

# Production, lettering, 2D Geometrical constructions

1. To write letters, draw title block in drawing sheet and construction of 2D Geometrical entities.

Software Used: AutoCad 2022

## Procedure:

- 1) Firstly convert units in mm with precision 0 using "UNITS" command.
- 2) Set limits to  $(0,0)$  and  $(297,420)$  for lower left corner and upper right corner using "LIMITS" command.
- 3) Set zoom all to zoom workspace using "ZOOM" command.

## Question 1:

- 1) Use "STYLE" command to set font to "ARIEL" for font size set 7 height and 0.7 width factor.
- 2) Now use "TEXT" command to input letters in uppercase, lowercase and input numbers from 0-9.
- 3) Repeat step (1) for font size 5 mm and width factor 0.5 mm.
- 4) Use "DIMLIN" command to display dimensions of the letters and numbers. Press Esc to exit commands.

## Question 2:

- 1) Use line tool to create a rectangular box of  $170 \times 60$  mm.
- 2) Use "OFFSET" command to copy the horizontal lines in 6 equal segments in a form of grid.
- 3) Use "OFFSET" command to copy the vertical lines in 3 equal segments in a form of grid.
- 4) Use "TRIM" command to delete unnecessary lines to obtain suitable grid structure.
- 5) Use "STYLE" command to edit the size of font to 7 and width factor to 0.7 mm.
- 6) Use "TEXT" command to write inside the grid.
- 7) Use "STYLE" command to ~~write~~ edit the size of the font to 5 and width factor to 0.5 mm.

Use "TEXT" command to write inside the grid.  
Use "DIMLIN" command to display the dimensions of the grid.

Question 3:

a) Straight line (30 mm)

Select line tool and drag a line from left to right and enter 30 mm and press button required line is formed.

b) Vertical line (30 mm)

Select line tool, drag line from up to down and enter 30 mm, the press enter button, required line is formed.

(c) Triangle (30 mm)

Select polygon tool and enter '3' side, then choose edge option in the command box, enter 30 and press enter button. The required triangle is formed.

(d) Square (30 mm)

Select polygon tool and enter '4' side, then choose edge option and enter '30, 30' and drag the figure and enter. The required square is formed.

(e) Rectangle (50 mm, 30 mm)

Select polygon tool and enter '4' side, then choose edge option and enter '50, 30' and drag the figure and enter. The required rectangle is formed.

(f) Pentagon (30 mm) & Hexagon (30 mm)

Select polygon tool and enter '5' for pentagon and '6' for hexagon then choose edge option in the command tool bar and drag the figure and enter 30 then press Enter button, the required figures are formed.

(g) Circle (30 mm = radius)

Select circle tool, 'centre radius' option then drag the figure to enter bar. The required circle is formed.

## Result:

All essential engineering graphics including alphabets, numbers to the box and 2D geometric shapes are drawn.