QP Code	1	6	0	0	5	7	Register Number								

VELALAR COLLEGE OF ENGINEERING AND TECHNOLOGY

(An Autonomous Institution, Affiliated to Anna University, Chennai)

Semester Examinations – Apr / May 2017 Regulations-2016

Programme: B.E / B.Tech Semester: 1 Max. Marks: **100** Duration 3 Hrs

Course Code & Title: **16MEC21 ENGINEERING GRAPHICS**

Knowledge Levels (KL)	K1 - Remembering	K3 - Applying	K5 – Evaluating
	K2 - Understanding	K4 – Analysing	K6 – Creating

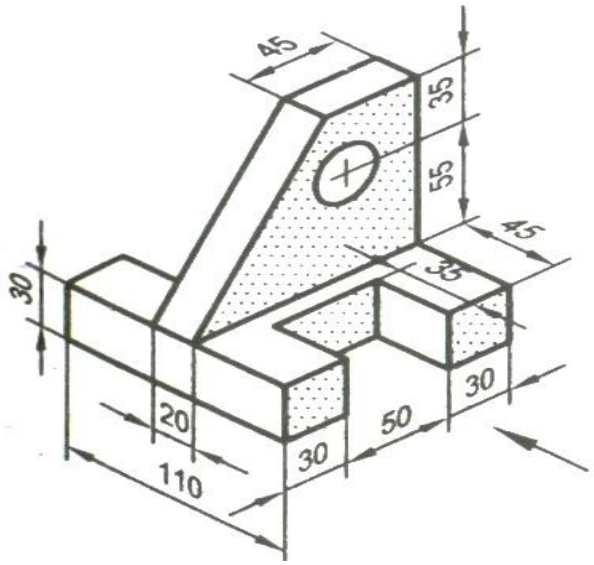
Part A - Answer ALL Questions. 10 x 2 = 20 Marks

No.	Question	KL
1.	What is the difference between parabola and hyperbola?	K2
2.	Name two applications of cycloid.	K2
3.	Show the projections of a point A which is in the HP and 30mm in front of the VP. (Not to scale).	K2
4.	In the projections of a straight line, when the top view will have the true length?	K2
5.	Differentiate between a prism and a pyramid.	K1
6.	What is a tetrahedron?	K1
7.	Under what condition, the sectional plan and the true shape of the section will be identical?	K2
8.	What is a frustum of a solid?	K1
9.	What is the shape of a circle in isometric projection?	K1
10.	Compare orthographic projection with perspective projection.	K1

Part B - Answer ALL Questions. 5 x 16 = 80 Marks

No		Question	Marks	KL
11.	a	Draw the locus of a point P moving so that the ratio of the distance from a fixed point F to its distance from its distance from a fixed straight line DD' is ¾. Point P is a distance of 70mm from DD'. Also draw a tangent and normal to the curve.	16	K3
		OR		
	b	Construct an epicycloid having a rolling circle of diameter 50 mm and a directing circle of radius 100 mm. Also draw a tangent and normal at a point M on the curve.	16	K3
12.	a	A line AB 60mm long has its end B, 20mm above the H.P. and 25mm in front of the V.P. The end A is 50mm above the H.P and 50mm in front of the V.P. Draw its projections and find its inclinations with V.P. and H.P.	16	K3
		OR		

	b	A circular lamina of 60 mm diameter resting on the ground on a point 1 on the circumference. It is inclined to HP such that the top view of the lamina is an ellipse of minor axis 35 mm long. The top view of the diameter through the point 1 makes an angle of 45^0 with VP. Draw the projections and finds the angle made by the lamina with HP.	16	K4
13.	a	Draw the projections of a cone, base 30mm diameter and axis 50mm long, resting on HP, on a point of its base circle with the axis making an angle of 45° with HP and its top view making an angle of 30° with VP.	16	K3
		OR		
	b	A hexagonal prism, side of base 25mm and axis 70mm long lies with one its rectangular faces on the HP, such that the axis is inclined at 45° to the VP. Draw its projections.	16	K3
14.	a	A hexagonal pyramid, side of base 25mm and axis 55mm long, rests with its base on HP such that one of the edges of its base is perpendicular to VP. It is cut by a section plane perpendicular to HP, inclined at 45° to VP and passing through the pyramid at a distance of 10mm from the axis. Draw the sectional front view and true shape of section.	16	K3
		OR		
	b	Draw the development of the lateral surface of the right portion of the cylinder of diameter 50mm and height 65mm cut by a plane inclined at 60° to the base and passing through the axis at a height of 40mm above base.	16	K4
15.	a	Draw the isometric projection of a hexagonal prism, side of base 30mm and height 70mm when its axis is vertical.	16	K4
		OR		
	b	Draw the elevation, plan and left hand view of the given isometric view in figure.	16	K3



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