SRM Institute of Science and Technology
College of Engineering and Technology
Department of Mechanical Engineering

18MES101L - Engineering Graphics and Design

Reg. No		Ex. No	4
Name of the student		Week. No	4
Department		Title of the exercise	Orthographic multi-view projections
Section		Date	

Regular class problems

i. Projection of lines inclined to both the planes (without traces)

a. A line AB, of length 70mm long, is inclined at 45º to HP and 30º to VP. Its end A is 20 mm above HP and 25mm in front of VP. Draw its projections **(2 Marks – Level 1)**.

b. A line CD 80mm long has its end C 30 mm above HP and 20 mm in front of VP. The line is inclined 45° to HP and 35° to VP. Draw its projections **(2 Marks - Level 2)**.

ii. Projection of planes (without traces)
a. A regular pentagon ABCDE, of side 25 mm has its side BC on floor. Its plane is perpendicular to floor and inclined at 45° to the wall. Draw the projections of the pentagon **(2 Marks – Level 1)**.

b. A regular hexagon ABCDEF of side 20 mm has its side DE on wall. Its plane is parallel to floor **(2 Marks – Level 2)**.

Extra problems for practice

1. A line RS, 80mm long has its end R, 20mm above HP and 30mm in front of VP. The top and front views of the line have lengths of 50mm and 65mm respectively. Draw the projection of the line and find its true inclinations with VP and HP.

2. One end P of line PQ, 80mm long is 10mm above HP and 15mm in front of VP. The line is inclined at 40º to the HP and the top view makes 50º with VP. Draw the projections of the line and find its true inclinations with VP.

3. A rectangular plane ABCD, of side AB, 70 mm and BC, 30 mm, has its side BC on the H.P. (floor). The plane is inclined 60° to the H.P (floor).and resting side BC is inclined at 45° to the V.P. (wall). Draw the projections of the rectangular plane.

4. Find the shortest distance between a pencil (line AB) and a sharpener (point C) placed on a table, whose Cartesian coordinates are A=(10,20,30); B=(30, 40, 60) , and C= (60,20,40).
All units are in mm.