis.
4. With centre F_2 and radius V_1 , draw arcs intersecting the above arcs at P_1' and P_1 ;
5. With centre F_2 and radius V_11 , draw arcs on either side of the transverse axis.
6. With centre F_1 and radius V_21 , draw arcs intersecting the above arcs at Q_1' Q_2 .
7. Repeat the steps 3 to 6 and obtain other points P_2' P_2 etc. and Q_2' Q_2 etc.
8. Join the points $P_1, P_2, P_3, P_1', P_2', P_3'$ and $Q_1, Q_2, Q_3, Q_1', Q_2', Q_3'$ forming the two branches of hyperbola.



Definition - Planes of Projection- Four quadrants - Reference line.

As per the optical physics, an object is seen when the light rays called visual rays coming from the object strike the observer's eye. The size of the image formed in the retina depends on the distance of the observer from the object.

If an imaginary transparent plane is introduced such that the object is in between the observer and the plane, the image obtained on the screen. This is called perspective view of the object. Here, straight lines (rays) are drawn from various points on the contour of the object to meet the transparent plane, thus the object is said to be projected on that plane.

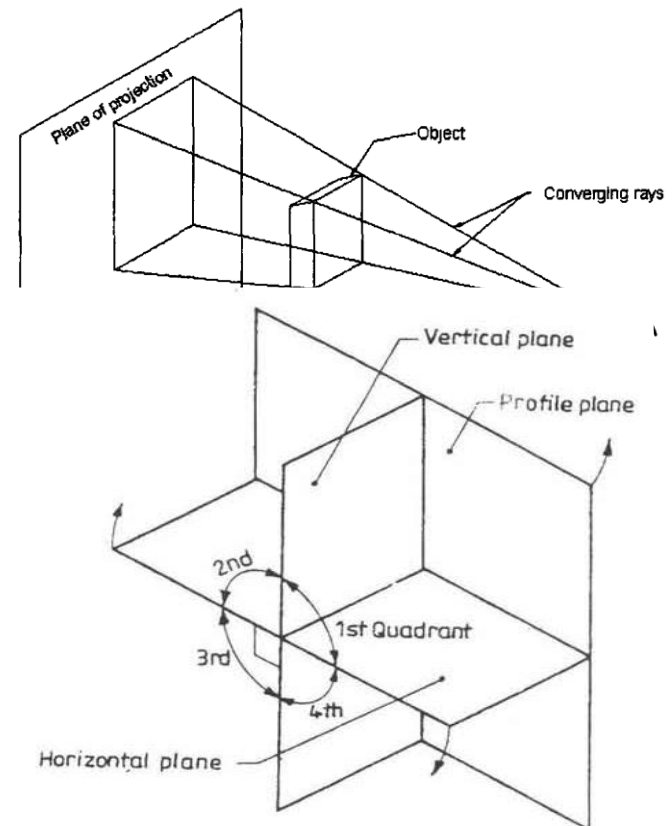
The figure or view formed by joining, in correct sequence, the points at which these lines meet the plane is called the projection of the object. The lines or rays drawn from the object to the plane are called projectors. The transparent plane on which the projections are drawn is known as plane of projection.

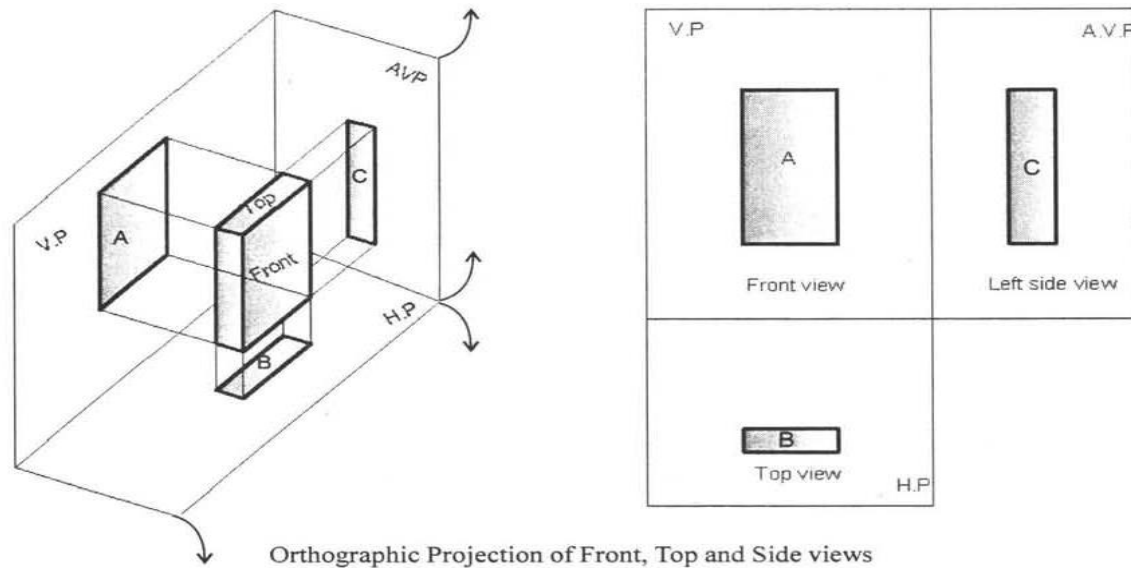
Four Quadrants

When the planes of projections are extended beyond their line of intersection, they form Four Quadrants. These quadrants are numbered as I, II, III and IV in clockwise direction when rotated about reference line xy as shown in Fig

Terms Used

VP and H.P are called as Principal planes of projection or reference planes. They are always transparent and at right angles to each other. The projection on VP is designated as Front view and the projection on H.P as Top view.



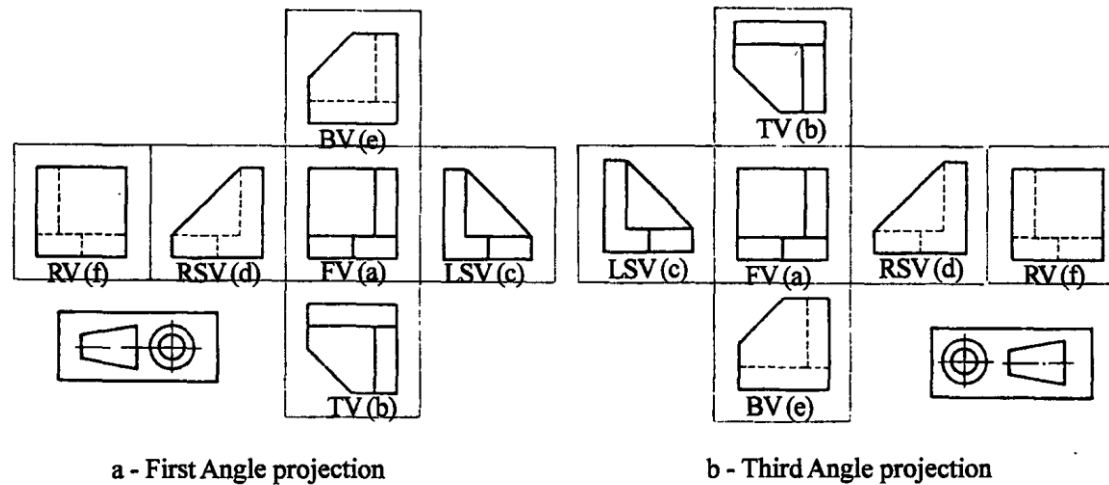


The object may be situated in any one of four quadrants, its position relative to the planes being described as in front of H.P and above H.P in the first quadrant and so on. Figure 5.5 shows the two principle planes H.P and V.P and another Auxiliary vertical plane (A.V.P). A.V.P is perpendicular to both VP and H.P.

