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CAMBRIDGE INSTITUTE OF TECHNOLOGY

K.R. PURAM, BENGALURU-560036.

Department of Basic Sciences

Preparatory Examination - Odd Semester 2018-19

Sub. Name: Engineering Graphics **Sub. Code**: 18EGDL15 **Semester**: I

Date: 16-01-2019 **Time**: 9:00 AM **Duration**: 3 Hours **Max. Marks**: 100

NOTE:
Answer five full questions, choosing one from each module, each full question carries maximum of 20 Marks.

Sl. No.	QUESTIONS	COs	RBT Levels	Marks
1	a) A 30^0-60^0 setsquare of 60mm longest side is so kept such that the longest side is in HP, making an angle of 30^0 with VP. The setsquare itself inclined at 45^0 to HP. Draw a projection of the setsquare.	CO1	L1	10
	b) The top view of a square lamina of side 30mm is a rectangle of sides 30mmX20mm with the longer side of the rectangle being parallel to both HP and VP. Draw the top and front views of the square lamina. What is the inclination of the surface of the lamina with HP and VP?	CO1	L2	10
	OR			
2	a) An isosceles triangular plane of negligible thickness has base 25mm long and altitude 35mm. it is so placed on HP such that in the front view it is seen as an equilateral triangle of 25mm sides with the side that is parallel to VP is inclined at 45^0 to HP. Draw its top and front views. Also determine the inclination of the plate with the reference plane.	CO1	L1	10
	b) A rectangular lamina of sides 20mmX30mm rests on HP on one of its longer edges. The lamina is tilted about the edges on which it rests till its plane surfaces is inclined HP at 45^0. The edge on which it rests is inclined at 30^0 to VP. Draw the projections of the lamina.	CO1	L2	10
3	a) A mirror of 30mmX40mm is inclined to the wall such that its front view is a square of 30mm side. The longer sides of the mirror appear perpendicular to both HP and VP. Find the inclination of the mirror with the wall.	CO2	L2	10
	b) A pentagonal lamina of edges 25mm is resting on HP with one of its corners such that the edge opposite to this corner is 20mm above HP and makes an angle of 45^0 with VP. Draw the top and front views of the plane lamina in this position. Determine the inclination of the lamina with HP.	CO2	L3	10

	OR			
4	a) A pentagonal lamina having edges 25 mm is placed on one of its corners on VP such that the surface makes an angle 30° with VP and perpendicular bisector of the edge passing through the corner on which the lamina rests is inclined at 45° to HP. Draw the top and front views of the lamina.	CO2	L2	10
	b) A regular pentagonal lamina of 25mm sides is resting on one of its sides on HP while the corner opposite to this side touches VP. If the lamina makes an angle of 60° with HP and 30° with VP, draw the projections of lamina.	CO2	L3	10
5	A tetrahedron of 55 mm sides rests on one of its corners such that the edge containing that corner is inclined to HP at 50° and VP at 30°. Draw the projections.	CO3	L3	20
	OR			
6	A hexahedron of 30 mm sides is resting on one of its corners on HP such that one of its solid diagonals is perpendicular to VP. Draw the projections of the solid.	CO3	L3	20
7	A pentagonal prism 25mm sides of base and 50mm axis length rests on HP on one its corners of the base such that the two base edges containing the corner on which it rests make equal inclination with HP. Draw the projections of the prism when the axis of the prism is inclined to HP at 400 and to VP at 300.	CO2	L3	20
	OR			
8	A hexagonal prism 25mm sides of base and 50mm axis length rests on HP on one of its corners of the base such that the two base edges containing the corner on which it rests makes equal inclinations with HP. Draw the projections of the prism when axis of the prism is inclined to HP at 400 and to VP at 300.	CO2	L3	20
9	a) A hemisphere of 40 mm diameter is supported co-axially on the vertex of a cone of base diameter 60 mm and axis length 50 mm. The flat circular face of the hemisphere is facing upside. Draw the isometric projection of the combination of solids.	CO4	L2	10
	b) A pentagonal pyramid of base side 30 mm and axis length 60 mm is resting on HP on its base with a side of perpendicular to VP. Draw the isometric projections.	CO4	L2	10
	OR			
10	a) Three rectangular slabs (l x b x h) 100 mm x 60 mm x 20 mm, 100 mm x 40 mm x 20 mm and 100 mm x 20 mm x 20 mm are placed one above the other in the descending order of their width-b, such that their longer axes are co-planar. Draw the isometric projection of the combination.	CO4	L2	10
	b) A cone of base diameter 50 mm and height 50 mm is placed centrally on an equilateral triangular prism of side 100 mm and 20 mm thick. Draw the isometric projection of the combination.	CO4	L2	10

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