PVP 23

Code: 23ES1104

I B.Tech - I Semester – Supplementary Examinations – MAY 2025

ENGINEERING GRAPHICS

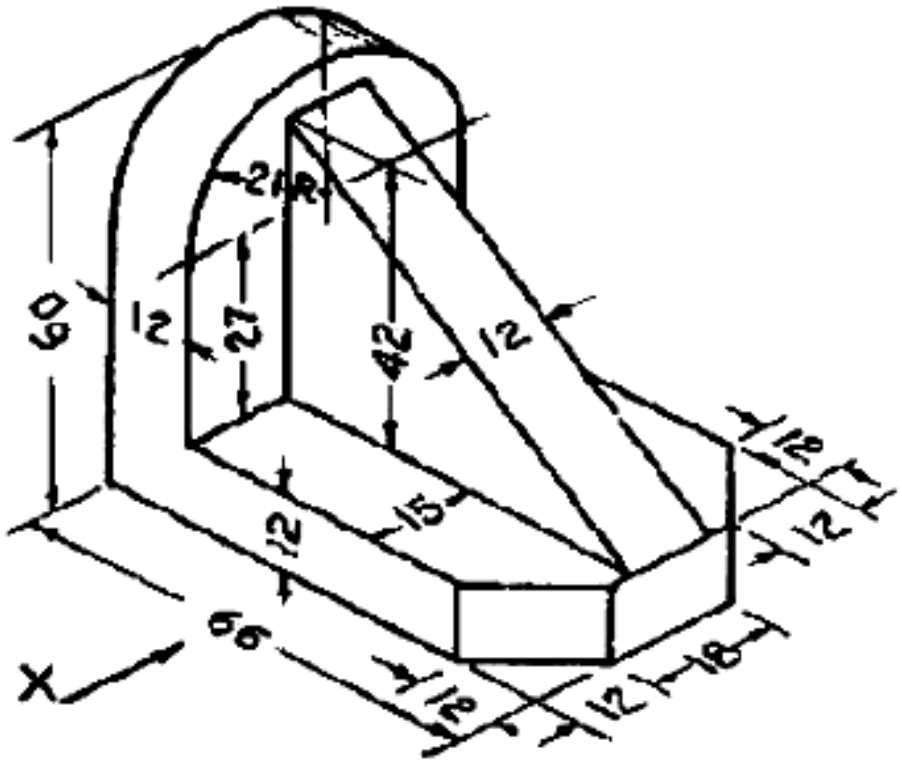
(Common for CE, ME, IT, AIML, DS)

