

Record of Ex. No: 1 - Introduction, lettering, 2D Geometrical constructions

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Aim:

To know the importance of Engineering Graphics, standards, lettering; and to draw simple 2D objects in CAD software.

Software used: AutoCAD.

Procedure:

Step 1: Open the AutoCAD software and type **UNITS** in the command line located in the bottom centre of the screen. Set the units to *Millimetres* and select **OK**.

Step 2: Next type **LIMITS** on the command line and set the **Lower left Limit** as (0,0) and the **Upper Right Limit** as (297, 420).

Step 3: Next select the **TEXT** command on the top right side on the home panel or type **TEXT** on the command line. Select the point where the text should start and click on it.

Step 4: After the selecting the point for the text, mention the **text height** to be 10mm and the **angle of rotation** as 0 and type Capital letter from A – Z.

Step 5: Repeat **Step 3 – 4** with **text height** as 7mm and for small letters from a – z and **text height** 10mm and 7mm for Arabic numbers from 0 – 9.

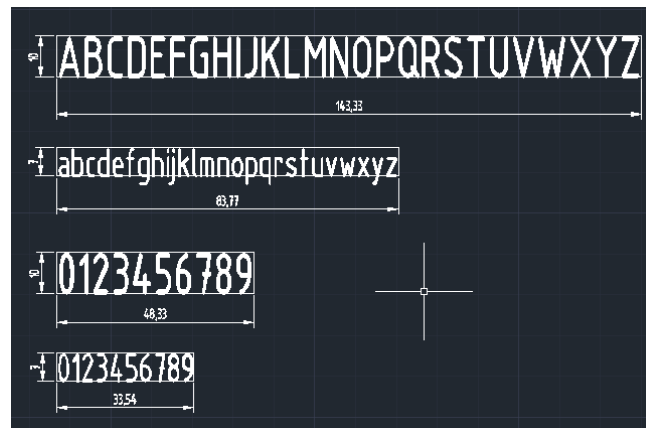
Step 6: Next select **LINE** from the home panel or type **LINE** on the command line to draw lines around the text written.

Step 7: Using **LINEAR** or by typing **DIMLINEAR** on the command line, give dimensions to the box drawn around the text.

Step 8: Using **RECTANG** command on the command line draw a rectangle of *length 170mm* and *width 60mm*. Use **LINE** to draw the required measurements as mentioned in Question 2 figure. Add the required text using **TEXT** command and add dimensions to the title block using **LINEAR**.

Step 9: Using the **POLYGON** command draw a triangle, square, pentagon, hexagon of sides 30mm and a circle of radius of 30mm. Using the **LINEAR** and **ALIGNED** command the dimensions are given to the polygons and using **TEXT** the corners of the polygons and the centre of the circle are labelled.

Question 1: Write (manually or using AutoCAD software) the Capital letter A to Z, small letters a to z, and Arabic numbers 0 to 9 with 0.7mm thick lines and 0.5 mm thick line pencils.



Question 2: Draw Margins and Title block in drawing sheet.

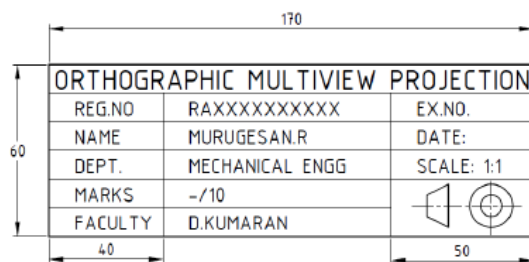
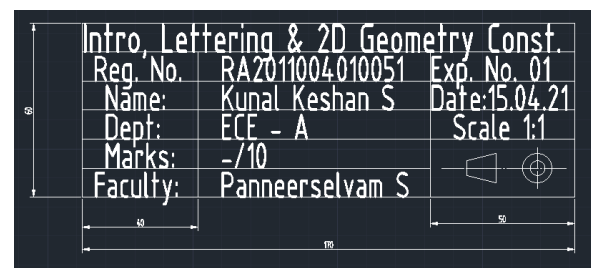
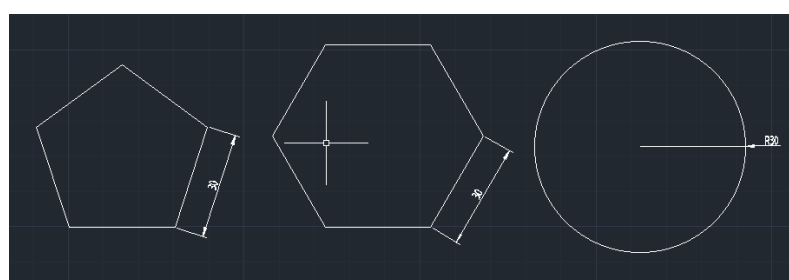
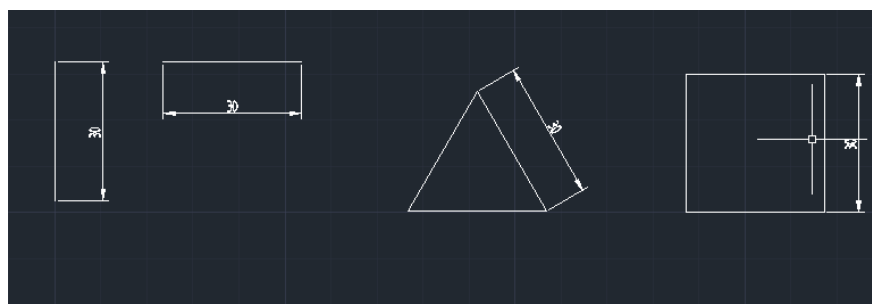


Figure 1 Tittle Block (All Dimensions are in mm)



Questions 3: Draw the basic 2D geometric entities, each of dimension or side or radius of 30mm (a vertical straight line, a horizontal straight line, an equilateral triangle, a square, a regular pentagon, a regular hexagon, and a circle.) With labels and dimensions.



Result:

