P P SAVANI UNIVERSITY

Second Semester of B. Tech. Examination
January 2022
SEME1040 Concepts of Engineering Drawing

25/01/2022, Tuesday | Time: 12:30 p.m. to 03:00 p.m. | Maximum Marks: 60

Instructions:
1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

SECTION – I

Q - 1	Draw an Archimedean spiral of 1.5 convolutions, the greatest and least radii being 115 mm and 25 mm respectively.	[08]
	OR	
Q - 1	A point P moves towards another point O, 75mm from it, and reaches it during 1 revolution around it in clockwise direction. Its movement towards O is uniform with its movement around it. Draw the curve traced by the point P and name it.	[08]
Q - 2	A wheel rolls over the horizontal straight line path and covers 1980 mm distance in one rotation. Draw the path traced by the point P, which is initially at the point of contact between the wheel and the horizontal straight line. Name the path traced by the point P.	[06]
	OR	
Q - 2	Draw an ellipse by 'concentric circles method' and find the length of the minor axis with the help of the following data: (i) Major axes = 100 mm. (ii) Distance between foci 80 mm.	[06]
Q - 3	A line PQ, 80 mm long has its end P 15 mm above the HP. Line makes an angle of 30° with HP and 45° with the VP. End Q of the line is 10 mm in front of VP. Draw the projections the line considering it in first quadrant.	[08]
	OR	
Q - 3	A line CD has its end C 15mm above HP and 10mm in front of VP. The end D is 60mm above HP. The distance between the end projectors is 50mm. The line is inclined to HP by 25°. Draw the projections and find the inclination with the VP and the true length of the line CD.	[08]
Q - 4	A regular hexagonal lamina of sides 25 mm is lying in such a way that one of its sides on HP while the side opposite to the side on which it rests is on VP. If the lamina makes 60° to HP, Draw the projections of the lamina	[08]
	OR	
Q - 4	A square ABCO of 50 mm side has its corner A in the H.P., its diagonal AC inclined at 30° to the H.P. and the diagonal BO inclined at 45° to the V.P. and parallel to the H.P. Draw its projections.	[08]

SECTION – II

Q - 1	Draw the isometric view from the orthographic projections shown in following figure 1.	[15]
	OR	
Q - 1	Figure 2 shows the front view and top view of object. Draw the isometric view.	[15]

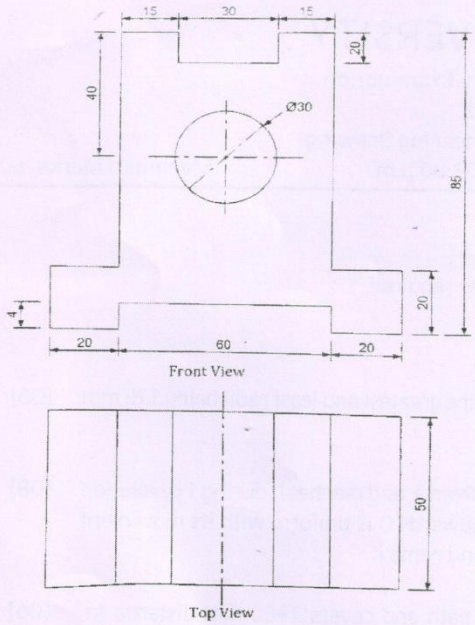


Figure1

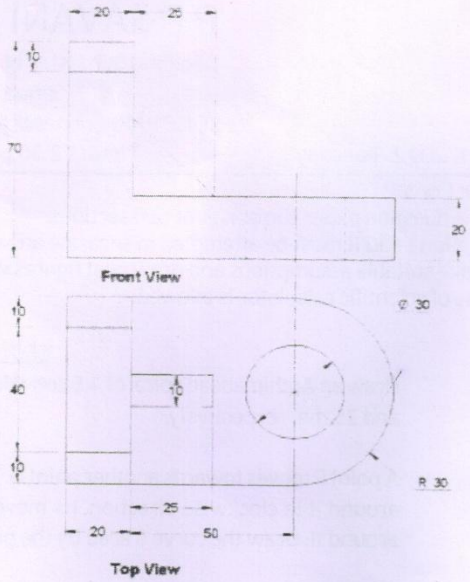
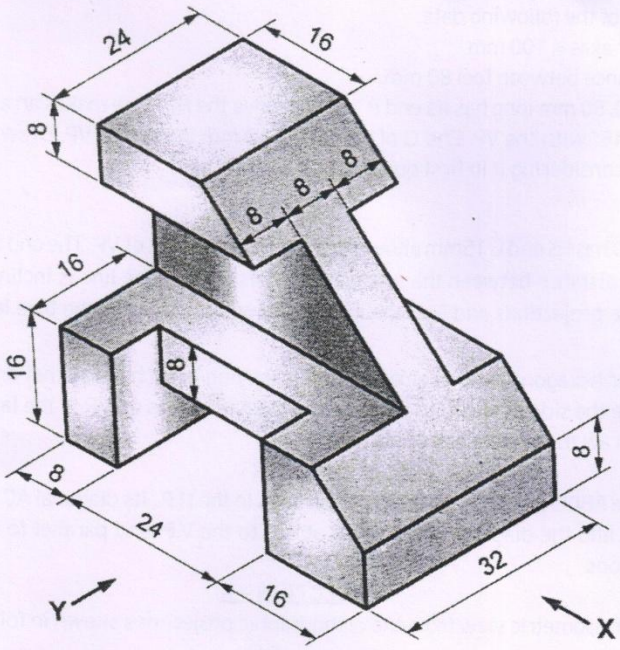


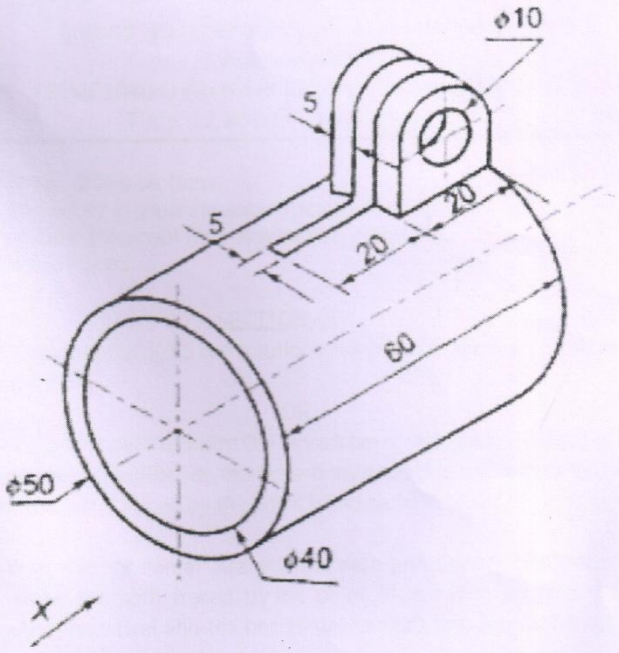
Figure 2

Q - 2 Draw the following views using First angle projection method: [15]
(a) Front view (b) Top view (c) RHSV



OR

Q - 2 Draw the following views using Third angle projection method: [15]
(a) Front view (b) Top view (c) RHSV



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