Front view is drawn by projecting the object on the V.P. Top view is drawn by projecting the object on the H.P. The projection on the A.V.P as seen from the left of the object and drawn on the right of the front view, is called left side view.

Projections of points

A solid consists of a number of planes, a plane consists of a number of lines and a line in turn consists of number of points:-'From this, it is obvious that a solid may be generated by a



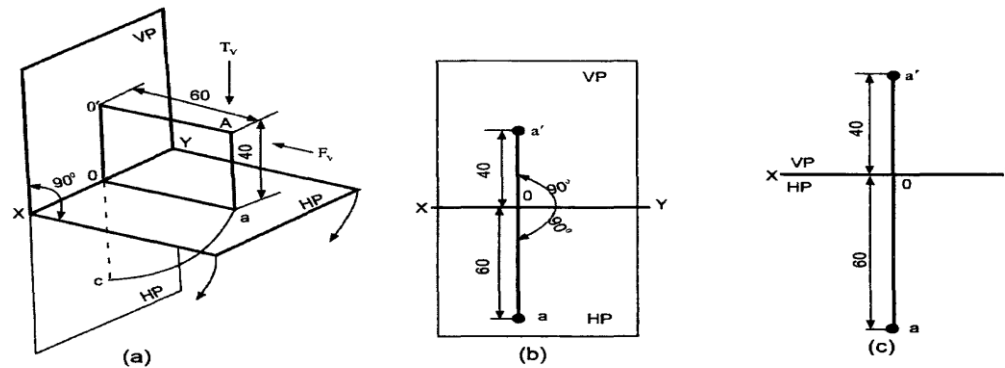
a plane may be generated by a straight line AD moving in space and a straight line in turn, may be generated by a point A moving in space.

Points in Space

A point may lie in space in anyone of the four quadrants. The positions of a point are:

1. First quadrant, when it lies above H.P and in front of V.P.
2. Second quadrant, when it lies above HP and behind V.P.
3. Third quadrant, when it lies below H.P and behind V.P.
4. Fourth quadrant, when it lies below H.P and in front of V.P.

Knowing the distances of a point from H.P and V.P, projections on H.P and V.P are found by extending the



projections perpendicular to both the planes. Projection on H.P is called Top view and projection on V.P is called Front view

Problem: Point A is 40 mm above HP and 60 mm in front of V.P. Draw its front and top view.

1. The point A lies in the I Quadrant
2. Looking from the front, the point lies 40 mm above H.P. A-a' is the projector perpendicular to V.P. Hence a' is the front view of the point A and it is 40 mm above the XY line.
3. To obtain the top view of A, look from the top. Point A is 60 mm in front of V.P. A-a is the projector perpendicular to H.P. Hence, a is the top view of the point A and it is 60 mm in front of XY.
4. To convert the projections a' and a obtained in the pictorial view into orthographic projections
5. the following steps are needed.
 - (a) Rotate the H.P about the XY line through 90° in the clock wise direction as shown.
 - (b) After rotation, the first quadrant is opened out and the H.P occupies the position vertically below the V.P line. Also, the point a on H.P will trace a quadrant of a circle with O as centre and O-A as radius. Now a occupies the position just below O.
6. The line joining a' and a, called the projector, is perpendicular to XY
7. To draw the orthographic projections.

Projection of Lines

1. The shortest distance between two points is called a straight line. The projectors of a straight line
2. are drawn therefore by joining the projections of its end points. The possible projections of straight.
3. lines with respect to V.P and H.P in the first quadrant are as follows:
4. Perpendicular to one plane and parallel to the other.
5. Parallel to both the planes.
6. Parallel to one plane and inclined to the other.
7. Inclined to both the planes.

Line perpendicular to H.P and parallel to V.P

1. The pictorial view of a straight line AB in the First Quadrant is shown in Fig.5.16a.
2. Looking from the front; the front view of AB, which is parallel to v.p and marked, $a'b'$, is obtained. True length of AB = $a'b'$
3. Looking from the top; the top view of AB, which is perpendicular to H.P is obtained and a and b coincide.
4. The Position of the line AB and its projections on H.P. and V.P are shown in Fig.5.16b.
5. The H.P is rotated through 90° in clock wise direction as shown in Fig.5.16b.
6. The projection of the line on V.P which is the front view and the projection on H.P, the topview are shown in Fig.5.16c.

Note: Only Fig.5.16c is drawn on the drawing sheet as a solution.

