Total No. of Questions :5] *[Total No. of Printed Pages :2*

Roll No .....

BE - 105

B.E. I & II Semester Examination, June 2014

Engineering Graphics

Time : Three Hours

Maximum Marks : 70

Rgpvonline.com

Note: All Questions are to be attempted with internal choices.

Assume suitable data if missing.

1. a) Draw a triangle having sides 5cm, 6cm and 9cm long respectively. Construct a scale of chords showing 5° divisions to measure the angles of the triangle. 7

b) Draw an ellipse passing through points A,B and C. points A and B are 100 mm apart, point B is 75 mm from A and 25 mm from C. 7

OR

c) A disc in the form of a square of 35 mm side is surmounted by semicircles on the two opposite sides. Draw the path of the end of the string, unwound from the circumference of the disc. 7

2. a) How convergent Projection differs from parallel projection. 2

b) State the position of the point if its both views lie on the reference line. 2

c) Differentiate between first angle and Third angle projection system. 3

d) A line measures 100 mm. The projectors through its V.T. and end A are 40 mm apart. The point A is 30 mm above the H.P. and 20 mm in front of the V.P. The V.T is 10 mm below H.P. Draw the projections of the line and determine its H.T. and the inclination with H.P. 7

OR

A and B are two points in the space. The point A is in the V.P., and 24mm above the H.P. point B is in the H.P. and 36 mm from the V.P. The point A is 54 mm away from B. Draw the top view and front view of the straight line AB and also determine the true inclinations of the line with the H.P. and the V.P. respectively. 7

3. a) A hexagonal lamina of 24mm side has its surface inclined at 30° to H.P. Its one side is lying on the H.P. and inclined at 45° to V.P. draw its projections. 7

b) A hexagonal prism, side of base 20mm and axis 60mm long lies with one of its longer edges on H.P. and its axis is parallel to both H.P. and V.P. Draw its projections. 7

OR

c) A pentagonal pyramid, side of base 25mm and height 60mm has one of its slant faces on the Horizontal plane and the edge of the base contained by that slant face makes an angle of 30° to the V.P. Draw its projections. 7

4. a) A square prism, with a base side of 45mm and an axis length of 90mm is resting on a longer edge on the H.P. a rectangular face through that edge is inclined at 30°to the H.P. The axis of the prism is perpendicular to the V. P. an AVP inclined at 70° to the V.P. and passing through the midpoint of the axis cuts the prism. Draw the top view, sectional front view and sectional side view of the prism. 7

b) A hexagonal pyramid, side of base 60mm and length of the axis 140mm is kept on the ground on its base. It is cut by an AIP inclined at 45° to the base and cutting the axis at 94 mm from the apex. Draw the development of the lateral surfaces of the pyramid. 7

OR

c) A right circular vertical cylinder of 44mm diameter and height 60mm rotates uniformly. A plotter pen tip moves vertically at uniform speed on the surface of the cylinder from bottom to the top, so it moves 60mm while the cylinder completes one rotation. Draw the line marked on the cylinder in the front view and measure the true length of it. 7

5. a) What is layering? 2

b) List the Utility commands. 2

c) What are the Advantages of CAD. 3

d) A pentagonal prism of side of base 25mm and axis 50 mm long, is resting on its base on H.P. with an edge of its base (away from the observer) parallel to the V.P. A section plane, perpendicular to the V.P. and inclined at 45° to the H.P. , passes through a point on the axis at 40mm above the base. Draw the Isometric projection of the truncated portion of the prism. 7

OR

A cylinder 50mm diameter and 60mm height stands on H.P., A section plane perpendicular to the V.P. and inclined at 55° to the H.P. cuts the cylinder and passes through a point on the axis at a height of 45 mm above the base. Draw the isometric projection of the truncated portion of the cylinder, when the cut surface is clearly visible to the observer. 7

******