B.Tech I Year I Semester (R15) Regular Examinations December/January 2015/2016
ENGINEERING DRAWING
(Common to CE and EEE)

Time: 3 hours   Max. Marks: 70

(Answer all five units, 05 X 14 = 70 Marks)
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UNIT – I

1 (a) Draw a parabola of base 100 mm and axis 50 mm if the axis makes 70° to the base.
   (b) Draw a cycloid of a rolling circle of diameter 50 mm which rolls for one revolution, moving on a straight line.

OR

2 (a) Draw an ellipse of major axis 120 mm and minor axis 70 mm, by concentric circle method.
   (b) Construct an epicycloid of a rolling circle of diameter 40 mm which rolls for one revolution, moving on a circle of diameter 120 mm.

UNIT – II

3 The distance between Anantapuram and Bangalore is 200 km. In a road map it is represented by a line 5 cm long. Find its R.F. Draw a diagonal scale to show single km, and maximum 700 km. Indicate on it the following distances: (i) 223 km. (ii) 334 km. (iii) 455 km. (iv) 566 km.

OR

4 (a) A point M lies on HP, 35 mm in front of VP, and 20 mm in front of RPP. Draw the projections.
   (b) A point L lies 50 mm above HP, and 35 mm in front of VP. Another point N lies 45 mm below HP, and 30 mm in front of VP. If the shortest distance between the projectors of L and N is 80 mm, draw the Projections using a common XY line. Find the distance between the front views and the top views.

UNIT – III

5 A line AC 90 mm long makes 30^0 with HP and 50^0 with VP, such that its midpoint B lies 50 mm above HP and 55 mm in front of VP. Draw the projections if the end A is nearer to HP, while the end C is nearer to VP. Also find the lengths AC and $A'C'$ the apparent angles α and β.

OR

6 An ellipse of major axis 60mm and minor axis 35mm represents the top view of a circular lamina. Draw the projections if the major axis is parallel to both VP and HP, and one end of the minor axis lies on HP, while the other end lies on VP. Find the angles θ, ϕ, α, and β.

UNIT – IV

7 A hexagonal prism of base sides 25 mm and height 50 mm is suspended from one of its corners, such that its axis appears to make 25^0 with VP. Draw the projections

OR

8 A cone of base diameter 40 mm and height 60 mm is cut into a truncated cone by a section plane. The section plane passes through the axis at a height of 25 mm from its apex, and makes an angle of 40^0 with it. Draw the development of the lateral surface of its lower retained portion.

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<div style="text-align:center">UNIT – V</div>

9   A sphere of diameter 80 mm is cut by a section plane at a height of 20 mm from its top. This cut sphere is resting on its curved surface on the top of an hexagonal prism (cut surface being parallel to the base of the prism) of base sides 50 mm and height 20 mm, coaxially. Draw the isometric projection of the combination of the solids.

<div style="text-align:center">**OR**</div>

10   Draw the three views of the part shown in the figure below.

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