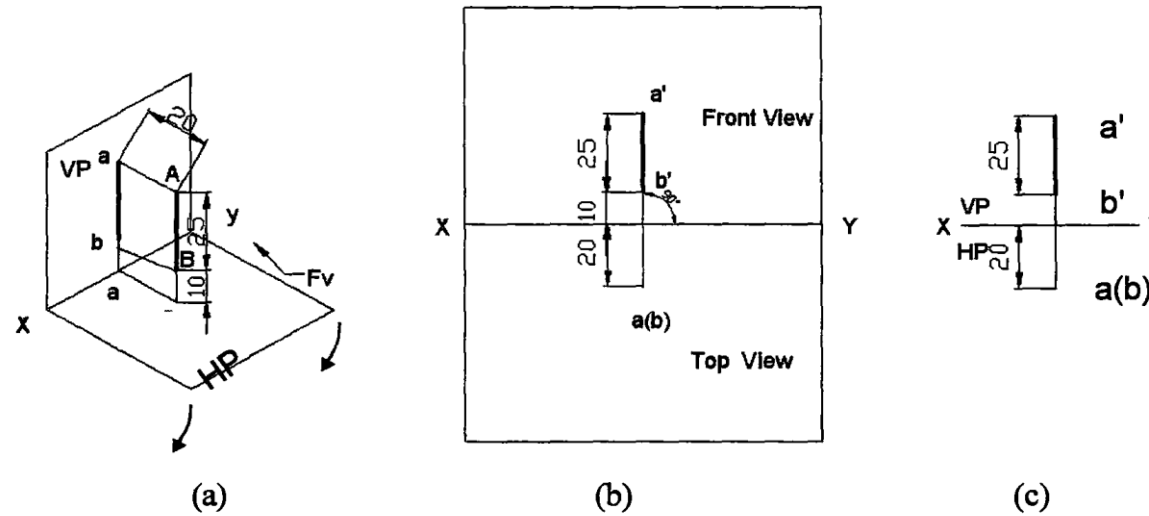
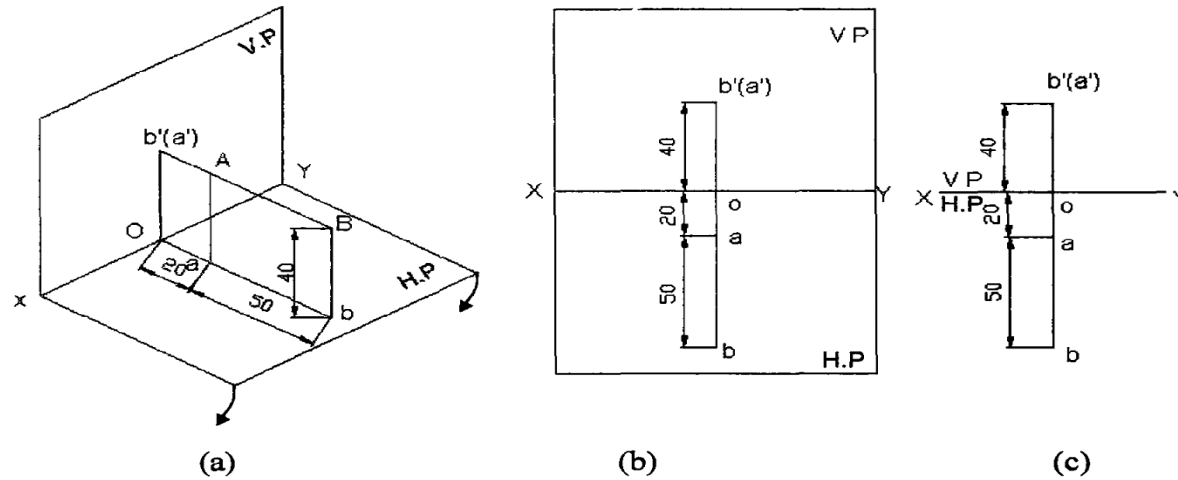


Fig. 5.16 Line perpendicular to H.P and parallel to V.P.

Line perpendicular to V.P and parallel to H.P.

Problem: A line AB 50 mm long is perpendicular to V.P and parallel to HP. Its end A is 20 mm in front of V.P and the line is 40 mm above HP. Draw the projections of the line.

Solution: The line is parallel to H.P. Therefore, the true length of the line is seen in the top view. So, top view is drawn first.



Line perpendicular V.P and parallel to H.P.

1. Draw XY line and draw a projector at any point on it.
2. Point A is 20 mm in front of Y.P. Mark a which is the top view of A at a distance of 20 mm below XY on the projector.
3. Mark the point b on the same projector at a distance of 50 mm below a. ab is the top view which is true length of AB.
4. To obtain the front view; mark b^l at a distance 40mm above XY line on the same projector.
5. The line AB is perpendicular to Y.P. So, the front view of the line will be a point. Point A is hidden by B. Hence the front view is marked as b^l (a^l). b^l coincides with a^l.
7. The

final

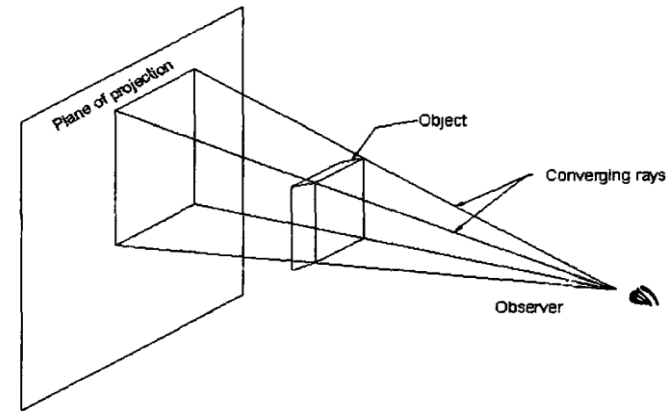
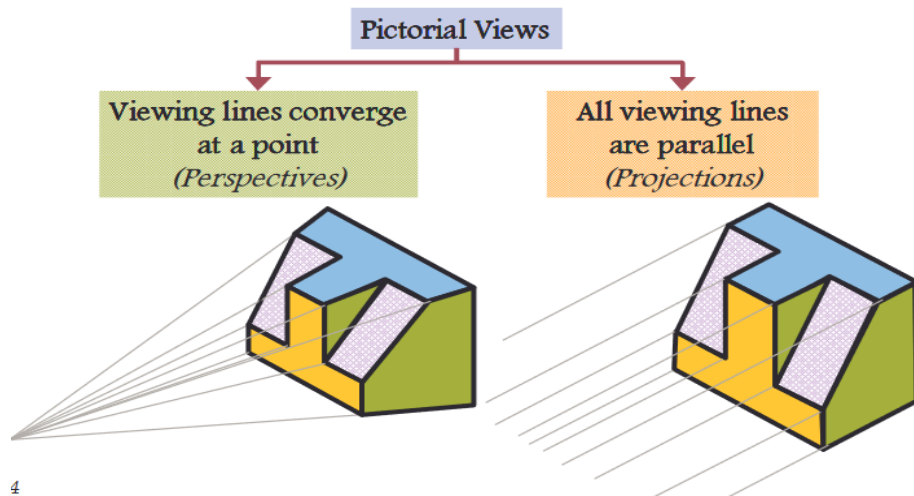
projections

EXPT: 8 Meaning of Orthographic projection

As per the optical physics, an object is seen when the light rays called visual rays coming from the object strike the observer's eye. The size of the image formed in the retina depends on the distance of the observer from the object.

If an imaginary transparent plane is introduced such that the object is in between the observer and the plane, the image obtained on the screen. This is called perspective view of the object. Here, straight lines (rays) are drawn from various points on the contour of the object to meet the transparent plane, thus the object is said to be projected on that plane.

• Pictorial views



First angle projection - Third angle projection

First Angle Projection

When the object is situated in First Quadrant, that is, in front of V.P and above H.P, the projections obtained on these planes is called First angle projection.

- (i) The object lies in between the observer and the plane of projection.
- (ii) The front view is drawn above the XY line and the top view below XY. (above XY line is V.P and below XY line is H.P).
- (iii) In the front view, H.P coincides with XY line and in top view V.P coincides with XY line.
- (iv) Front view shows the length(L) and height(H) of the object and Top view shows the length(L) and breadth(B) or width(W) or thickness(T) of it.

