

Code No: 131AF

R16

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech I Year I Semester Examinations, December - 2018

ENGINEERING GRAPHICS
(Common to CE, AE, MIE, PTM, CEE)

Time : 3 hours

Max Marks: 75

Answer all five questions
All questions carry equal marks

- 1.a) Draw a rectangular hyperbola whose directrices are 40 mm apart and locate its foci and vertices.
b) Construct a scale of RF 1:40 to read metres and decimeters and long enough to measure up to 6m. Mark on it distances of 4.7m and 3.2m. [15]

OR

- 2.a) Two points are fixed and 100 mm apart. Draw the locus of a point in such a manner that the difference of its distance from the points is 75 mm. Name the curve.
b) The distance between two stations is 100 km and on a road map it is shown by 30 cm. Draw a diagonal scale and indicate distances of 46.8 km and 32.4 km on it. [15]
3. A line PQ, inclined at 30° to the H.P., has the end P at 20 mm above the H.P. and 10 mm in front of the V.P. The front view of the line is 70 mm long and inclined at 60° to the reference line. Draw the projections of the line and determine its true length and inclinations with the principal planes. [15]

OR

4. A regular hexagonal plane of side of 25 mm is resting on HP on one of its corners such that the largest diagonal passing through that corner is making 45° with HP and 30° with VP. Draw the projections. [15]
5. Draw the projections of a cube of 40 mm edges, having one of its edges on the H.P. which is inclined at 30° to the V.P. and the base is making an angle of 45° with the H.P. [15]

OR

6. Draw the projections of a cube of 40 mm side, having one of its sides on the H.P. Which is inclined at 30° to the V.P. and one of the faces containing the edge making 60° with H.P. [15]
7. A pentagonal pyramid having a base with 30 mm side and 60 mm axis, rests on its base on H.P. with one edge of the base perpendicular to V.P. Draw front view, sectional top view and true shape of the section when it is cut by an A.I.P. Which makes 30° with H.P., perpendicular to V.P. and passing through mid point of the axis? [15]
8. A square pyramid having base with a 40 mm side and 65 mm long axis is resting on its base in the H.P. with a side of base parallel to the V.P. It is cut by an A.I.P. making an angle of 45° with the H.P. and bisecting the axis. Develop the surface of the bottom portion of the truncated pyramid. [15]

9. A square pyramid having a side of 50 mm base and 75 mm as axis height stands centrally on circular block of 100 mm diameter and 50 mm thick. The base edges of the pyramid are parallel to VP. Draw the isometric projection of the two objects. [15]

OR

10. Draw the elevation, top view and side view of the object shown in figure. All the dimensions are in mm. [15]

