JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech I Year II Semester Examinations, May/June - 2017
ENGINEERING GRAPHICS
(Common to EEE, ECE, EIE)

Time: 3 hours

Max Marks: 75

Answer any five questions
All questions carry equal marks
- - -

1.a) Draw a diagonal scale of RF = 3/100, showing meters, decimeters and centimeters and to measure up to 5 meters. Show the length of 3.69 meters on it.

b) Draw the hyperbola given by the equation: $\dfrac{x^2}{36} - \dfrac{y^2}{9} = 1$, and label the vertices. Determine whether the transverse axis is horizontal or vertical. [7+8]

OR

2.a) Construct a scale of R.F = 1/(2.5) to show decimeters and centimeters and by a vernier to read millimeters, to measure up to 4 decimeters. Show on it lengths 2.34 dm.

b) Draw the ellipse given by the equation: $\dfrac{(x-1)^2}{16} + \dfrac{(y+3)^2}{4} = 1$. [7+8]

3. A straight line AB of true length 100 mm has its end A 20 mm above HP and 30 mm in front of VP. The top view of the line is 80 mm and front view is 70 mm. Draw the projections (Top View and Front View) of the line AB and obtain the true inclinations of the line AB with HP and VP. [15]

OR

4. A regular pentagon lamina of 30 mm side, surface is inclined at 30^0 to VP and side on which it rests on V.P makes an angle of 45^0 to H.P. Draw its projections. [15]

5. A tetrahedron of 50 mm long edges is resting on one edge in the HP, while one triangular face containing this edge is vertical and is inclined at 45^0 to VP. Draw its projections. [15]

OR

6. A cone of 40 mm base diameter and 50 mm axis is resting on one of its generators in the HP which makes 30^0 inclination with the VP. Draw its projections. [15]

7. A pentagonal pyramid of 30 mm side of base and height of 45mm stands on its base with an edge of the base parallel to VP. A section plane making an angle of 45^0 to HP cuts the pyramid at a distance of 15mm from apex. Draw its top view and front view. [15]
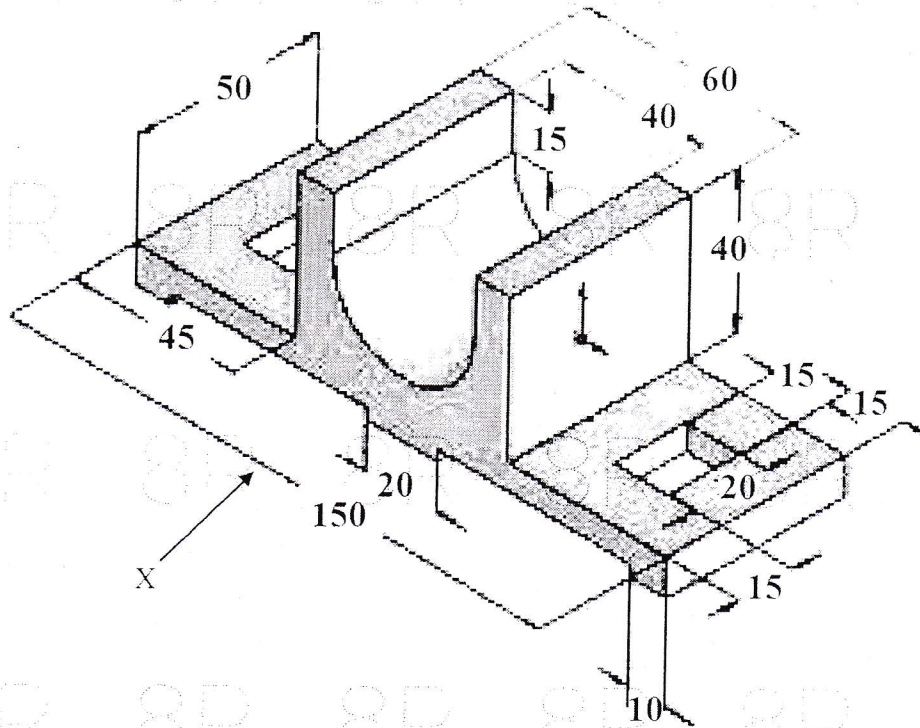
OR

8. A cone made up of Aluminium sheet with base circle diameter 65 mm and axis length 75 mm is kept with its base on the ground. A circular hole of 30 mm diameter is cut through the cone such that its axis remains perpendicular to V.P.; 10 mm to the right of the axis of cone and 25 mm above the base of cone. Develop the surface of the cone. [15]

9. A sphere of 60 mm diameter is placed centrally on the top of a frustum of a square pyramid. The base of the frustum is 60 square, top is 40 square, and its height 50 mm. Draw the isometric projection of the arrangement. [15]

OR

10. The isometric view is shown in the figure below. Draw the front view, top view and side view (looking from right). All dimensions are in mm. [15]

---ooOoo---