R16

Code No: 131AF

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech I Year I Semester Examinations, May/June - 2017
ENGINEERING GRAPHICS
(Common to ME, MCT, MMT, MSNT)

Time: 3 hours **Max Marks: 75**

Answer any five questions
All questions carry equal marks

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1.a) Draw an parabola having conjugate axes of 50 mm and 30 mm long and inclined at 75^0 to each other.

b) Construct a Diagonal scale of RF = 3:200 showing meters, decimeters and centimeters. The scale should measure up to 6 meters. Show a distance of 4.56 meters. [7+8]

OR

2.a) Draw an ellipse having the major axis of 60 mm and the minor axis of 40 mm.

b) Draw a Vernier scale of R.F. = 1/25 to read up to 4 meters on it show lengths 2.39 m and 0.91 m. [7+8]

3.a) Line AB is 55 mm long and it is 25^0 & 45^0 inclined to HP & VP respectively. End A is 15 mm above HP and 15 mm in front of VP. Draw projections. Line is in 1^{st} quadrant.

b) A pentagonal plate of side 40 mm is held on V.P. on one of its corner. The edge opposite to that corner makes an angle of 55^0 with the H.P. The flat surface of pentagon is inclined at 30^0 to the V.P. Draw the projections. [7+8]

OR

4.a) Line AB is 85 mm long. It's FV and TV measure 55 mm and 65 mm long respectively. An end is 10 mm above HP and 25 mm in front of VP. Draw projections of line AB if end B is in first quadrant. Find angle with HP and VP.

b) A square lamina of side 80 mm rests on a corner on H.P. and it is inclined with H.P. such that its plan is a rhombus with a diagonal of 40 mm. The long diagonal is inclined with the V.P. at 45^0. Determine its inclination with H.P. and draw it's projections. [7+8]

5.a) A pentagonal pyramid has height 60 mm and the side of a base 30 mm. The pyramid rests on one of its slant edges on the H.P. and makes an angle of 45 degrees with the V.P. Draw its projections.

b) A cone of diameter of base 40 mm and axis length equal to 80 mm rests on one of its slant generators on H.P. such that its axis is inclined at an angle of 45^0 with the V.P. Keep its apex near to the V.P. and draw the projections. [8+7]

OR

6.a) A cone of diameter of base 60 mm and axis length equal to 120 mm rests on a point of its periphery of the base on H.P such that its axis is inclined at an angle of 35^0 with the H.P. and 60^0 with the V.P. and the apex is near to the observer. Draw its projection.

b) A hexagonal pyramid of side of base 30 mm and axis length 90 mm rests on one of its slant edge on the H.P such that the plane containing that slant edge on which it rests on H.P. is inclined at 45^0 to V.P. and the apex is near to the V.P. Draw the projection of it. [7+8]

7. A hexagonal prism is resting on H.P on its base with two edges of base parallel to V.P. It is cut by an A.I.P. which is perpendicular to V.P. and inclined to H.P. by 45 degrees and passing through a point 40 mm above the base and on axis. Draw elevation, sectional plan, sectional side view and true shape of section. Take side of base 30 mm and height 60 mm. [15]

OR

8. A triangular pyramid of side of base 50 mm and height of axis 100 mm resting on its base on the H.P. such that one of the edges of the base parallel to V.P. and near to V.P. The pyramid is cut by a cutting plane parallel to V.P. and perpendicular to H.P. by passing through the distance 20 mm form the axis of the pyramid. Draw sectional front view and top view of the triangular pyramid. [15]

9. Draw the orthographic view of the following figure 1. All dimensions are in mm. [15]

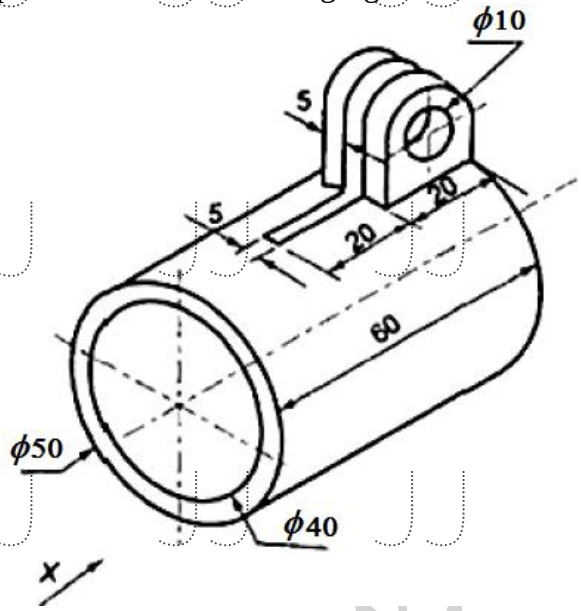

Figure: 1

OR

10. Draw the isometric view of the following figure 2. All dimensions are in mm. [15]

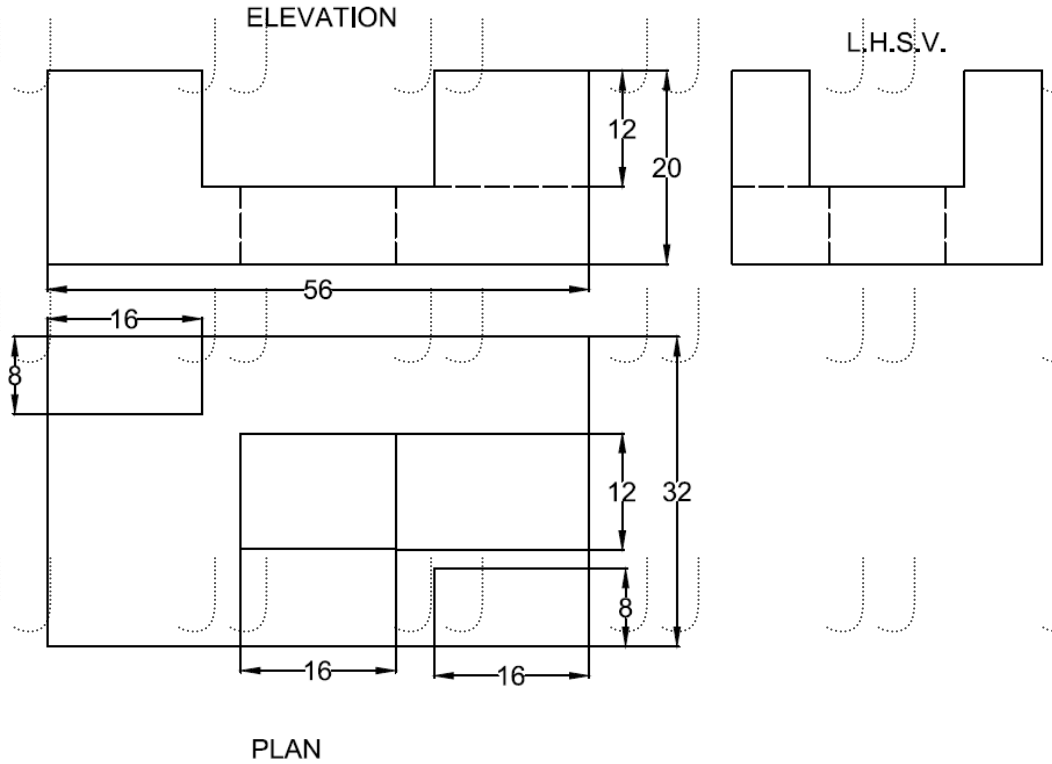

Figure: 2

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