U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

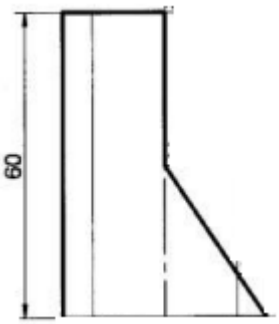
February / March 2025 Semester End Main Examinations

Programme: B.E. **Semester: I / II**
Branch: Common to all Branches **Duration: 3 hrs.**
Course Code: 22ME1ESCED/22ME2ESCED/21ME1ESEVI/20ME1ESCED **Max Marks: 100**
Course: Computer Aided Engineering Drawing

Instructions: 1. Answer any FOUR full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

		UNIT – I (Sketching)	CO	PO	Marks
1	a)	A point P is in the first quadrant. Its shortest distance from the line of intersection of HP and VP is 70 mm and it is equidistant from principal planes (HP and VP). Draw the projections of the point and determine its distance from the HP and VP.	*CO1*	*PO1*	**5**
	b)	The ends of three guy ropes are tied to a vertical flag post at a height of 24 m above the ground. The other ends of ropes are pegged to the ground. In the front view, the distance between the first peg and the pole is 10 m and is on the left side of the pole and the other two pegs are on the right side of the pole and are 15 m and 25 m from the first peg respectively. In the top view, the bearings of the ropes appear as S 45^0 W, N 30^0 E and S 40^0 E for the first, second and third ropes respectively. Find the true lengths and true inclinations of the ropes with the ground.	*CO1*	*PO1*	**15**
		OR			
2		A square plate of 30 mm side rests on HP such that one of the diagonals is inclined at 30° to HP and 45° to VP. Draw its projections when the corner on HP is away from VP.	*CO1*	*PO1*	**20**
		UNIT – II (Computer Drafting)			
3		A hexagonal pyramid of 30 mm side of base and axis 60 mm is resting on one of its corners of base on HP. A slant edge passing through this corner is inclined at 50° to HP. Draw the projections of the pyramid if the top view of the axis is inclined at 30° to VP with the base of pyramid nearer to VP.	*CO1* *CO3*	*PO1* *PO5* *PO12*	**30**
		OR			
4		A square prism of 30 mm side of base and height 60 mm is resting on a corner of its base on HP with a space diagonal of the prism is perpendicular to VP. Draw the top and front views of	*CO1* *CO3*	*PO1* *PO5* *PO12*	**30**

			the prism if the axis is inclined at 30° to VP such that the base is nearer to observer than top face. Measure the inclination of axis with HP?			
			UNIT – III (Computer Drafting / Modeling)			
	5		A cube of edge 50 mm rests centrally on a cylinder of diameter 80 mm and thickness 30 mm. Draw the top and front views of the combination when the two sides of base of cone are parallel to VP. Draft the isometric projection.	*CO1* *CO2* *CO3*	*PO1* *PO2* *PO5* *PO12*	**30**
			OR			
	6		A hemisphere of 40 mm diameter is resting centrally on top face of a frustum of a hexagonal pyramid of top face 20 mm sides, base 40 mm sides and height 60 mm. Two base edges of hexagon are perpendicular to VP and the curved surface of hemisphere is touching top face of frustum. Prepare the solid model (3D) of the combination of solids. Use the solid model to generate front view, top view and isometric projection of the combination	*CO1* *CO2* *CO3*	*PO1* *PO2* *PO5* *PO12*	**30**
			UNIT – IV (Sketching)			
	7		Develop the lateral surface of cylinder of 40 mm diameter and height 60 mm which is cut as shown in fig.Q7.  Fig. Q7	*CO1* *PO2*	*CO1* *PO2*	**20**
			OR			
	8		A cone of diameter of base 80 mm and height 80 mm stands vertically with its base on HP. A semicircular hole of radius 25 mm is cut through the cone. The axis of the hole is perpendicular to VP and parallel to HP, and intersects the axis of the cone 30 mm above the base. The flat surface of the hole contains the axis of the cone and is perpendicular to VP and HP. Draw the complete development of the cone showing the shape of the hole on it.	*CO1* *PO2*	*CO1* *PO2*	**20**

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