

Roll No

BE - 105**B.E. I & II Semester**

Examination, December 2013

Engineering Graphics*Time : Three Hours*

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Maximum Marks : 70

- Note :** i) Attempt five questions selecting one from each unit.
 ii) All questions carry equal marks.
 iii) Assume suitable missing/ misprint data, if any.

Unit - I

1. a) Construct a diagonal scale showing kilometer, hectometer and decameter in which 2 cm line represents 1 km and the scale is long enough to measure up to 7km. Mark a distance of 3km, 7hm and 4dm on it.
 b) Draw an ellipse when the distance from it's focus from directrix is equal to 60mm and eccentricity is $\frac{3}{5}$.

Or

2. a) The distance between two points on a map is 15cm. The real distance between them is 20km. Draw a diagonal scale to measure upto 25km and show a distance of 12.9 km on it.
 b) Draw a cycloid for one complete revolution of a circle having 50mm diameter.

Unit - II

3. A straight line PQ has it's end P at 20mm above the H.P and 30mm in front of V.P. The end CD is 80mm above H.P and 70mm in front of V.P. If the end projectors are 60mm apart, Draw the projections of the line. Determine it's true length and true inclinations with the reference plane.

OR

4. Draw the projections of straight line AB of 100mm long when one of it's ends is touching the V.P and the other end touching H.P. The angle of inclination with H.P and V.P are 40° and 50° respectively.

Unit - III

5. Draw the projections of a cone, base 30mm diameter and axis 50mm long when it is resting on H.P on a point of it's base circle with the axis making an angle of 45° with H.P and 30° to V.P.

OR

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6. A pentagonal prism, having a base 35mm side and a 70mm long axis has it's axis inclined at 30° to V.P. An edge of it's base is in V.P and inclined at 45° to the H.P. Draw it's projections.

Unit - IV

7. A cone base 75mm diameter and axis 80mm long is resting on it's base on the H.P. It is cut by a section plane perpendicular to the V.P inclined at 45° to the H.P and cutting the axis at a point 35mm from the apex. Draw it's front view sectional top view and true shape of the section.

OR

8. A square pyramid side of base 30mm and axis length 40mm is resting on it's base on H.P. with sides of base equally inclined to V.P. A circular hole of diameter 20mm is drilled through the pyramid so that the axis of the hole is perpendicular to V.P., parallel to H.P. and intersecting the axis of the pyramid at 12.5mm above the base. Develop the remaining portion of the pyramid.

Unit - V

9. A glass bottle consists of a cylinder of 60mm diameter and 40mm height with a cylindrical neck of 20mm diameter and 20mm height. The bottle is fitted with a cork of 18mm diameter which projects by 5mm. Draw it's isometric view.

OR

10. a) Define the term CAD. State the functions of utility commands. Mention four utility commands and their respective functions.
 b) State three methods by which lines can be drawn using AUTOCAD.

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