Roll No ....

BE-105

B.E. I & II Semester

Examination, June 2013

Engineering Graphics

Time : Three Hours

WWW.RGPVONLINE.COM   *Maximum Marks : 70*

Note: Attempt five question selecting one from each unit. Drawings should have line and dimensioning as per standard convention.

Unit - I

1. a) Construct a scale of R.F=1:250 to show decimetre and long enough to measure upto 30m. Mark a distance of 26.8m on it.

   b) The major axis of an ellipse is 100mm long and minor axis is 55mm. Find the Foci and construct the ellipse by intersecting arc method.

Or

2. a) On a building plan, a line 10cm long represents a distance of 5m. Construct a diagonal scale for the plan to read upto 6m, showing metres, decimetres and centimetres. Indicate on your scale the lengths 3.24m on it.

   b) A coin of 40mm dia rolls on a horizontal table without slipping. Draw the path travelled by the point on the circumference of the coin in contact with table when coin completes one complete revolution.

Unit - II

3. a) Draw the front view and top view of a point placed at a distance of 25mm and 20mm respectively from H.P. and V.P. when it is moved from 1st quadrant to 4th quadrant in anticlockwise direction.

   b) A line PQ 25mm long is parallel to H.P. and perpendicular to V.P. The end Q is 10mm in front of V.P. and the line is 20mm above H.P.. Draw the projections of the line and find its traces.

Or

4. The front view and top view of a straight line AB measures 50mm and 65mm respectively. Point A is in the H.P. and 20mm in front of the V.P. and front view of the line is inclined at 45° to the reference line. Determine the true length of AB, true angles of inclination with reference planes and its traces.

Unit - III

5. A pentagonal pyramid with 25mm side base and 65mm height has one of it's slant faces on the horizontal plane and the edge of the base contained by that slant face makes an angle of 25° to the V.P.. Draw the projections of the pyramid.

Or

6. A square plate of 45mm side and 40mm thick is nailed centrally to right square prism of 30mm side and height 60mm such that their axes coincide. Draw the projections when axis of the combined solid is parallel to inclined at 30° to H.P.. The two base edges of square plate are parallel to V.P. and edges of prism are parallel to square plate and combination is resting on one of the base edges of square plate.

Unit - IV

7. A pentagonal prism side of base 30mm and axis 60mm long lies with one of it's rectangular faces on H.P. and it's axis is inclined at 30° to V.P. A section plane perpendicular to H.P. and parallel to V.P. cuts the prism into two halves. Obtain it's top and sectional front view.

Or

8. A square pyramid side of base 30mm and axis length 45mm 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 axis of the hole is perpendicular to V.P. and parallel to H.P. and intersecting the axis of the pyramid at 12.5mm above the base. Develop the pyramid.

Unit - V

9. a) State five advantages of CAD.

   b) Mention four utility commands and state their basic functions.

Or

10. A square pyramid rests centrally over a cylindrical block. Draw the biometric projection of the arrangement if pyramid has a base of 25mm side and 40mm long axis where as the cylindrical block has a base of 50mm dia and 25mm thickness.

BE-105 (GS)   ******