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Roll No ....

BE-105
B.E. I & II Semester
Examination, December 2016
Engineering Graphics

Time : Three Hours

Maximum Marks : 70

Note : Attempt any five questions. All questions carry equal marks.

1. a) On a map of a city, a distance of 30km between two localities is shown by a distance of 9cm. Calculate the R.F of scale and construct a plain scale to read km and hectometer to read upto 100km. Show a distance of 63km on it.

   b) Draw an involute of a square of sides equal to 30mm.

2. A circle of 50mm diameter rolls on outside another circle of 175mm diameter. Draw the curve traced out by a point on the rolling circle for one complete revolution. Also draw a tangent and a normal at any point on the curve.

3. a) A point A is 20mm above H.P. and 25mm in front of V.P. Another point B is 25mm behind V.P. and 45mm below H.P. Draw the projections A and B keeping the projectors 50mm apart.

   b) A line AB 60mm long is inclined at 45° to V.P. and 30mm above and parallel to H.P. If end A is 20mm in front of V.P. Draw its projections.

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4. A regular hexagon of 30mm side has a corner in the H.P. It's surface is inclined at 45° to the H.P. and top view of the diagonal through the corner which is in the H.P. makes an angle of 60° with V.P. Draw its projections.

5. A hexagonal pyramid with 30mm base sides and 70mm long axis is lying on a slant edge on the ground such that the axis is parallel to the V.P. Draw it's projections.

6. A square prism (25mm side and 60mm height) is kept on H.P. with it's axis vertical and two adjacent base sides equally inclined to V.P. It is cut by a section plane whose V.T. makes an angle of 30° with the reference line and bisects the axis. Draw sectional top view and true shape of section.

7. A cylinder of 40mm diameter of base and 55mm long axis is resting on it's base on H.P. It is cut by a section plane perpendicular to V.P. and inclined at 45° to H.P. 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 cylinder.

8. a) Draw the isometric view of a square pyramid of 30mm base side and 60mm height when it is resting on it's base on H.P.

   b) What is CAD? List out five advantages of CAD as compared to conventional drawing.

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