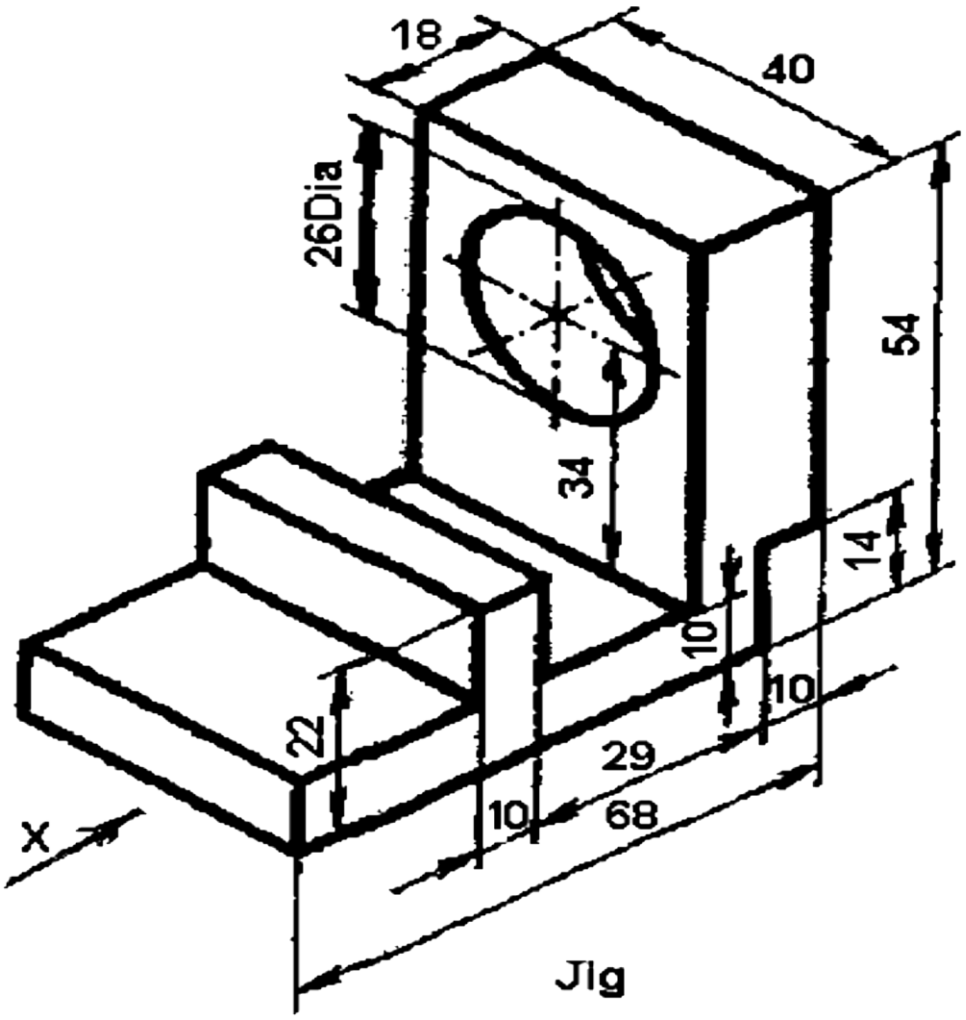
Duration: 3 hours Max. Marks: 70

Note: 1. This question paper contains 5 essay questions with an internal choice from each unit. Each question carries 14 marks.
2. All parts of Question must be answered in one place.

		UNIT – I	
1.	a)	Draw a cycloid of a circle diameter 50mm for one revolution. Also, draw a tangent and a normal to the curve at a point 35 mm above the base line.	7 M
	b)	A length of 1 mm is enlarged 20 times in a drawing, What is the R.F of this scale? Draw a diagonal scale of 0.01 mm least count and mark a distance of 7.63 mm on it.	7 M
		OR	
2.	a)	Draw a parabola when the distance between its focus and directrix is 50 mm. Also draw a tangent and a normal at a point 70mm from the directrix.	7 M
	b)	The area of a field is 50000 sq. meter. The length and breadth of the field, on the map is 10cm and 8cm respectively. Construct a diagonal scale which can read up to 1mtr and Mark the length 235mtr on the scale. What is the RF of the scale?	7 M

		UNIT – II	
3.	a)	Draw the orthographic projections of the following points? i) Point P is 30 mm. above H.P and 40 mm. in front of VP ii) Point Q is 25 mm. above H.P and 35 mm. behind VP iii) Point R is 32 mm. below H.P and 45 mm. behind VP iv) Point S is 35 mm. below H.P and 42 mm. in front of VP v) Point T is in H.P and 30 mm. is behind VP	7 M
	b)	An 80 mm long line AB is inclined at 30^0 to the H.P. and 45^0 to the V.P. The end A is 20 mm above the H.P. and lying in the V.P. Draw the projections of the line.	7 M
		OR	
4.	a)	A 70mm long line PQ is inclined at 45^0 to the V.P. Its end P lies on the H.P. and 15 mm in front of the V.P. The top view of the line measures 60mm. Draw the projections of the line PQ and determine its inclination with the H.P	7 M
	b)	An 80mm long line AB is inclined at 30^0 to the H.P. and 45^0 to the V.P. The end A is 20mm above the H.P. and lying in the V.P. Draw the projections of the line.	7 M
		UNIT-III	
5.		A regular pentagon of 30 mm sides is resting on HP on one of it's sides with it's surface 45^0 inclined to HP. Draw it's projections when the side in HP makes 30^0 angle with VP?	14 M
		OR	
6.		A Hexagonal Prism, having a base with a 30 mm side and 65 mm long axis, has an edge of it's base in the VP Such that the axis is inclined at 30^0 to the VP and Parallel to the HP. Draw its Projections?	14 M

	UNIT – IV	
7.	A pentagonal pyramid of base side 30mm and axis 60mm is resting on its base in the H.P. with an edge of the base parallel to the V.P. A horizontal section plane cuts the pyramid bisecting the axis. Draw its front view and sectional top view.	14 M
	OR	
8.	A Cylinder of base diameter 50mm and axis 70mm is resting on ground with its axis vertical. It is cut by a section plane perpendicular to the V.P., inclined at 45^0 to the H.P., passing through the top of a generator and cuts all the other generators. Draw the development of its lateral surface.	14 M
	UNIT – V	
9.	Draw Front View, top view and side view for the part shown in figure. All dimensions are in mm. 	14 M

	OR	
10.	Draw the front view, top view and side view for the picture shown in figure. All dimensions are in mm. 	14 M