Code No: 111AK

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech I Year Examinations, November/December - 2015
ENGINEERING DRAWING
(Common to CE, EEE, CHEM, AE, CEE, AGE)

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

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

1.a) A point P is 30 mm and 50 mm respectively from two straight lines which are at right angles to each other. Draw a rectangular hyperbola from P within 10 mm distance from each line.

b) Draw a vernier scale of R.F. = 1/25 to read centimeters upto 4 metres and on it, show lengths representing 2.39 m and 0.91 m.   [8+7]

OR

2.a) Two points A and B are 100 mm apart. A point C is 75 mm from A and 60 mm from B. Draw an ellipse passing through A, B and C.

b) Draw a diagonal scale of 1:2.5, showing centimeters and millimeters and long enough to measure upto 20 centimetres.   [8+7]

3.a) Two points A and B are in the H.P. The point A is 30 mm in front of the V.P., while B is behind the V.P. The distance between their projectors is 75 mm and the line joining their top views makes an angle of 45^0 with xy. Find the distance of the point B from the V.P.

b) Two pegs fixed on a wall are 4.5 meters apart. The distance between the pegs measured parallel to the floor is 3.6 metres. If one peg is 1.5 metres above the floor, find the height of the second peg and the inclination of the line joining the two pegs, with the floor.   [7+8]

OR

4.a) A line AB, 75 mm long is in the second quadrant with the end A in the H.P. and the end B in the V.P. The line is inclined at 30^0 to the H.P. and at 45^0 to the V.P. Draw the projections of AB and determine its traces.

b) Draw the projections of a circle of 75 mm diameter having the end A of the diameter AB in the H.P., the end B in the V.P., and the surface inclined at 30^0 to the H.P. and at 60^0 to the V.P.   [7+8]

5.a) Draw the projections of a pentagonal prism, situated with a rectangular face parallel to and 10 mm above the H.P., axis perpendicular to the V.P. and one base in the V.P. Take side of the base 40 mm and the axis 65 mm long.

b) A cone, base 65 mm diameter and axis 75 mm long, is lying on the H.P. on one of its generators with the axis parallel to the V.P. A section plane which is parallel to the V.P. cuts the cone 6 mm away from the axis. Draw the sectional front view and development of the surface of the remaining portion of the cone.   [7+8]

OR

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6.a) A square pyramid, base 40 mm side and axis 90 mm long, has a triangular face on the ground and the vertical plane containing the axis makes an angle of 45^0 with the V.P. Draw its projections.

  b) A cylinder of 40 mm diameter, 60 mm height and having its axis vertical, is cut by a section plane, perpendicular to the V.P., inclined at 45^0 to the H.P. and intersecting the axis 32 mm above the base. Draw its front view, sectional top view, sectional side view and true shape of the section. [7+8]

7.a) Draw the development of the surface of the portion of the triangular pyramid having a side of base parallel to the V.P, front view as shown below Figure 1.

Figure: 1

  b) A cone frustum is 125 mm high, 85 mm diameter at the top and 115 mm diameter at the bottom. It is vertically placed and is completely penetrated by a horizontal cylinder 75 mm diameter and 125 mm long, the axis of which bisects the axis of the frustum. Draw the projections of the solids showing curves of intersection.

[7+8]

OR

8.a) Draw the development of the surface of the cylinder shown below Figure 2.

Figure: 2

  b) A cylinder of 50 mm diameter, branches off another cylinder of 75 mm diameter. The axis of the smaller cylinder is vertical and that of the other is horizontal. If the distance between the two axes is 10 mm, draw three views of the cylinders. [7+8]

