Reg. No. ⬜⬜⬜⬜⬜⬜⬜⬜⬜⬜⬜⬜⬜

B.E / B.TECH. DEGREE EXAMINATIONS, MAY 2023
First & Second Semester
GE18151 – ENGINEERING DRAWING
(Regulation 2018 & 2018A)

TIME: 3 HOURS   **MAX. MARKS: 100**

CO 1   Students will construct conic sections and curves and sketch the orthographic views of lines as per drawing standards.

CO 2   Obtain orthographic projections of plane surfaces and simple solids in various positions.

CO 3   Draw projections of sectioned solids and develop the lateral surfaces of simple solids.

CO 4   Draw isometric projections of simple solids and their combinations. Also perform free hand sketching of orthographic views of given objects.

CO 5   Draw perspective projections for the given objects in different positions.

PART- A (5 x 18 = 90Marks)

		Marks	CO	RBT LEVEL
1(a)	The vertex of a curve is 65 mm from its focus. Name and draw the curve if the eccentricity is 3/2· Draw a normal and a tangent at a point on the curve, 75 mm from the directrix.	(18)	1	3

(OR)

1(b)	(i)	Draw the projections of the point on common reference line
		    a. Point A is on HP and 30 mm behind VP
		    b. Point B is 20 mm below HP and 30 mm behind VP
			(4)	1	3

	(ii)	The top view of line *AB* measures 60 mm and inclined to reference line at 60°. The end point *A* is 15 mm above the H.P. and 30 mm in front of the V.P. Draw the projections of the line when it is inclined at 45° to the H.P. and is situated in the first quadrant. Find true length and inclination of the line with the V.P.	(14)	1	3

2(a)	A regular pentagon of 25 mm side has one side on the ground. Its plane is inclined at 45° to the H.P and perpendicular to the VP. Draw its projections.	(18)	2	3

(OR)

2(b)	Draw the projections of a cone, base 75 mm diameter and axis 100 mm long, lying on the H.P. on one of its generators with the axis parallel to the V.P.	(18)	2	3

3(a)	A square prism, base 40 mm side, axis 80 mm long, has its base on the H.P. and its faces equally inclined to the V.P. It is cut by a plane, perpendicular to the V.P., inclined at 60° to the H.P. and passing through a point on the axis, 55 mm above the H.P. Draw its front view, sectional top view and true shape of the section.	(18)	3	3

(OR)

3(b)	A cylinder of base diameter 50 mm and height 70 mm is resting on its base on the ground. It is cut by a plane perpendicular to the VP and inclined at 40^0 to the HP. The cutting plane meets the axis at a distance of 20 mm below the top face. Draw the development of the lateral surface of the truncated cone.	(18)	3	3

4(a)	Draw the isometric view of a frustum of a hexagonal pyramid when it is resting on its base on the HP with two sides of the base parallel to the VP. The side of base is 30 mm and top face is 10 mm. The height of the frustum is 55 mm.	(18)	4	3

(OR)

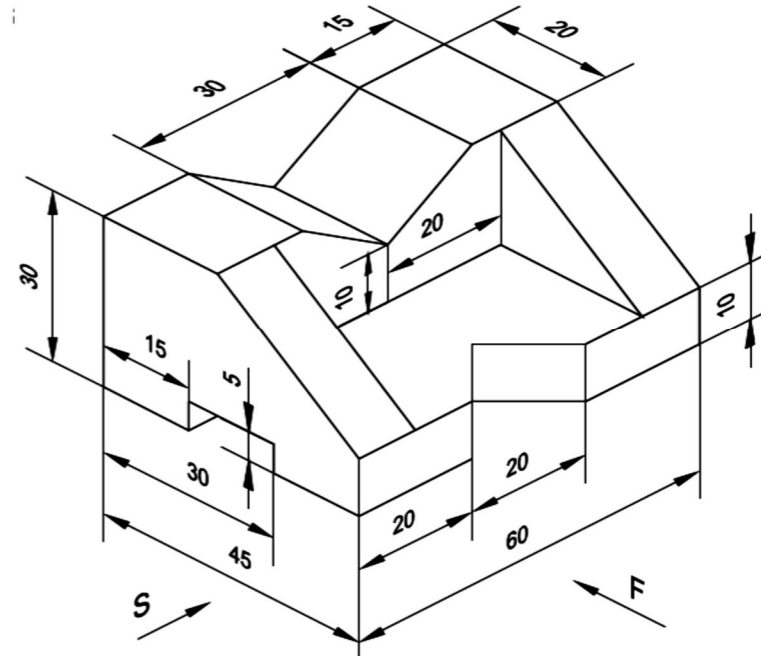| 4(b)	Draw the front view, top view and right-side view for the figure 1. shown below.	(18)	4	3

Figure 1 (All dimensions are in millimeter)

5(a)	A rectangular prism 40X30X15 mm rests on the ground on one of its ends with one of the longest edges touching the PP and the shortest edges receding to the left at an angle of 40^0 to the PP. The nearest vertical edge is 15 mm to the left of the station point, which is at a distance of 55 mm in front of the PP and 30 mm above the ground. Draw the perspective view of the solid.	(18)	5	3

(OR)

5(b)	A square pyramid of base side 30 mm and altitude 40 mm rests on its base on the ground such that one of its base sides is parallel to the picture plane and 10 mm in front of it. The station point is 50 mm in front of the picture plane, 25 mm to the left of the axis of the pyramid and 55 mm above the ground. Draw the perspective view of the pyramid.	(18)	5	3

PART- B (1 x 10 = 10 Marks)
(Q.No.6 is compulsory)

	Marks	CO	RBT LEVEL

6 In an air-conditioning system, a rectangular duct of 100 mm x 50 mm **(10)** **3** **4**
connects another rectangular duct of 50 mm x 25 mm through the transition
piece as shown in figure. 2. Neglecting thickness of a metal sheet, develop
the lateral surface of the bottom portion of the duct. Assume suitable
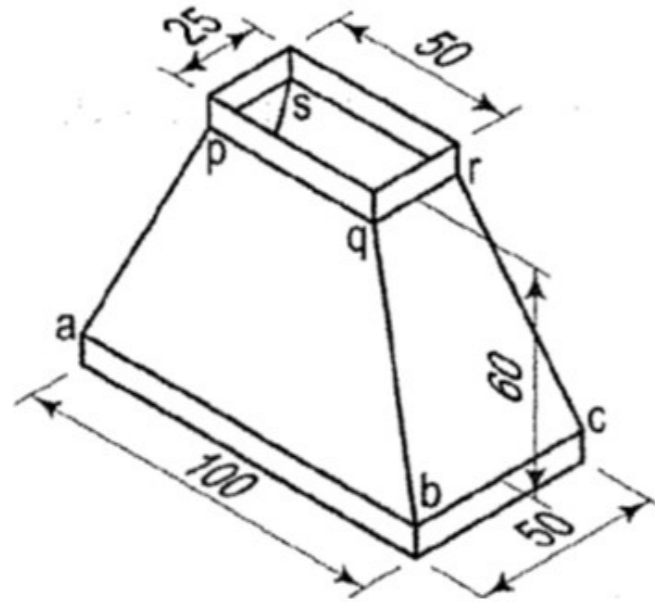dimensions for the missing dimensions.

Figure.2 (All Dimensions are in millimeter)

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