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

18MES101L – Engineering Graphics and Design

Reg. No		Ex. No.	9
Name of the student		Title of the exercise	**Section of Solids**
Department / Branch		Semester	2
Section		Date of Exercise	

Note:

- **X in the question indicates last two digits of the register number.**
- **Four questions (4 x 2 = 8 Marks).**

Q. No	*Questions*	*CO*	*BLT*	*Marks assigned*	*Marks awarded*	*Attestation by the faculty*
Q1	A Cone base of X mm diameter and axis 80 mm long is resting on its base on H.P. It is cut by a section plane perpendicular to the V.P., inclined at 45º to the H.P. and cutting the axis at a point 35 mm from the apex. Draw the front view, sectional top view, sectional side view and true shape of the section.	3	3	2		
Q2	A square pyramid of base X mm side and axis 75 mm long has its base on the ground and all the edges of the base equally inclined to the wall. It is cut by a section plane, perpendicular to the wall, inclined at 40º to the ground and bisecting the axis. Draw its sectional top view, sectional side view and true shape of the section.	3	3	2		
Q3	A hexagonal pyramid of base X mm side and axis 65 mm long is resting on its base on the ground, with two edges of the base parallel to the wall. It is cut by a section plane perpendicular to wall and inclined at 45º to the ground, intersecting the axis at a point 25 mm above the base. Draw the front view, sectional top view, sectional side view and true shape of the section.	3	3	2		
Q4	A cylinder of X mm diameter, 70 mm height and having its axis vertical is cut by a section plane, perpendicular to the VP, inclined at 40º to the HP and intersecting the axis 30 mm above the base. Draw its front view, sectional top view, sectional side view and the true shape of the section.	3	3	2		

Extra problems for practice

1. A pentagonal pyramid, side of base 35 mm and axis 60 mm long, rests with its base on HP such that one of the edges of the base is perpendicular to VP. A sectional plane perpendicular to HP and parallel to VP cuts pyramid at a distance of 20 mm from the corner of the base nearer to the observer. Draw its top and sectional front view.

2. A square prism, side of base 30 mm and axis 60 mm long, rest with its base on HP and one of its rectangular faces inclined at 30^o to VP. A section plane perpendicular to VP and inclined at 60^o to HP cuts the axis of the prism at a point 20 mm from its top end. Draw the sectional top view and true shape of the section.

3. A hexagonal prism side of base 30 mm and axis 60 mm long rests with its base on HP such that one of its rectangular faces parallel to VP. A section plane perpendicular to HP and parallel to VP cuts the prism at a distance 10 mm from its axis. Draw its top and sectional front view.

4. A cube of 40 edge, is resting on H.P on one of its edges, with a face parallel to V.P. One of the faces containing the resting edge is inclined at 30^o to H.P. The solid is cut by a section plane, parallel to H.P and 10 above the axis. Draw the projections of the remaining solid.

5. A cylinder of 45 diameter and 70 long, is resting on one of its bases on H.P. It is cut by a section plane, inclined at 60^o with H.P and passing through a point on the axis at 15 from one end. Draw the three views of the solid and also obtain the true shape of the section.

Rubrics: Exercise 9

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)**
Construction of solid with correct position of sectioning.	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.