Third Angle Projection

In this, the object is situated in Third Quadrant. The Planes of projection lie between the object and the observer. The front view comes below the XY line and the top view above it.

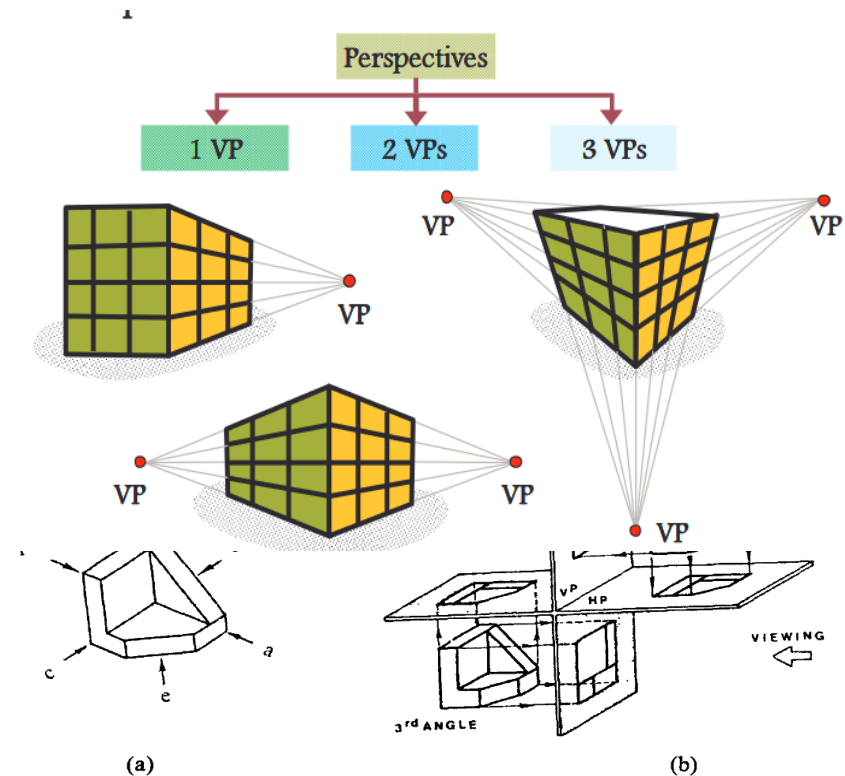
BIS Specification (SP46: 2003)

BIS has recommended the use of First angle projection in line with the specifications of ISO adapted by all countries in the world.

Designation and Relative Position of Views

An object in space may be imagined as surrounded by six mutually perpendicular planes. So, it is possible to obtain six different views by viewing the object along the six directions, normal to the six planes. Fig.5.6 shows an object with the six possible directions to obtain the six different views which are designated as follows.

1. View in the direction a = front view
2. View in the direction b = top view
3. View in the direction c = left side view
4. View in the direction d = right side view
5. View in the direction e = bottom view



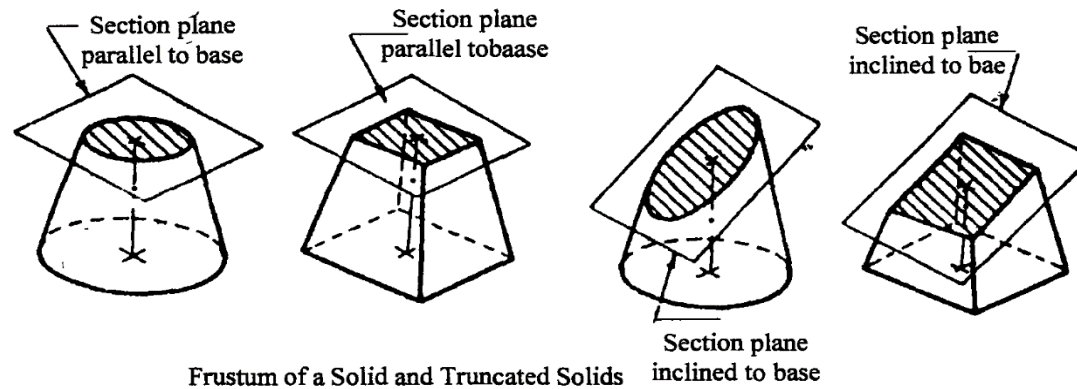
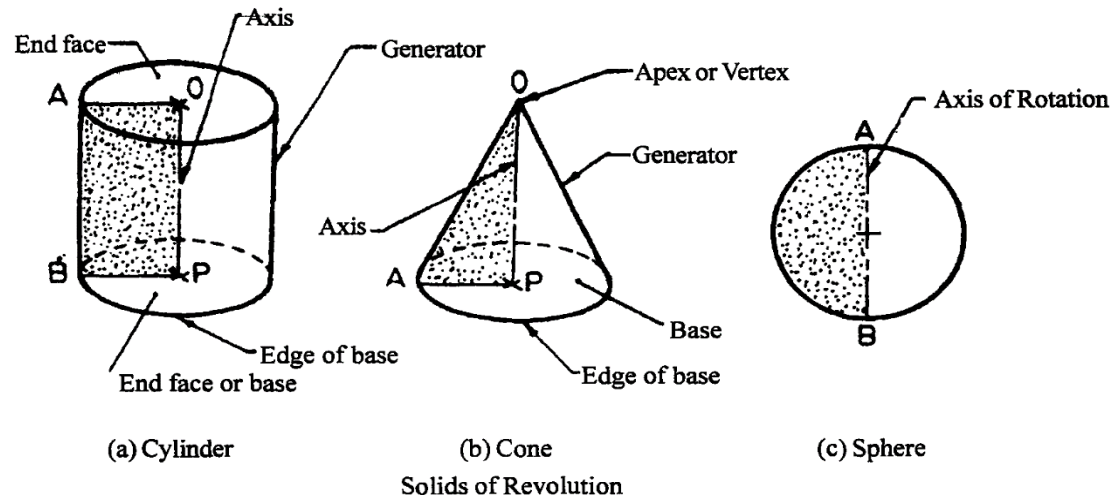
Principles of orthographic projection.

6. View in the direction f= rear view

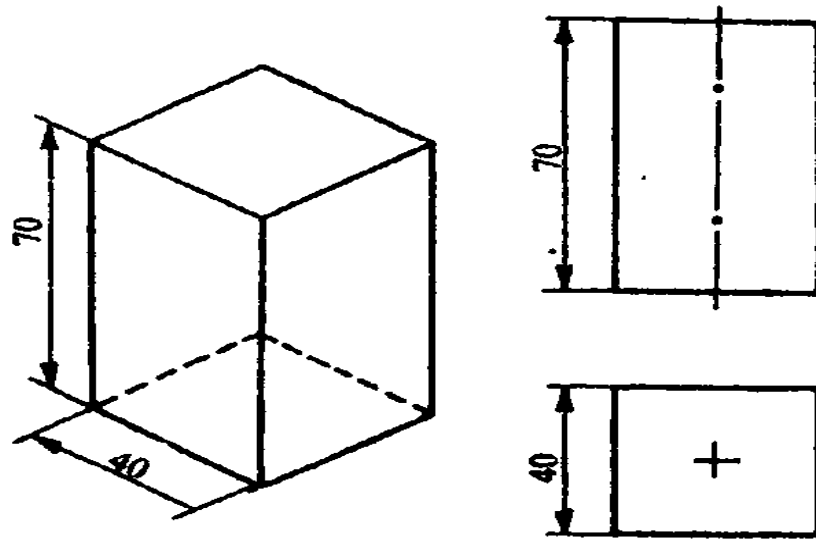
The relative position of the views in First angle projection.

