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312311 - Engineering Drawing (Sem II)

As per MSBTE's K Scheme

ME / AE / MK / PG

Unit IV	Intersection of Solids	Marks - 14

S. N.	MSBTE Board Asked Questions	Exam Year	Marks
1.	A vertical cylinder of 65 mm diameter is penetrated by another cylinder of 60 mm diameter. The axis of penetrating cylinder is parallel to both H.P. and V.P. and 12 mm away from the axis of vertical cylinder. Draw the curves of intersection on projection of cylinders. Assume suitable length for both cylinders.	W-23	6M
2.	A vertical square prism side of base 50 mm and height 80 mm long is kept on H.P. on its base with all faces equally inclined to V.P. It is completely penetrated by horizontal cylinder axis of which is parallel to V.P. and 6 mm away from that of the axis of prism. Diameter of cylinder is 40 mm and height 90 mm long. Draw projections of solids showing the curves of intersection.	W-23	6M
3.	A cone with base diameter 90 mm and height 85 mm long is kept on H.P. on its base. It is completely penetrated by a horizontal cylinder of 40 mm diameter and 110 mm long. Axis of cylinder is parallel to V.P. and intersecting the axis of cone at a distance of 25 mm above the base of cone. Draw the projection of solids showing curves of intersection.	W-23	6M

4.	A vertical square prism 60 mm sides of base and height 100 mm has its base on HP and rectangular faces equally inclined to VP. It is penetrated by horizontal square prism 45 mm sides and axis 100 mm such that axes bisect each other. The faces of the horizontal prism are equally inclined to HP. Draw the three views of solids showing lines of intersection.	S-23	6M
5.	A vertical cylinder of 70 mm diameter is penetrated by another cylinder of 50 mm diameter. The axis of the penetrating cylinder is parallel to both HP and VP and is 6 mm away from the axis of vertical cylinder. Draw the projection showing curves of intersection. (Assume axis length for both cylinders)	S-23	6M
6.	A cone with base diameter 70 mm and axis height 65 mm is kept on HP on its base. It is penetrated by horizontal cylinder of diameter 30 mm with its axis parallel to VP and intersecting the axis of the cone at a distance of 20 mm above the base of the coal. Draw the projections of solids showing curves of intersection.	S-23	6M
7.	A vertical square prism having its faces equally inclined to the V.P. is completely penetrated by a horizontal cylinder, the axis of which is parallel to the V.P. and 6 mm away from that of the axis of prism. Draw projections of solids and show the curves of intersection. The length of side of base of the prism is 50 mm and the diameter of cylinder is 40 mm. Assume the length of axis of prism and cylinder is 110 mm.	W-22	6M

8.	**A vertical square prism of side 60 mm and height 110 mm is completely penetrated by a horizontal square prism of 45 mm side and 110 mm length. The axis of horizontal prism is 8 mm in front of the axis of vertical prism. All the rectangular faces of both the prisms are equally inclined to V.P. Draw the projections of solids and line of intersection.**	**W-22**	**6M**
9.	**A cone with base diameter 70 mm and axis 70 mm is kept on H.P. on its base. It is penetrated by a horizontal cylinder of diameter 35 mm with its axis parallel to V.P. and intersecting the axis of the cone at a distance of 20 mm above the H.P. Draw the projections of solids and show curves of intersection.**	**W-22**	**6M**
10.	**A vertical cylinder of 50 mm diameter is completely penetrated by another cylinder of same size. The axis of penetrating cylinder is parallel to both the HP and VP, and is 8 mm away from axis of vertical cylinder. Draw projections of solid showing curves of intersections. Assume suitable length of cylinder.**	**S-22**	**6M**
11.	**A vertical square prism base 50 mm side and height 90 mm has a face inclined at 30º to VP. It is completely penetrated by another square prism base 40 mm side and axis 100 mm long, faces of which are equally inclined to the VP. The axes of two prism are parallel to VP and bisect each others at right angle. Draw projections of solids showing curves of intersection.**	**S-22**	**6M**

12.	**A square prism side of base 60 mm, axis 80 mm, rest on HP on its base with an edge of base inclined at 30º at VP. It is completely penetrated by a cylinder with diameter 60 mm. Axis of cylinder is parallel to HP and VP both and bisects the axis of square prism. Draw the three views showing curves of intersection.**	**S-22**	**6M**
13.	**A vertical square prism base 50 mm side and height 90 mm is completely penetrated by a horizontal square prism base 35 mm side and axis length 90 mm, so that their axes are 6 mm apart. The axis of horizontal prism is parallel to VP while faces of both prisms are equally inclined to VP. Draw the projection showing line of intersection.**	**W-19**	**6M**
14.	**A cylinder 50 mm diameter and 70 mm height is completely penetrated by another cylinder of 40 mm diameter and 70 mm length horizontally, axis of which is parallel to both HP & VP and intersecting axis of vertical cylinder at right angle. Draw projection showing curve of intersection.**	**W-19**	**6M**
15.	**A cone with base diameter 70 mm & axis height 65 mm is kept on HP on its base. It is completely penetrated by a horizontal cylinder of 35 mm diameter and 80 mm length with its axis parallel to VP and intersecting axis of cone at a distance 25 mm above base of cone. Draw projection showing curve of intersection.**	**W-19**	**6M**

16.	**A vertical cylinder of 70 mm diameter is penetrated by another cylinder of 50mm diameter. The axis of the penetrating cylinder is parallel to both H.P. and V.P. and is 8 mm away from the axis of the vertical cylinder. Draw its projections showing curves of intersection.**	**S-19**	**6M**
17.	**A vertical cylinder of diameter of 70 mm and height 100 mm is completely penetrated by a horizontal square prism of side 50 mm and length 110 mm. The axis of the prism bisects the axis of the cylinder. All the rectangular faces of the prism are equally inclined to H.P. Draw Front View, Top View and Side View showing the curves of intersection.**	**S-19**	**6M**
18.	**A cone with base diameter 80 mm and axis height 75 mm is kept on the H.P .on its base. It is penetrated by a horizontal cylinder of diameter 40 mm with its axis parallel to V.P. and intersecting the axis of the cone at a distance of 25mm above the base of the cone. Draw the projections solid showing curves of intersection.**	**S-19**	**6M**
19.	**A vertical cylinder 85 mm diameter is penetrated by another cylinder of 60 mm diameter, the axis of which is parallel to both H.P. and V.P. The two axes are 8 mm apart. Draw the projections showing curves of intersection.**	**W-18**	**6M**

20.	**A vertical square prism base 50 mm side has its faces equally inclined to V.P. It is completely penetrated by another square prism of base 30 mm side, the axis of which is parallel to both H.P. and V.P. and is 6 mm away from the axis of the vertical prism. The faces of horizontal prism are also equally inclined tothe V.P. Draw the projections of solids showing the lines of intersection.**	**W-18**	**6M**
21.	**Square hole of 35 mm side is cut in a cylindrical shaft 75 mm diameter and125 mm long. Axis of the hole intersects that of the shaft at right angles.All faces of the hole are inclined at 45° to the H.P. Draw the three views ofthe shaft when the plane of the two axes is parallel to the V.P.**	**W-18**	**6M**

Thank You

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