

Indian Institute of Technology Kanpur
TA101AA: Engineering Graphics
2021 - 2022 Sem II

Lab Assignment no.1
Constructional Geometry

- a) All problems to be done on A4 size sheet in drawing book/sketch book.
- b) Write your name, roll no. etc. in the title block using 8 mm letters.

Question 1

Reproduce the letters of the alphabet and numbers as shown in figure 1, following the pencil strokes as indicated. Draw guide lines so that the letters and numbers are properly aligned. Height of Capital letters and numbers should be 9 mm (base to cap line), small letters body should be 6 mm (waist to base line) and 3 mm (cap to waist and base to drop lines) for upper and lower parts. (30 Marks)



Example of guide lines for letters:



Figure 1. Lettering

Question 2

Draw an ellipse having major diameter of 140 mm and minor diameter of 80 mm using the Concentric Circle Method. **(20 Marks)**

Question 3

Draw an ellipse having conjugate diameters of 140 mm and 80 mm. The angle between these diameters is 75° . Use the Parallelogram Method. Also, measure and report the major and minor diameter of your ellipse. **(20 Marks)**

Question 4

Draw the machine part as shown in Figure 2. Carefully note various geometrical features contained. Do not dimension the plate. Use a scale of 1:1. **(30 Marks)**

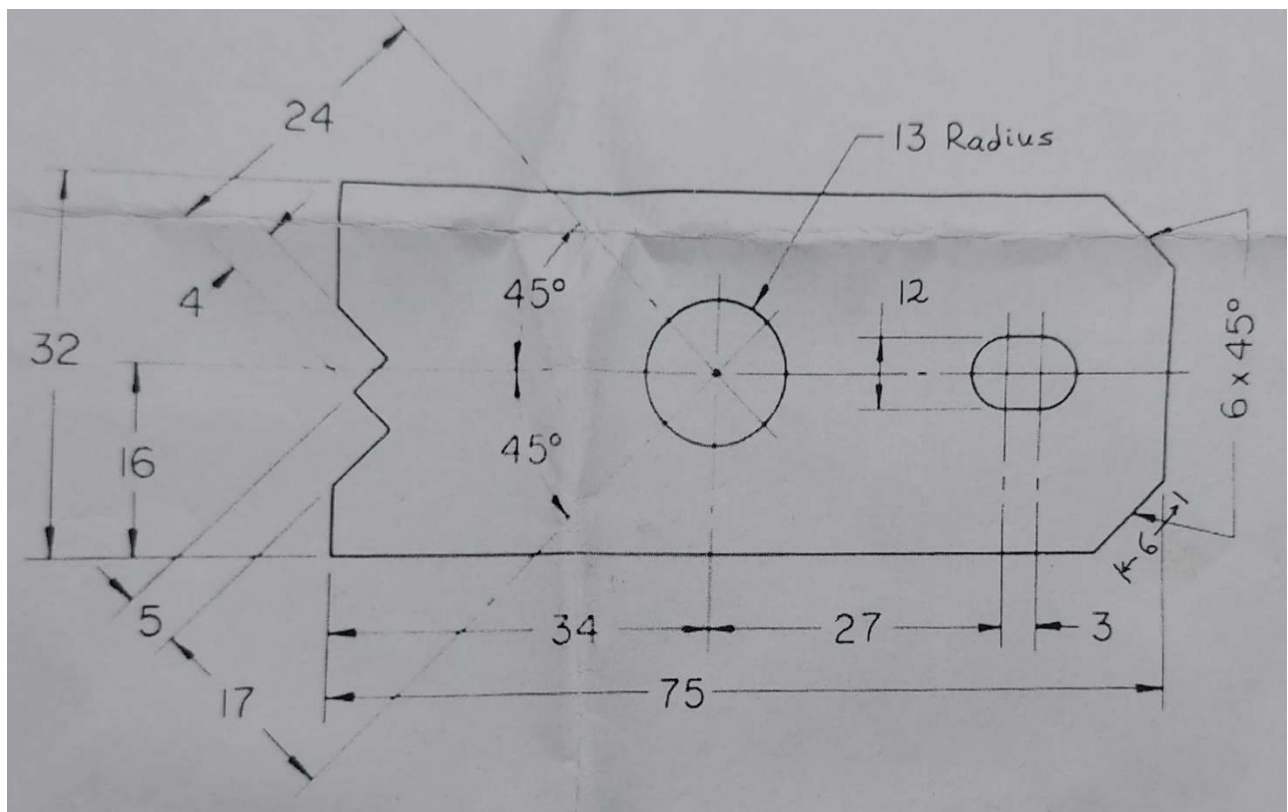


Figure 2. Machine plate.