Note: A study of the reveals that in both the methods of projection, the views are identical in shape and size but their location with respect to the front view only is different.

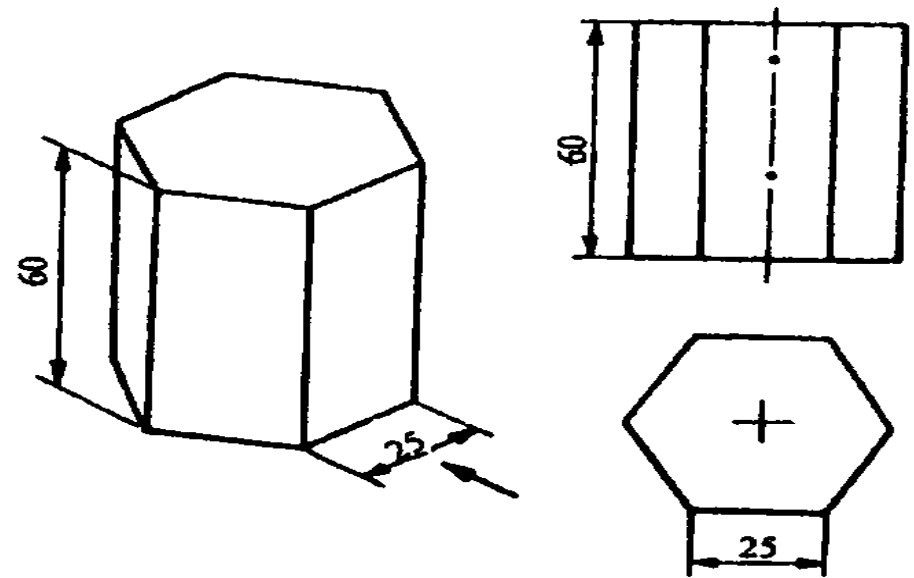
EXPT: 9 **Definition - Isometric axes, lines and planes**



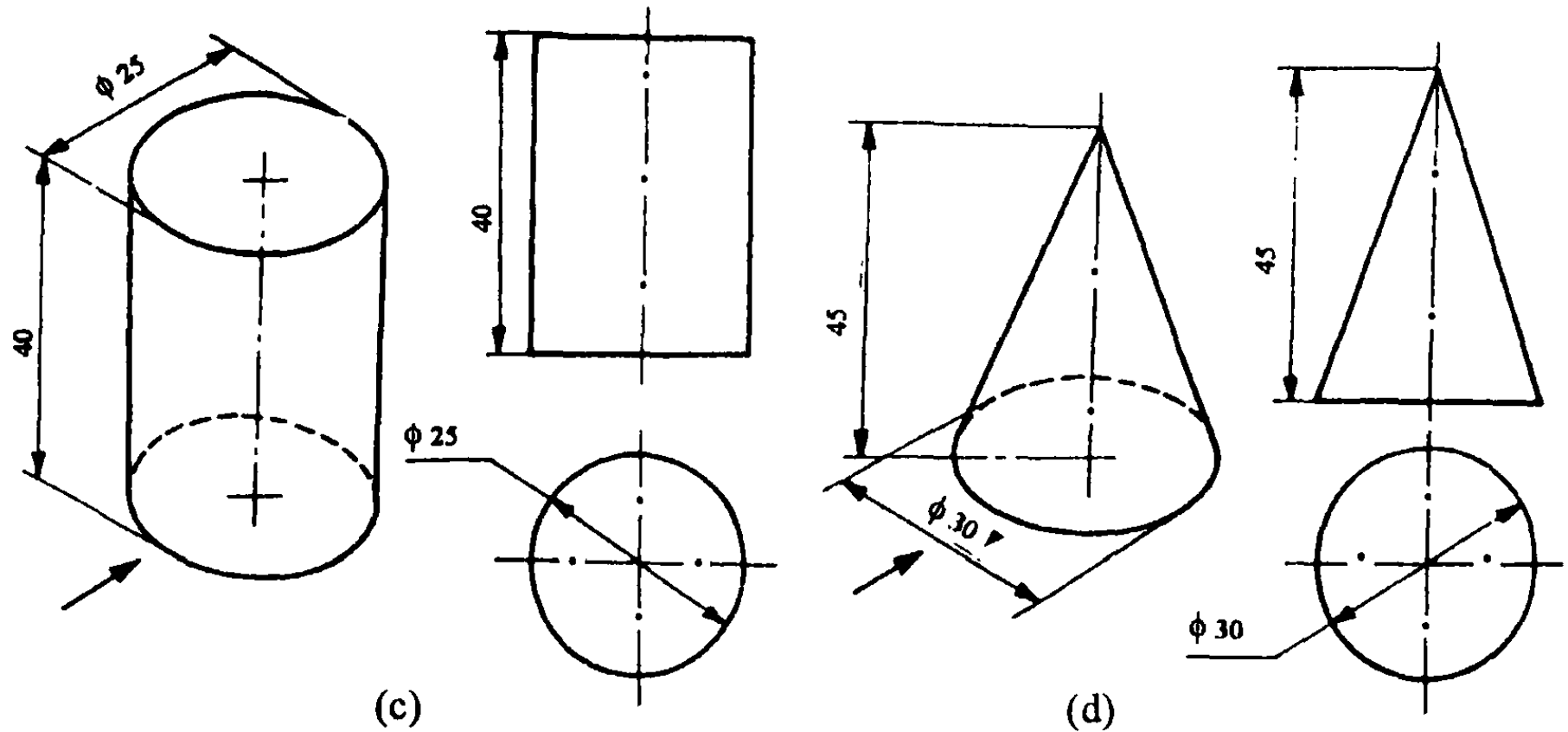
The number of views required to describe an object depends upon the extent of complexity involved in it. The higher the symmetry the lesser the number of views required to be drawn.



(a)



(b)



In general, three views are required to describe most of the objects. In cases the views normally selected are: the front view, top view and left or right-side view. Fig.6.4 7 shows an example in which three views are essential to describe the object completely.

