

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

18MES101L – Engineering Graphics and Design

Reg. No		Ex. No.	6
Name of the student		Title of the exercise	Projection of Solids-2
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. Draw the projections of the cylinder diameter X+20 (Where X is the last two digits of register number) mm and axis length 70 mm when it is lying on the ground with its axis inclined at 45° to the wall and parallel to the ground. Draw its top, front and isometric views.

(CO-2/ level 3/ 2 marks)

2. Draw the front, top and right side views of a cone of base diameter diameter X+30 mm and altitude 60 mm when its base kept parallel to the wall.

(CO-2/ level 3/ 2 marks)

3. A pentagonal pyramid of base edge X+25 mm and axis length 60 mm rests on one of its base edges on ground such that the highest base corner 20 mm above ground. Its axis is parallel to the wall. Draw its top, front and isometric views.

(CO-2/ level 3/ 2 marks)

4. Two equal spheres of diameter X+30 mm resting on the ground touching each other. Draw their projections when i) the line joining their centers is parallel to the both the wall and the floor. ii) The line of the centers is parallel to the floor and inclined at 30° to the wall.

(CO-2/ level 3/ 2 marks)

Extra problems for practice

1. A hexagonal pyramid of base edge 40 mm and altitude 80 mm rests on one of its base edges on the floor with its axis inclined at 30° to the floor and parallel to the Wall. Draw its projections.
2. Draw the Projections of a right circular cylinder of base diameter 30 mm and the axis length 45 mm when its rests on wall on its base.

3. Draw the projection of torus diameter 40 mm resting on the ground. The tube radius of the torus is 5 mm.
4. Draw the torus diameter 40 mm resting on the ground. The tube radius of the torus is 5 mm. Sphere of diameter 20 mm is kept inside the torus and the axis of the both in same line and parallel to the wall.
5. A cone of base diameter 40 mm and height 56 mm is freely suspended by a thread from one of its base points such that its axis is parallel to the VP. Draw its projections.
6. 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.
7. 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.
8. 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 6

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.