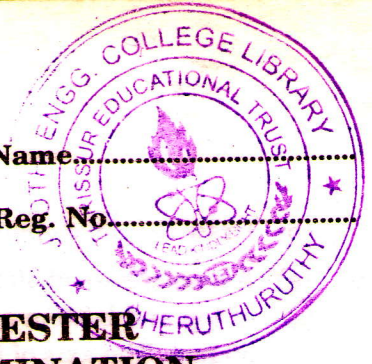D 51241

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COMBINED FIRST AND SECOND SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION DECEMBER 2008

EN 04 106 (B) – ENGINEERING GRAPHICS (B)

[For CE, CH, ME, PE, AM]

(2004 admissions)

Time : Three Hours

Maximum : 100 Marks

Answer **all** *questions.*
Each question carries 20 marks.

1. (a) A line AB is 75 mm long. A is 50 mm in front of VP and 15 mm above HP. B is 15 mm in front of VP and is above HP. Top view of AB is 50 mm long. Draw and Measure the front view. Find the true inclinations.

   Or

   (b) The mid-point of a straight line AB is 60 mm and above HP and 50 mm in front of VP. The line measures 80 mm long and inclined at an angle of 30° to HP and 45° to VP. Draw its projections.

2. (a) A square lamina ABCD of 40 mm side rests on one of its corners on ground. The plane is inclined at angle of 30° to the ground and diagonal DB, in plan, inclined at 45° to the VP and parallel to the HP. Draw its projections.

   Or

   (b) A pentagon of side 30 mm. rests on the ground on one of it sides inclined at 30° to the V.P. The surface of the pentagon makes an angle of 50° with the ground. Draw the top and front views of the pentagon.

3. (a) A cone of base diameter 60 mm. and height 80 mm. is resting on its base on the H.P. It is cut by a section plane inclined at 40° to the H.P. and passing through a point which is 40 mm. below the vertex of the cone. Draw the front view, sectional top view and true shape of the section.

   Or

   (b) A vertical cylinder of 90 mm, diameter is fully penetrated by a cylinder of diameter 60 mm. their axes intersecting each other. The axis of the penetrating cylinder is inclined at 30° to H.P. and is parallel to V.P. Draw the top and front views of the cylinders and show the curves of intersection.

4. (a) A cone of base diameter 60 mm and height 70 mm rest vertically on its base on the ground. A string is wounded round the curved surfaces of the cone starting from left extreme point on the base and ending at the same points. Find the shortest length of the string required. Also, trace the path of the string in the front and top views.

   Or

Turn over

(b) Draw the development of T-Shaped pipe of diameter 30 mm.

5. (a) A hemisphere of 50 mm diameter is nailed to the top of a frustum of hexagonal pyramid sides of top and bottom ends being 20 mm and 35 mm respectively. The height of the frustum is 50 mm. The axis of the solids coincides. Draw the isometric projections of the combination of solids.

Or

(b) The hexagonal lamina of 25 mm side stands vertically on the ground plane and inclined at 50° to PP. The corner nearest to PP is 20 mm behind it. The station point is 45 mm. in front of PP, 50 mm. above the ground plane and lies in a central plane which passes through the center of lamina. Draw the perspective view.

(5 × 20 = 100 marks)