EXPT: 10 Drawing of isometric views of plane figures

1) Draw the isometric projections of a square prism of base 40 mm sides & axis 60 mm long when its axis is (i) Vertical & (ii) Horizontal

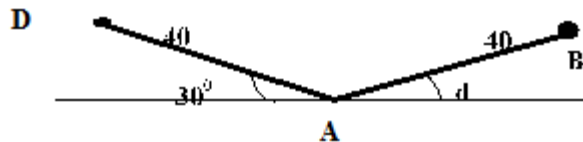
Sol) Shape ↗ Square Prism
 Base ↗ 40 mm
 Axis ↗ 60 mm

(i) **When Axis is vertical:**

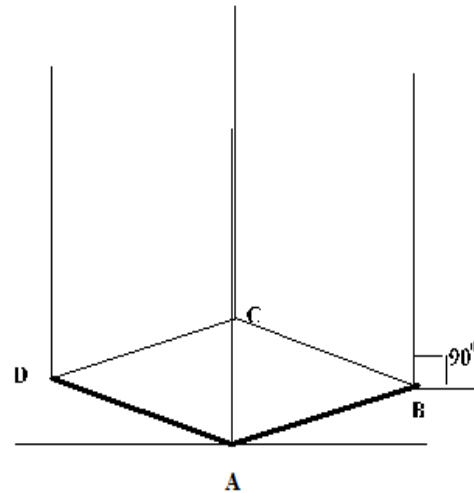
Base (box) angles ↗ 30° - 30°
 Axis angle ↗ 90°

Steps:

- (i) Draw a horizontal line and on it mark A on it.
- (ii) From A, draw 2 lines of 40 mm each at 30° to the right & left, to get AB & AD.

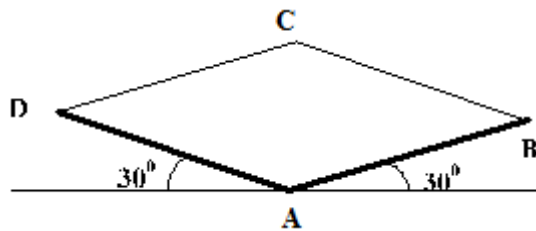


(iv) On each corners, A, B, C & D, draw a vertical line (axis) at 90° to the horizontal of length 60 mm. Join all the points at the top to get the required square prism.

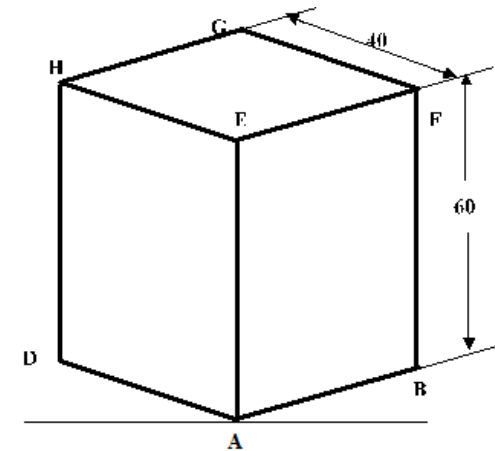


Since BC, CD & CG will be invisible in the 3-D view, they are erased and not shown in the final figure

(iii) On D, draw a line of 40 mm \parallel to AB & on B, draw a line \parallel to AD. The intersection of the sides gives C. ABCD is the required base of the solid.



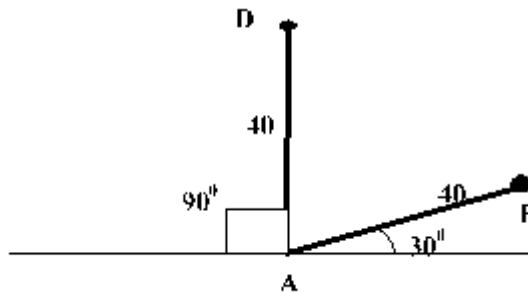
CD & BC are shown light as they will be invisible when the final solid is constructed.



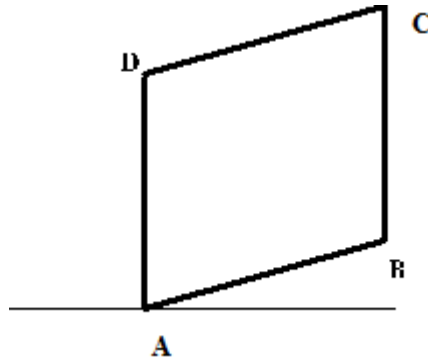
When Axis is horizontal:Base (box) angles \nearrow 30° - 90° Axis angle \nearrow 30° **Steps:**

(i) Draw a horizontal line and on it mark A on it.

(ii) From A, draw 2 lines of 40 mm each at 30° to the right of A & 90° on A (vertical) to get B & D. Choice of right or left is ours.

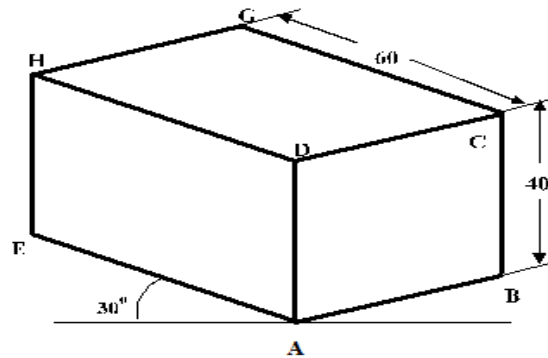


(iii) On D, draw a line of 40 mm \parallel to AB & on B, draw a line \parallel to AD. The intersection of the sides gives C. ABCD is the required base of the solid.



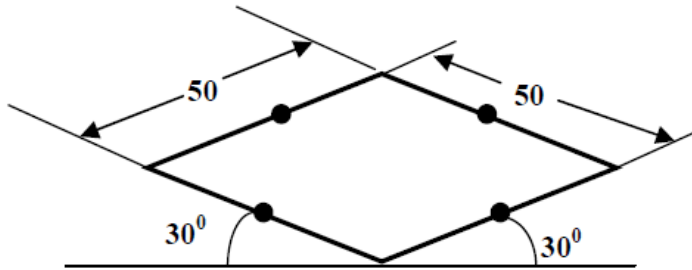
Here, all the sides will be visible in the final isometric view & hence ABCD is shown as thick visible lines.

(iii) On each corner, A, B, C & D, draw a line (axis) at left, at an angle of 30° to the horizontal & of length 60 mm. Join all the points at the end to get the required square prism.



