Q.P. Code: 20ME0301 **R20**

Reg. No: | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech I Year I Semester Regular Examinations July-2021

ENGINEERING GRAPHICS

(Common to EEE, ECE & ME)

Time: 3 hours Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	Construct an ellipse, with distance of the focus from the directrix as 50 mm and eccentricity as 2/3. Also draw normal and tangent to the curve at a point 40 mm from the directrix.	**L3**	**6M**
	b	A point P is 30 mm and 50 mm respectively from two straight lines which are inclined at 750 to each other. Draw the rectangular hyperbola from p within 10 mm distance from each line.	**L3**	**6M**

OR

2		Draw an Epi-cycloid of rolling circle of diameter 40 mm which rolls outside another circle (base circle) of 150 mm diameter for one revolution and construct a tangent and normal at any point on the curve.	**L3**	**12M**

UNIT-II

3	a	State the quadrants in which the following points are located A – Front view blow xy and top view above xy B – Front and top views are above xy C – Front view above xy and top view below xy D – Front and top views are below xy	**L3**	**6M**
	b	A line AB of 100mm length is inclined at an angle of 300 to HP and 450 to VP. The point A is 15mm above HP and 20mm in front of VP. Draw the projections of the line.	**L3**	**6M**

OR

4	a	Draw the projections of a straight line AB of 70 mm long, in the following positions: i) parallel to both HP and VP and 20 mm from each. ii) Parallel to and 20 mm above the HP and on VP iii) Parallel to and 30 mm in front of VP and on HP iv)Perpendicular to HP, 30 mm in front of VP & one end 25 mm above HP v) Perpendicular to HP, 30 mm in front of VP & one end on HP	**L3**	**6M**
	b	A line NS 80mm long has its end N 10mm above HP and 15mm In front of VP. The other end S is 65mm above HP and 50mm in front of VP. Draw the projections of the line and Find its true inclinations with HP & VP.	**L3**	**6M**

UNIT-III

5	a	A thin $30^o - 60^o$ set-square has its longest edge (diagonal) on HP and inclined at 30o to VP. Its surface makes an angle of 45^o with HP. Draw the projections, choosing suitable size for the set-square.	L3	6M
	b	A square plane ABCD of side 30mm is parallel to HP and 20mm away from it. Draw the projections of the plane, when (i) two of its sides are parallel to VP and (ii) and one of its side is inclined at 300 to VP.	L3	6M

OR

6		A regular hexagonal plane of 45 mm side has a corner on HP, and its surface is inclined at 450 to HP. Draw the projections, when the diagonal through the corner, which is on HP makes 300 with VP.	L3	12M

UNIT-IV

7		A square pyramid of base 40 mm and axis 60 mm long, Its base lies on VP with its axis parallel to HP. A cut sectional plane, 60^0 to VP and it pass 10mm away from the axis. Draw the projections sectional front view.	L3	12M

OR

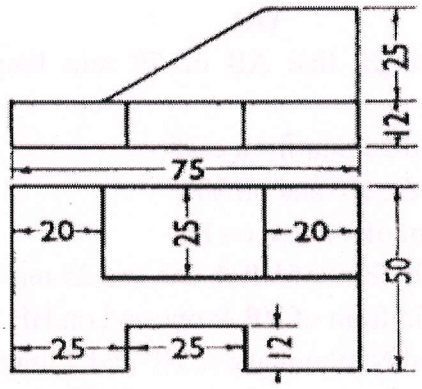
8		A cylinder of diameter of base 40 mm and axis 55 mm long is resting on its base on HP. It is cut by a section plane, perpendicular to VP and inclined at 45^0 to HP. The section plane is passing through the top end of an extreme generator of the cylinder. Draw the development of the lateral surface of the cut cylinder.	L3	12M

UNIT-V

9	a	Draw the isometric view of a cylinder of base diameter 50mm and axis 60 mm the axis of the cylinder is perpendicular to the i)HP (ii)V	L3	6M
	b	Draw the isometric view of a circular lamina of diameter 50mm on all the three principal planes using four centre methods.	L3	6M

OR

10		Construct the isometric view of the following sketch.	L3	12M



*** END ***