9.a) Draw the isometric view of the following Figure 3. All dimensions are in mm.
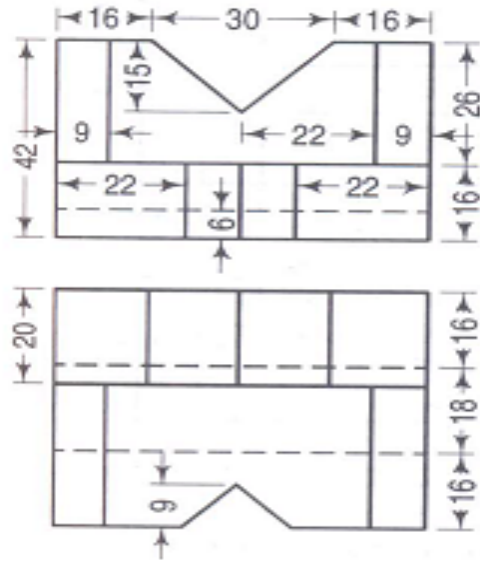

Figure: 3

b) Draw the (i) Front view. (ii) Side view (iii) Top view for the following Figure 4. All dimensions are in mm. [7+8]
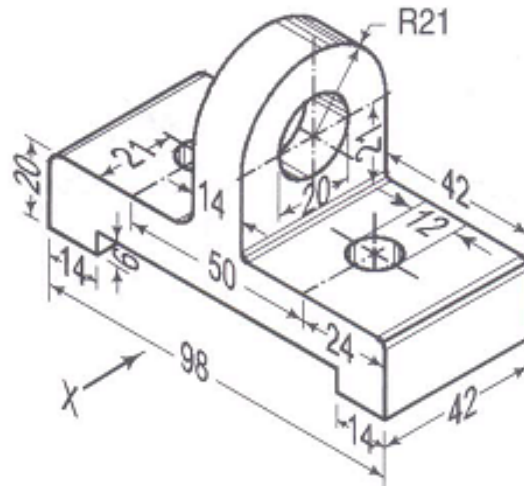

Figure: 4

OR

10.a) Draw the isometric view of the following Figure 5. All dimensions are in mm.
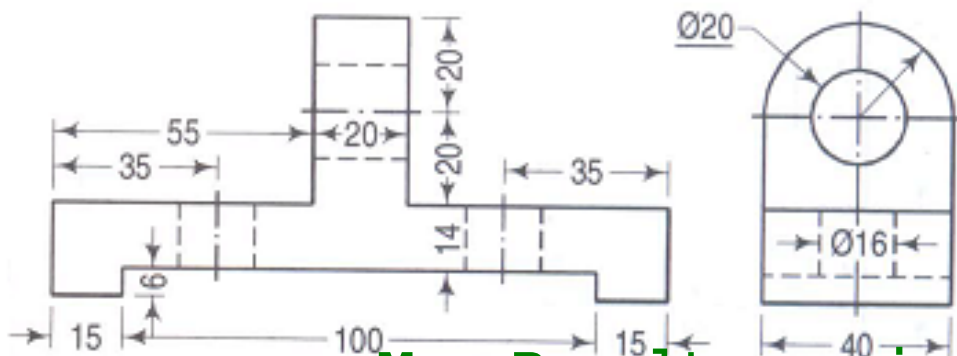
Figure: 5

b) Draw the (i) Front view. (ii) Side view (iii) Top view for the following Figure 6. All dimensions are in mm. [8+7]
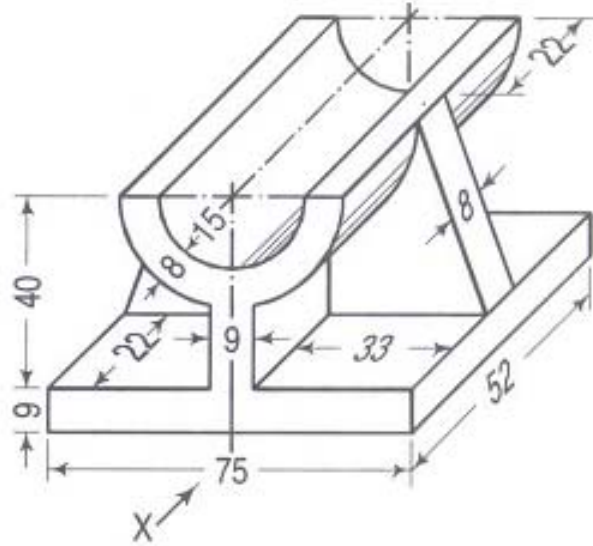

Figure: 6

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