

**R16**

Code No: 132AE

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD

B.Tech I Year II Semester Examinations, August - 2018

ENGINEERING GRAPHICS  
(Common to CSE, IT, ETM)

Time: 3 hours

Max. Marks: 75

Answer all five questions  
All questions carry equal marks

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1. Show by means of drawing that when the diameter of the directing circle is twice that of the generating circle, the hypocycloid is a straight line. Take the diameter of the generating circle is equal to 50 mm. [15]

OR

2. Draw a vernier scale of R.F. = 4 to read  $1/5$  cm and  $1/25$  cm and to measure up to 5 cm. Mark on the scale distance of 3.36 cm. [15]

3. A regular Hexagon of 40 mm side has a corner in the H.P. Its surface is inclined at  $45^\circ$  to the H.P. and the top view of the diagonal through the corner which is in the H.P. makes an angle of  $60^\circ$  with the V.P. Draw its projections. [15]

OR

4. The projection drawn from H.T and V.T of a straight line AB are 80mm apart while those drawn from its ends are 50mm apart. The H.T is 35mm in front of the V.P, the V.T is 55mm above the H.P. and the end A is 10mm above the H.P. Draw the projections of AB and determine its true length and inclinations with the reference planes. [15]

5. A square pyramid, base 40mm side and axis 90mm long, has a triangular face on the ground and the vertical plane containing the axis makes an angle of  $45^\circ$  with the VP. Draw its projections. [15]

OR

6. A Tetrahedron of 75 mm long edges has one edge parallel to the H.P. and inclined at an angle of  $45^\circ$  to the V.P. While a face containing that edge is vertical. Draw its projections. [15]

7. A Cube of 65 mm long edges has its vertical faces equally inclined to the V.P. It is cut by a section plane, perpendicular to the V.P., so that true shape of the section is a regular Hexagon. Determine the inclination of the cutting plane with the H.P. and draw the sectional top view and true shape of the section. [15]

OR

8. A hexagonal pyramid, base 50mm side and axis 100mm long, is lying on the H.P on one of its triangular faces with the axis parallel to the V.P. A vertical sectional plane the H.T of which makes an angle of  $30^\circ$  with the reference line passes through the center of the base and cuts the pyramid, the apex being retained. Draw the top view, sectional front view, true shape of the section. [15]

8R 8R 8R 8R 8R 8R 8R

9. Draw the isometric view for the given figure 1. (All dimensions are in mm). [15]

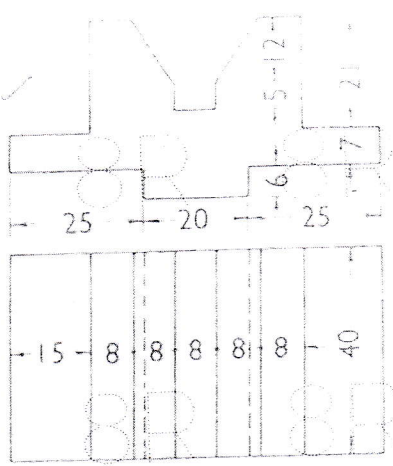


Figure 1  
OR

10. Draw the front view, side view from the right, and top view of the block as shown in figure 2. (All dimensions are in mm). [15]

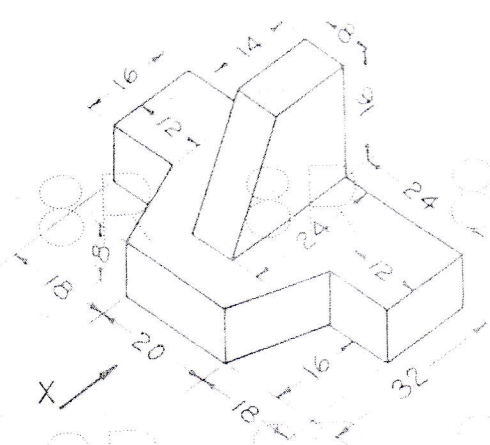


Figure 2

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8R 8R 8R 8R 8R 8R 8R