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

18MES101L – Engineering Graphics and Design

Reg. No		Ex. No.	5
Name of the student		Title of the exercise	Projection of Solids-1
Department / Branch		Semester	2
Section		Date of Exercise	

Note:

- **4 Questions each answer 2 marks (4 x 2= 8 Marks).**
- **Record 2 Marks.**
- **'X' denotes last two digits of your Reg.No.**

1. A cube of side X+10 mm (Where X is the last two digits of register number) rests on the ground on one of its faces with a vertical face inclined at 40º to the wall. Draw its projections.

(CO-2/ level 3/ 2 marks)

2. A square prism of base side X+20 mm (Where X is the last two digits of register number) and axis length 50 mm lies on the ground on one of its longer edges with its faces parallel to the wall. Draw the projections. *(CO-2/ level 3/ 2 marks)*

3. A hexagonal pyramid of base of side X+30 mm (Where X is the last two digits of register number) and axis 60 mm rests on the ground on its base with a base side parallel to wall. Draw the projections of the prism and determine the true length of its longest diagonal.

(CO-2/ level 3/ 2 marks)

4. Draw the front, top and right side views of a pentagonal prism of base side of X+40 mm and axis 70 mm when it is resting on the floor on its base with one of the edges of the base inclined at 30º to the wall. *(CO-2/ level 3/ 2 marks)*

Extra problems for practice

1. A right rectangular prism of side 35 X 20 mm and axis length 60 mm lies on the ground on its base with a longer base edge parallel to wall. Draw the projections.

2. A cube of side 40mm rests on the ground on one of its faces with a vertical face equally inclined to the wall. Draw its projections.

3. A square prism of base side 35 mm and axis length 60 mm lies on the ground on one of its longer edges with its faces equally inclined to the wall. Draw the projections when its axis is inclined at 30^0 to the wall.

4. Draw the projections of a pentagonal pyramid, base 30 mm edge and axis 50 mm long, having its base on the H.P. and an edge of the base parallel to the V.P. Also draw its side view.

5. A square pyramid, base 40 mm side and axis 65 mm long, has its base in the V.P. One edge of the base is inclined at 30 degrees to the H.P. and a corner contained by that edge is on the H.P. Draw its projections.

6. A hexagonal pyramid has an altitude of 60 mm and side base 30mm. The pyramid rests on one of its side of the base on HP such that the triangular face containing that side is perpendicular to HP. Draw the front and top views.

7. Draw the top and front views of a rectangular pyramid of sides of base 40 x 50 mm and height 70 mm when it lies on one of its larger triangular faces on HP. The longer edge of the base of the triangular face lying on HP is inclined at 60° to VP in the top view with the apex of the pyramid being nearer to VP.

Rubrics: Exercise 5

Name of the faculty grading:	Date of submission:	Date of grading:
Signature of the faculty grading:	Grade (out of 10):	

Criteria	No errors	Minor errors (1-2 errors)	Major errors (3-4 errors)	Incomplete (5-6 errors)	Resubmission required (more than 7 errors)
Orientation (Proper scaling to fit the drawing and maintain the required views)	4	3	2	1	0
Dimensions/Legibility (proper dimensioning, show all the required dimensions with legibility)	4	3	2	1	0
Record writing	2	1.5	1	0.5	0
Total marks	10				

Note: Students must show the dimension which has a register number without fail; otherwise marks of that question will be awarded as zero.