

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

Lab Assignment no. 9
Intersection of Lines/Planes/Solids

- a) All problems to be done on separate A4 sheets **(Use the drawing sheet vertically or horizontally, whichever appears suitable to you).**
- b) Write your name, roll no. etc. in the title block.
- c) All questions carry equal marks. Full Marks is 100

Question 1

Locate the top and the front views of P, the point where the line JK pierces the plane EFG. Show the visibility of the line JK. Units in cm.

$J_H (2.5, 8.5)$; $K_H (5.5, 6)$; $E_H (2, 7)$; $F_H (4, 9)$; $G_H (5.5, 6.5)$

$J_F (2.5, 2)$; $K_F (5.5, 5)$; $E_F (2, 3)$; $F_F (4, 5.5)$; $G_F (5.5, 1.5)$

Question 2

Two orthographic views of a plane RSP are shown in figure 1. Determine the true shape of the plane by use of an edge view which in turn is projected from the front view (1 square = 5x5 mm).

Question 3

Planes ABC and RST are parallel. Complete the top and front view of ABC.

$R_H (1, 8)$; $S_H (2, 9.5)$; $T_H (3.5, 7.5)$; $A_H (5.5, 8)$; $B_H (4, 8.5)$; $C_H (6, 9.5)$;

$R_F (1, 4)$; $S_F (2, 2.5)$; $T_F (3.5, 5.5)$; $A_F (5.5, 3)$. Units in cm.

Question 4

Find the true angle between the line VW and the plane PQR shown in Figure 2. (1 square = 5x5 mm).

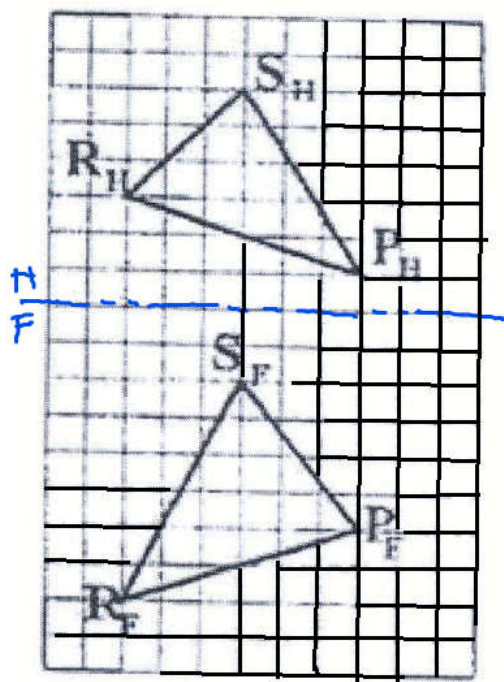


Figure 1 (Q. 2)

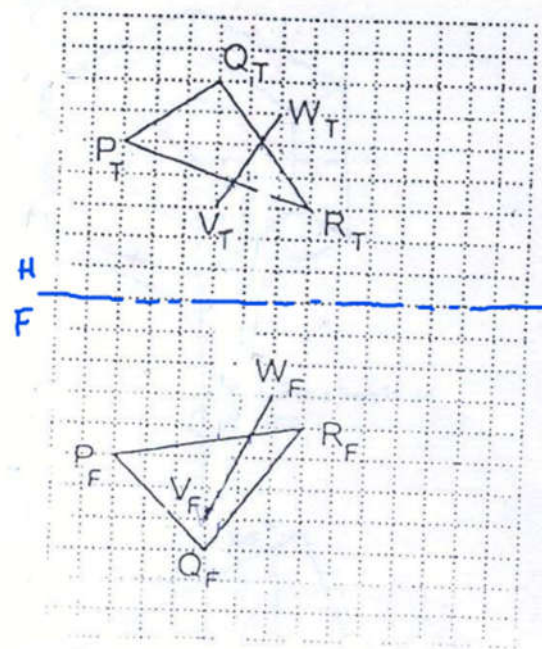


Figure 2 (Q. 4)