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***B. Tech. Degree I & II Semester (Combined) Examination
June 2014***

**CE/SE/EI 1105 ENGINEERING GRAPHICS
(2012 Scheme)**

Time : 3 Hours

Maximum Marks : 100

(Assume any missing data)

(5 x 20 = 100)

I. (a) The two end points A and B of the major axis are situated 120mm apart. A point 'P' is 90mm from A and 50mm from B. Draw the ellipse passing through points A, B and P. (10)

(b) The asymptotes of a rectangular hyperbola are equally inclined to a horizontal line. A point 'P' on the curve is 50mm and 30mm away from the two asymptotes. Draw the hyperbola passing through point 'P'. Also locate the focus and directrix of the curve. (10)

OR

II. (a) Construct a diagonal scale to measure $\frac{1}{25}$ th and $\frac{1}{5}$ th of a centimeter to a scale of 3:1. (10)
Show on the scale 4.24cm and 2.88cm.

(b) Draw a backward reading vernier of R.F= $\frac{1}{2.4}$ to show decimeter, centimeter and millimeter, long enough to read upto 6 decimetres. Mark a distance of 3.69 decimeter on the scale. (10)

III. Draw the projections of a straight line AB, 100mm long, inclined 45° to the ground and 30° to VP. The end 'A' is on HP and end 'B' is on VP. Also locate the traces. Measure the length of top and front views. (20)

OR

IV. A circular disk is standing on the ground, touching a vertical wall in such a way that the front view is an ellipse of minor axis 40mm and the top view is an ellipse of 60mm. Draw the projections. (20)

V. A pentagonal pyramid of base side 25mm and axis 50mm has one of its triangular faces in the VP and the base edge of that face makes an angle of 30° with HP. Draw its projections. (20)

OR

VI. A cone of base 70mm diameter, standing upright is cut by a section plane such that, the true shape is a parabola of maximum double ordinate 50mm and the vertex of the parabola is 70mm away from this ordinate. Draw the front view, top view and true shape of the section. (20)

(P.T.O.)

- VII. A cone of base diameter 48mm and height 58mm is resting with its base on HP. The top portion is removed by a horizontal plane passing through a point which is 24mm below the apex of the cone. The bottom portion is then removed by a plane inclined at 30° to HP and passing through the extreme right of the base. Draw the development of the remaining portion of the cone. (20)

OR

- VIII. A horizontal cylinder of 44mm diameter penetrates through a vertical cylinder of 60mm diameter, the axes intersecting at right angles. Draw the curves of intersections. (20)

- IX. A waste paper basket is in the form of a frustum of a hexagonal pyramid with base 90mm side and top 150mm side. Draw the isometric projection of the basket, if the height is 200mm. (20)

OR

- X. Draw the perspective view of a rectangular prism of $100\text{mm} \times 50\text{mm} \times 40\text{mm}$ size lying on its $100 \times 50\text{mm}$ rectangular face on the ground plane, with a vertical edge touching the picture plane and end faces inclined at 45° with picture plane. The station point is 120mm in front of the picture plane, 80mm above the ground plane and lies in a central plane which is passing through the centre of the prism. (20)
