**R15**

**Code: 15A03101a**

B.Tech I Year I Semester (R15) Regular & Supplementary Examinations December 2017
## ENGINEERING DRAWING
(Civil Engineering)

Time: 3 hours                                                                    Max. Marks: 70

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

1   A circle of 50 mm diameter rolls along a line. A point on the circumference of the circle is in contact with the line in the beginning and after one complete revolution. Draw the cycloidal path of the point. Draw a tangent and normal at any point on the curve.

**OR**

2   Draw a pair of hyperbola, the distance between the foci is 75 mm and the length of the transverse axis 50 mm. Find the eccentricity of the curve.

### UNIT – II

3   Construct a forward vernier scale to read distances correct to a decameter on a map in which the actual distances are reduced in the ratio of 1:40000. The scale should be long enough to measure 6 km. Mark on the scale the lengths of 3034 km and 0.57 km.

**OR**

4   (a) A point P is 40 mm infront of VP, 50 mm above HP and 60 mm infront of right PP. Draw its projections.
    (b) A point lies on HP, 40 mm infront of VP and 50 mm infront of right profile plane. Draw its projections

### UNIT – III

5   Draw the projections of a straight line AB, 100 mm long inclined at 45° to HP and 30° to VP, the end A is in HP and the end B is in VP. Find the shortest distance between the straight line AB and the line of intersection of planes of projection.

**OR**

6   A circular lamina of 60 mm diameter rests on HP such that the surface of the lamina is inclined at 30° to HP. The diameter through the point on which the lamina rests on HP, appears to be inclined at 30° to VP in the top view. Obtain its projections.

### UNIT – IV

7   Draw the projections of a right pentagonal prism 20 mm side of base and axis 40 mm long resting on a corner such that the two base edges passing through it make equal inclinations with HP and its base is inclined at 60° to HP and the axis appears to be inclined at 30° to the VP in the top view.

**OR**

8   Draw the development of the lateral surface of the square pyramid of side of base 30 mm and axis 40 mm, resting on HP with one of the base edges parallel to VP.

### UNIT – V

9   A combination of the solids is formed as follows. A frustum of a cone 25 mm top diameter 50 mm bottom diameter and 50 mm high is placed vertically on a cylindrical block of 75 mm diameter and 25 mm thick such that both the solids have the common axis. Draw the isometric projection of the combinations of the solids.

**OR**

10    Figure shows the pictorial view of an object. Draw the top, front and side view. Show the dimensions of the views.



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