Since the sides EF, FG & BG are not visible, they are not shown here. Alternatively, they can be shown as thin light lines if they are not erased

ISOMETRIC CIRCLE :

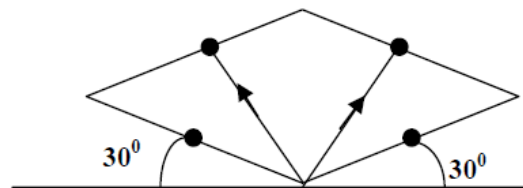


(2) Mark 4 centers on the 4 sides of the square

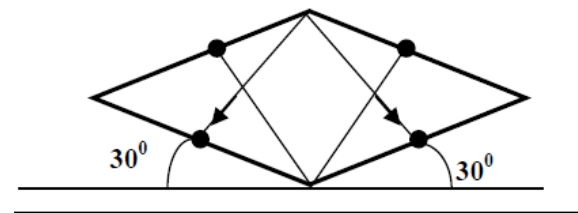
(3) Form a 'V' shape by joining the corners of the square to the centers of opposite sides.

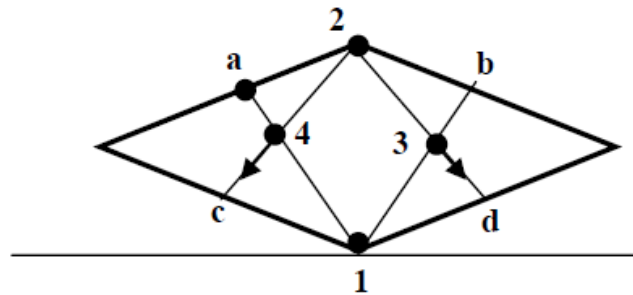
(4) Identify the 4 centers now for drawing arcs to get the ellipse in 4 parts. The 4 of V's are 1, 2, 3 & 4 as shown below.

Note: (c, d) = (a, b)



centers





(5) With 1 as center and Radius = (1-a) or (1-b), draw an arc passing through (a, b).

(6) With 2 as center and same radius (1-a), draw an arc passing through (c, d).

(7) With 3 & 4 as centers & radius = (4-a) or (4-c), draw arcs to through (a-c) & (b-d).

(8) Join the centers of the square to get C.

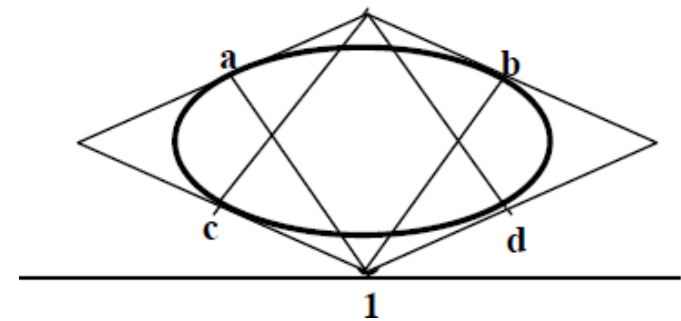
(9) From O, mark apex O at 90° and of length 75 mm.

(10) Join the centers of the base ellipse with O to get the final view of the cone.

3) In $30^\circ - 90^\circ$, the 'V' formation starts from corner **2** of the square **instead of 1**.

(4) Identify the **4 centers** now for drawing arcs to get the ellipse in 4 parts. The 4 centers of V's are 2, 4, p & q as shown below.

Note: (c, d) = (a, b)



EXPT: 11 Creating a rectangle by using 2D drafting in AUTO CAD.

LIMIT COMMAND :

- 1) Limits ↵
- 2) Specify the lower left corner : 0,0 ↵
- 3) Specify the upper right corner : 297,210 ↵
- 4) Z ↵
- 5) A ↵

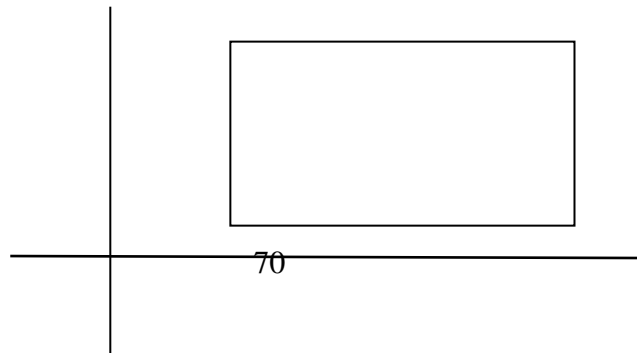
COMMAND FOR LINE :

1. Line/ L ↵
2. Specify the first point : (,) ↵
3. Specify the next point : (,) ↵
4. ESC ↵

PROBLEM -3 (To create a rectangle of size-30 ‘ x 40’)

PROCEDURE-80

1. Line ↵
2. 30, 50 ↵
3. 70, 50 ↵50
4. 70, 80 ↵
5. 30, 80 ↵30
6. 30, 50 ↵



CONCLUSION -

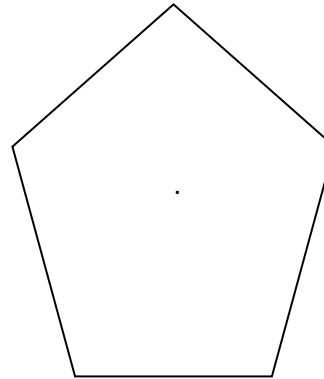
We successfully draw a rectangle by using 2D drafting where the co-ordinates of the rectangles are (30, 50), (70, 50), (70, 80) and (30, 80).One can take other co-ordinates and draw the rectangle also.

EXPT: 12**Create a Polygon by using 2D drafting in AUTO CAD.****THEORY-**

A Polygon of various no. of sides can be created /drawn if the centres of the polygon and no of sides are specified. We can also inscribe or circumscribe a circle in the polygon in a two dimensional plane by using Auto CAD.

COMMAND FOR POLYGON

1. Polygon ↵
2. Enter no of sides ↵
3. Specify centre of polygon ↵
4. Specify inscribed or circumscribed ↵
5. Specify radius of the circle ↵

**PROBLEM-(To draw a Polygon of any size)**

1. Polygon ↵
2. 5 ↵
3. 50,50 ↵
4. I or C ↵
5. 30 ↵

CONCLUSION –

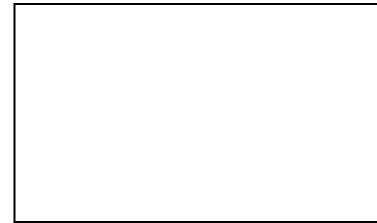
We have successfully drawn a Polygon using 2D drafting where no. of sides is 5 and its centre coordinates (50, 50), having circle of radius 30 inscribed in the polygon.

EXPT 13**Dimensioning a rectangle / Circle/ Polygon in Auto Cad****THEORY-**

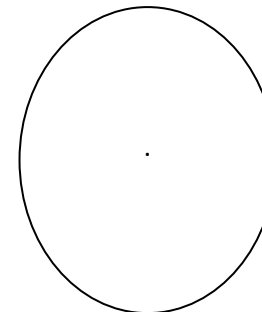
In this case **corner coordinates of any rectangle, centre coordinates and radius of the circle and no of sides and circle inscribed or circumscribed on a polygon** are given then we can make necessary dimensioning of the side of the rectangle, centre, diameter / radius of a circle and the distance (dimension) of any sides of the polygon in a two dimensional plane by using Auto CAD.

