Reg. No. : ☐☐☐☐☐☐☐☐☐☐☐☐☐

Question Paper Code : 21465

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2013.

First Semester

Civil Engineering

GE 2111/ME 51 – ENGINEERING GRAPHICS

(Common to all branches)

(Regulation 2008)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

1.   (a)   Construct a parabola when the distance between focus and the directrix is 40 mm using eccentricity method. Draw tangent and normal at any point on the resultant curve.

Or

      (b)   An inelastic string of length 100 mm is wound a round a circle of diameter 26 mm. Draw the path traced by the end of the string. Draw also a normal and tangent at any point on the curve.

2.   (a)   The projections on the XY line of the horizontal and vertical traces of a straight line AB in the first quadrant are 120 mm apart. The vertical trace is 100 mm above XY and horizontal trace 50 mm in front of XY line. The points A and B are 30 mm and 80 mm above the horizontal plane respectively. Draw the projections.

Or

      (b)   A hexagonal lamina of 30 mm side rests on one of its corners on the HP. The diagonal passing through this corner is inclined at 45° to the HP. Draw three view of the lamina.

3.   (a)   A pentagonal prism of side 30 mm and axis 70 mm long rests with one of its edges on HP such that the base containing that edge makes an angle of 30° to HP and its axis is parallel to VP. Draw its projections.

Or

(b) A solid cylinder of diameter 60 mm and 80 mm axis length is lying on horizontal plane with its one of the circumferential line on HP and the axis makes 30° to VP. Draw the projections.

4. (a) A solid cone of base diameter 60 mm and axis 80 mm long, rests with its base on HP. It is cut by a section plane perpendicular to VP, inclined at 45° to HP and passing through a point on the axis 35 mm above the base. Draw the sectional top view and true shape of the section.

Or

(b) A solid cone of base 50 mm diameter and height of 65 mm rests with its base on HP. A section plane perpendicular to Vp and inclined at 30° to HP bisects the axis of the cone. Draw the development of its lateral surface.

5. (a) Draw the isometric projections of a cylinder of base diameter 50 mm and axis 80 mm long when it rests with its base on HP and on VP.

Or

(b) A square prism of side of base 40 mm and height 70 mm rests with its base on the ground such that one of its rectangular faces is parallel to and 10 mm behind the picture plane. The station point is 30 mm in front of PP, 80 mm above the ground plane and lies in a central plane 45 mm to the right of the center of prism. Draw the perspective projection of the prism.

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