P P SAVANI UNIVERSITY

First Semester of B. Tech. Examination

January 2023

SEME1010 Engineering Graphics

06.01.2023, Friday **Time: 10:00 a.m. To 12:30 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.

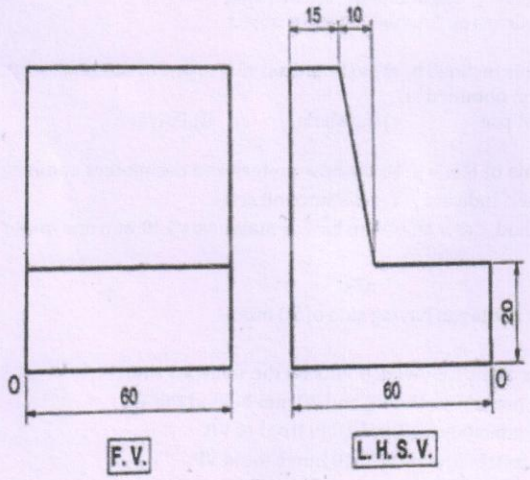
SECTION – I

			CO	BTL
Q - 1	**Answer the Following.**	**[05]**		
(i)	A French curve is used to draw a) Circle b) Ellipse c) Smooth freeform (freehand) curve d) Polygon		1	1
(ii)	Which one of the following is not a reduction scale? a) 1:1 b) 1:200 c) 5/320 d) 5:6		1	2
(iii)	Name of the line indicating sectional view: a) Continuous thick b) Chain thin c) Continuous thin d) Continuous thin wavy		1	1
(iv)	For drawing of small instruments, watches etc. the scale used is a) Reduced scale b) Full scale c) Enlarged scale d) none of these		1	1
(v)	Representation Factor is the ratio of a) Maximum length / Minimum length b) Actual length of object / length of object in drawing c) length of object in drawing / Actual length of object d) All of these		1	1
(vi)	When a section plane is inclined to the axis and parallel to one of the generators of the cone the section obtained is a) Circes b) Ellipse c) Parabola d) Polygon		4	2
Q - 2 (a)	Construct a plain scale of R.F. = 1:40 to show meters and decimeters and long enough up to 10 meter. Indicate 7.4 m distance on scale.	**[05]**	2	6
Q - 2 (b)	Use arc of circle method, draw an ellipse having major axis 120 mm and minor axis 80 mm.	**[05]**	3	3
	OR			
Q - 2 (b)	Draw the Involute of Pentagon having side of 30 mm.	**[05]**	3	3
Q - 3 (a)	Draw the projections of the following points on the same x-y line : i. Point A is 20 mm above the HP and 20 mm behind the VP. ii. Point B is 40 mm above HP and 10 in front of VP. iii. Point C is 25 mm below HP and 40 mm behind VP. iv. Point D is on HP and VP. v. Point E is 20 mm below HP and 10 mm in front of VP.	**[05]**	4	2
Q - 3 (b)	A line AB is 100 mm long. It is inclined at 40° to the HP and 30° to the VP. The end A is 10 mm above HP and 25 mm in front of VP. Assuming the end B in the first quadrant, draw the projections of the line AB.	**[07]**	4	3
	OR			

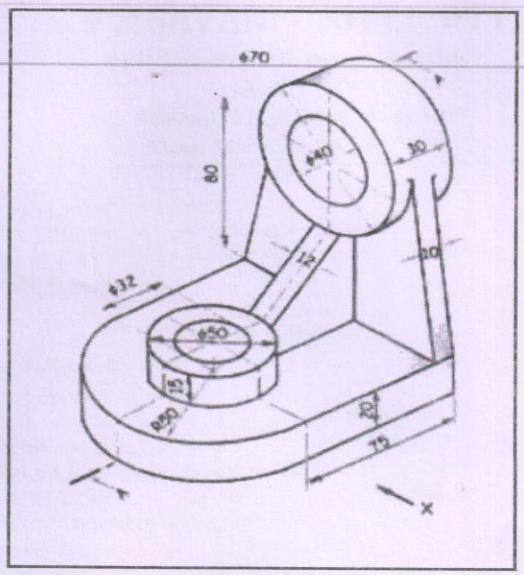
Q - 3 (b)	Distance between the end projectors of a line AB is 50 mm. End A is 20 mm above HP and 30 mm in front of VP. End B is 50 mm below HP and 50 mm behind VP. Draw its projections and find true length and true inclination of a line with HP & VP.	[07]	4	3
Q - 4	**Attempt any one.**	[08]		
(i)	A square ABCD of 50 mm side has its corner A on the ground, its diagonal AC inclined 30° to the H.P. and diagonal BD inclined at 45° to the V.P. and parallel to the H.P. Draw the projections.		3	3
(ii)	A semicircular plate of 80 mm diameter has its straight edge in the VP and inclined at 45^0 to the HP. The surface of the plate makes an angle of 30^0 with the VP. Draw its projections.		3	3

SECTION – II

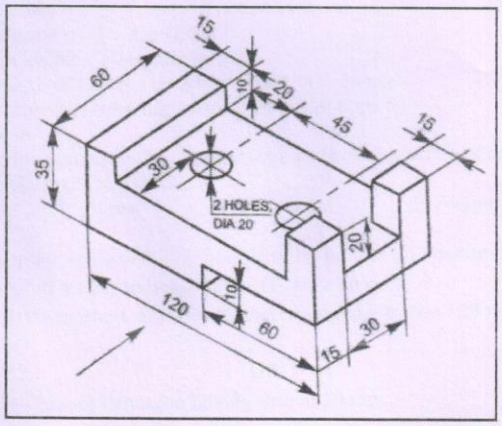
Q - 1	**Attempt any one.**	[10]		
(i)	A hexagonal prism with side of base 30 mm and axis length 60 mm is resting on one of its base edge on HP such that its axis is inclined at 45o with HP and the side on which it is resting is inclined at 30° with VP. Draw the projections.		3	4
(ii)	A cone of 70 mm diameter of the base circle and 60 mm length of axis is resting on its base on the HP. It is cut by an AIP so that true shape of the section is an isosceles triangle with the vertex angle of 50°. Set the required cutting plane and find its inclination with the HP. Draw sectional top view, front view and project the true shape of the section.		3	4
Q - 2	Figure Shows front view and top view of an object. Draw isometric view. Total height cover by the object is 60 mm.	[10]	4	4



Q – 3	**Attempt any One.**	[10]		
1	Figure shows the pictorial view of an object, draw the following views using first angle method of projection. Also give the important dimensions. (i) Front view (ii) Top View		4	4



2 Draw front view, top view and right-hand side view of the object given in Figure using first angle projection 4 4



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CO : Course Outcome Number BTL : Blooms Taxonomy Level

Level of Bloom's Revised Taxonomy in Assessment

1: Remember	2: Understand	3: Apply
4: Analyze	5: Evaluate	6: Create