

Roll No

BE-105

B.E. I & II Semester Examination, June 2016

Engineering Graphics

Time : Three Hours

Maximum Marks : 70

Note: Attempt five questions, internal choice is given as mentioned. All questions carry equal marks. Assume suitable data or dimensions, if necessary, clearly mentioned it.

1. a) Construct a scale of R.F. 1:27 showing yards, feet and inches and long enough to measure up to 6 yards. Show the length of 6 yards 2 feet 9 inches on your scale.
b) Construct a parabola within a parallelogram of sides 120mm \times 60mm. The included angle between the sides is 70° . Also draw tangent and normal to the curve at 40mm away from the apex.

OR

A wheel of 1m diameter rolls on a straight line. A point P is marked outside the wheel rim at a distance 0.2m. Draw the curve generated by the point P for one complete revolution of the wheel. Name the curve.

2. a) A point P is 25mm from both the reference planes. Draw its projections in all possible positions.
b) A 70mm long line AB is inclined at 30° to the HP, its one end A is 15mm in front of the VP and 25mm above the HP. The front view of the line measures 45mm. Draw the projections of the line AB and determine its true inclination with the VP.

OR

A line AB 75mm long is inclined at 40° with HP and at 50° with VP, its one end is 10mm above the HP and 8mm in front of the VP. Draw its projection and locate its traces.

3. ABCDE is a regular pentagonal plate of 40mm side and has its corner A on the HP. The plate inclined to HP such that, top view lengths of edges AB and AE are each 35mm. The side CD is parallel to both the reference planes. Draw the projections of the plate and find its inclination with HP:

OR

Draw the projections of a cube of edge 50mm resting on one of its corners on the HP with solid diagonal perpendicular to the VP. <http://www.rgpvonline.com>

4. A pentagonal prism, having a base with a 30mm side and 60mm long axis, lies on one of its rectangular faces on the HP with its axis inclined at 45° to the VP. A vertical section plane parallel to the VP cuts the prism at a distance of 20mm from one of the end faces. Draw its sectional front view and top view.

OR

Draw the development of the lateral surface of a square pyramid of base side 40mm and axis 55mm, resting on its base on the HP such that one side of the base is parallel to the VP.

5. Draw an isometric view of the frustum of a pentagonal pyramid having 30mm base side, 20mm top side and 70mm long axis, resting on its base on the HP with an edge of the base parallel to the VP.

OR

State a series of AutoCAD command steps to draw a circle of 50mm diameter and divide it into 24 equal parts.