COMMAND FOR RECTANGLE

1. Rectangle
2. Specify 1st corner of the rectangle : (,) ↵
3. Specify the 2nd corner corner of the rectangle : (,) ↵
4. Select dimension linear : (,) ↵(150,125)

**PROBLEM-**

1. Rectangle ↵
2. 50, 50 ↵
3. 150, 125 ↵(50,50)
4. Select dimension –Linear ↵
5. Specify 1st selection line origin ↵selected
6. Specify 2nd extension line origin ↵

**COMMAND FOR CIRCLE :**

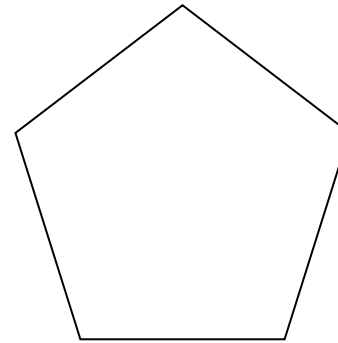
- 1) Circle / C ↵
- 2) Specify the center of circle ↵
- 3) Specify the radius or Diameter of the circle ↵
- 4) Specify the value of R / D of the circle ↵

PROBLEM :(Dimensioning of a circle)

1. C ↵
2. Specify the center and radius ↵
3. Select the dimension–radius ↵
4. Select Arc or circle ↵

COMMAND FOR POLYGON

1. Polygon ↵
2. Enter no of sides ↵
3. Specify centre of polygon ↵
4. Specify inscribed or circumscribed ↵
5. Specify radius of the circle ↵



PROBLEM-(To draw a Polygon of any size)

1. Polygon ↵
2. 5 ↵
3. Specify the centre of the polygon ↵
4. I or C ↵
5. 30 ↵
6. Specify the radius of the circle.↵
7. Select dimension –Linear.↵
8. Specify 1st selection line origin.↵
9. Specify 2nd extension line origin.↵

CONCLUSION –

We successfully dimensioning a rectangle , Circle and Polygon.

COMPUTER SCIENCE AND ENGINEERING
First Year (319/23)
PAPER – III : ENGINEERING DRAWING & IT WORKSHOP
QUESTION BANK

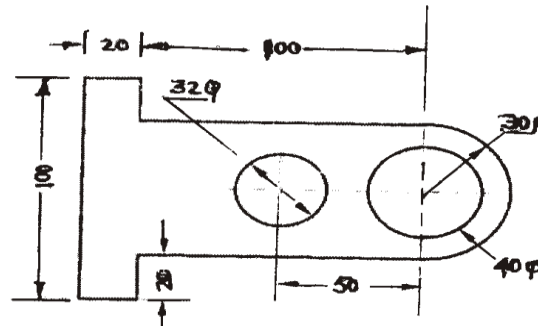
Maximum Marks: 50

Duration 3hr.

- i. Answer Four questions & **ONE question from each section (compulsory)**.....4 X 10 = 40
- ii. Each question carries Ten marks.
- iii. All dimensions are in mm.

SECTION – I

1. Print the following in single-stroke 10 mm size upright lettering
“ENGINEERING DRAWING”
2. Redraw the following figure and show the dimensions as per SP-46:1988:



3. Draw the external and internal tangents to the two given circles of unequal radii of $R_1 = 20$ mm, $R_2 = 15$ mm and centre distance = 80 mm.

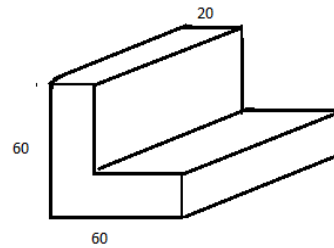
SECTION – II

4. A) Draw the Chain dimensioning for the given diagram.
 B) Trisect the angle 90° .
5. Divide the given straight line of length 102 mm into 7 equal parts.

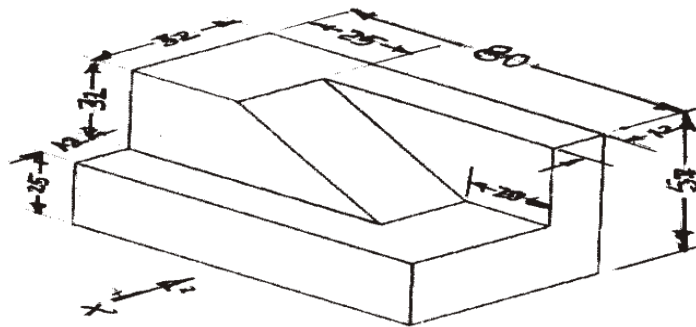
6. Construct a regular Hexagon with a given radius of 60 mm.

SECTION – III

7. Construct an Ellipse by concentric circles method with major axis 100mm and minor axis as 60mm.
8. Construct a Parabola with given dimensions.
9. Draw the Plan and Elevation of L-section with dimensions 60x40mm with a uniform thickness of 20mm.



10. An isometric view of 'an object' is given below. Draw its **front view**, **top view** and **rightsideview**:



SECTION – IV

11. Creating a rectangle by using 2D drafting in AUTO CAD.
12. Creating a Polygon by using 2D drafting in AUTO CAD.
13. **Dimensioning a rectangle / Circle/ Polygon** in AUTO CAD

NOTE :Atleast ONE question has to be allotted from each section

COMPUTER SCIENCE AND ENGINEERING
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MODEL QUESTION PAPER

Maximum Marks: 50

Duration 3hr.

i. Answer Four questions **4 X 10 = 40**

ii. Each question carries Ten marks.

iii. All dimensions are in mm.

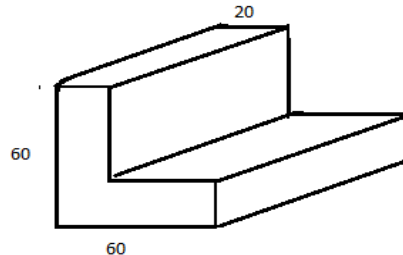
(Chosen by Board in lottery, for example: Q.No. 1, 5, 7, 11)

1. Print the following in single-stroke 10 mm size upright lettering

“ENGINEERING DRAWING”

2. Divide the given straight line of length 102 mm into 7 equal parts.(Q.no. 5 of Question Bank)

3. Draw the Plan and Elevation of L-section with dimensions 60x40mm with a uniform thickness of 20mm.(Q.no. 7 of Question Bank)



13. **Dimensioning a rectangle / Circle/ Polygon in AUTO CAD**

RECORD ; 5

VIVO ; 5

COMPUTER SCIENCE AND ENGINEERING
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SCHEME OF VALUATION

For each question should be evaluated as below :

Aim	2 marks
Plotting	5 marks
Procedure	3 marks

Record	5 marks
Vivo	5 marks