Reg. No. :

T 3918

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2008.

Annual Pattern — First Year

(Regulation – 2004)

Civil Engineering

GE 1X01 — ENGINEERING GRAPHICS

(Common to All Branches of B.E/B.Tech)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

(5 × 20 = 100)

1. (a) (i) Construct a hyperbola, with the distance between the focus and the directrix as 50 and eccentricity as 3/2. Also, draw normal and tangent to the curve at a point 30 from the axis. (10)

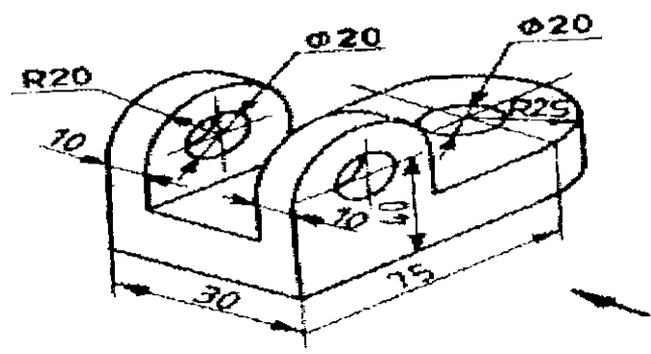   (ii) Sketch the front view and top view of the object given in the figure. 1. (10)

Fig.1

Or

(b) (i)   A circle of 50 diameter rolls on horizontal line for half as revolution clockwise and then on a line inclined at 60 degree to the horizontal for another half clock wise. Draw the curve traced by a point on the circumference of the circle, taking the top most point of the rolling circle as the initial position of the generating point.   (10)

     (ii)   Sketch the front view and top view of the object given in the figure. 2.   (10)
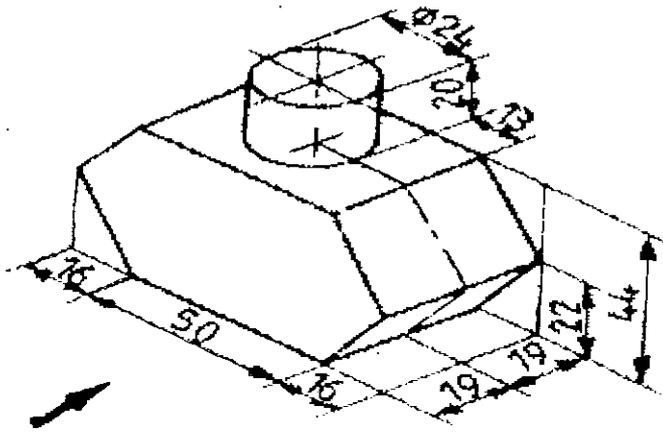

Fig.2

2.   (a) (i)   A line LM 70 mm long, has its end 110 mm above HP and 15mm in front of V.P Its top view and front view measures 60 mm and 40 mm respectively. Draw the projections of the line and determine its inclinations with H.P. and V.P   (10)

     (ii)   A rectangle ABCD of size 40 × 25 has the corner A, 10 above HP and 15 mm infront of VP. All the sides of the rectangle are equally inclined to HP and parallel to VP. Draw the projection of the lamina.   (10)

Or

(b) (i)   Draw the projections of a straight line AB of 100 mm long when one of its ends is touching the V.P and the other end touching H.P. The angle of inclination with H.P and V.P are 40 Degree and 50 degree respectively.   (10)

    (ii)   Hexagonal plane of 30 mm side has a corner at 20 mm from VP and 50 from HP. Its surface is inclined at 45 degree to VP perpendicular to HP. Draw the projections of the plane.   (10)

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3. (a) Draw the projections of a pentagonal prism of base 25 side and axis 50 long is resting on one of its rectangular faces on H.P. The axis of the solid is inclined at 45 degree to V.P. Follow change of position method. (20)

Or

(b) A cylinder of 45 mm diameter and 70 mm long is resting on one of its bases on H.P. It is cut by a section plane, inclined at 60 degree with H.P and passing through a point on the axis at 15 mm from one end. Draw the three views of the solid and also obtain the true shape of the section. (20)

4. (a) A cylinder of diameter of base 40 mm and axis 55 mm long, is resting on its base on H.P. It is cut by a section plane, perpendicular to V.P and inclined at 45 degree to H.P. The section plane is passing through the top end of an extreme generator of the cylinder. Draw the development of the lateral surface of the cut cylinder. (20)

Or

(b) A cone of base 50 mm diameter and axis 60 mm long, is resting on its base on H.P. A section plane, perpendicular to V.P, cutes the cone at a distance of 10 from the axis. Draw the development of the cut solid. (20)

5. (a) A cylinder , with diameter of base 60 mm and axis 70 mm long, is resting on its base on H.P. A section plane, perpendicular to V.P and inclined at 45 degree to H.P passes through the axis at a distance of 20 mm from its top end. Draw the isometric projection of the truncated cylinder. (20)

Or

(b) A square prism, side of base 40 mm and height 60 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 centre of the prism. Draw perspective view. (20)

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