Q.P. Code: 16ME302 **R16**

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

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech I Year II Semester Supplementary Examinations February-2022

ENGINEERING GRAPHICS

(Common to CE, ME, AGE & EEE)

Time: 3 hours Max. Marks:60

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

UNIT-I

1	a	Draw the involute of a square of side 25 mm.	**4M**
	b	Draw an ellipse having major axis is equal to 100 mm and the minor axis is equal to 70 mm. Use the concentric circle method.	**8M**

OR

2	a	Draw the in volute of an equilateral triangular of side 20 mm.	**4M**
	b	Draw a parabola having a distance of 50 mm between the focus and directrix. Draw a normal and tangent to the parabola at a point 35 mm from the focus.	**8M**

UNIT-II

3	a	Mention the relative positions of the projections of the following points with respect to xy A – In the second quadrant B – In the third quadrant C – In the first quadrant D – In the fourth quadrant	**4M**
	b	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	**8M**

OR

4	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	**4M**
	b	Draw the projections of a straight line AB of 70 mm long, in the following positions: i) Parallel to and 20 mm above the HP and on VP ii) Parallel to and 30 mm in front of VP and on HP	**8M**

UNIT-III

5	a	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.	**6M**
	b	An equilateral triangular plane ABC of side 40mm, has its plane parallel to VP and 20mm away from it. Draw the projections of the plane when one of its sides is (i) perpendicular to HP (ii) parallel to HP	**6M**

OR

6	a	A cone of diameter 50 mm and axis 60 mm has its generator in the VP and the axis is parallel to the HP. Draw its projections.	**8M**
	b	A cylinder resting on HP has its diameter is 50mm and axis is 70mm. Draw its projections.	**4M**

UNIT-IV

7	a	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.	**6M**
	b	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 degree to VP and its pass 10mm away from the axis. Draw the projections sectional front view.	**6M**

OR

8	a	Develop the complete surface of a square prism of side of base 40mm and height 80mm.	**4M**
	b	Draw the development of the lateral surface of a square pyramid, side of base30mm and height 50mm, resting with its base on HP. All edges of the base are equally inclined to VP.	**8M**

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) VP	**6M**
	b	Draw the isometric view of a circular lamina of diameter 50mm on all the three principal planes using four centre methods.	**6M**

OR

10	a	Draw the isometric projection of the frustum of a cone of base diameter 60 mm, top diameter 30mm,and height 55mm.	**6M**
	b	Draw the isometric projection of a hexagonal prism of base side 30 mm and axis 70mm. The prism rests on its base on the HP with an edge of the base parallel to the VP.	**6M**

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