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Question Paper Code : 10370

B.E./B.Tech DEGREE EXAMINATION, MAY/JUNE 2012.

First Semester

Common to all branches

GE 2111/185101/ME 15 — ENGINEERING GRAPHICS

(Regulation 2008)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

(5 × 20 = 100)

1. (a) Draw a hyperbola when the distance of the focus from the directrix is 70 mm and the eccentricity e is 1.5. Draw the tangent and normal to the curve at a point P distance 50 mm from the directrix. (20)

Or

- (b) Make a freehand sketch of the following three views, of the block shown pictorially in figure. (i) Front view (ii) Top view and (iii) Side view from the right. (20)

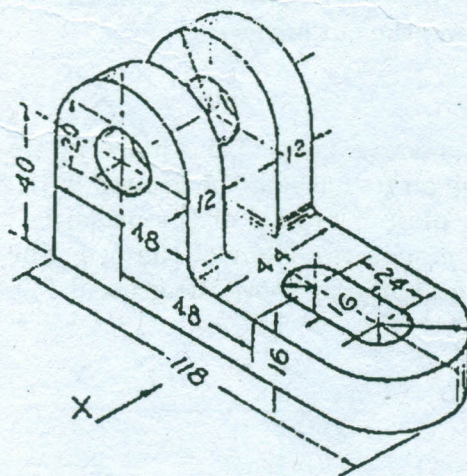


Fig. 1 (b)

2. (a) The projections of a line AB are perpendicular to xy . The end A is in HP and 50 mm in front of VP and the end B is in VP and 40 mm above HP. Draw its projections, determine its true length and the inclinations with the HP and VP. (20)

Or

- (b) A square lamina PQRS of side 40 mm rests on the ground on its corner P in such a way that the diagonal PR is inclined at 45° to HP and also apparently inclined at 30° to VP. Draw its projections. (20)
3. (a) Draw the projections of a cube of edge 45 mm resting on one of its corners on HP, with a solid diagonal perpendicular to HP. (20)

Or

- (b) A square pyramid of base 40 mm and axis 70 mm long has one of its triangular faces on VP and the edge of base contained by that face perpendicular to HP. Draw its projections. (20)
4. (a) A vertical cylinder 40 mm diameter is cut by a vertical section plane making 30° to VP in such a way that the true shape of the section is a rectangle of 25 mm and 60 mm sides. Draw the projections and true shape of the section. (20)

Or

- (b) A rectangular pyramid 60 mm \times 50 mm and height 75 mm is resting on its base on HP with its longer base edges parallel to VP. It is sectioned by a plane perpendicular to VP, inclined at 65° to HP and passing through the mid-point of the axis. Develop the lateral surfaces of the cut pyramid. (20)
5. (a) A cylinder of diameter of base 60 mm and height 70 mm rests with its base in HP. A section plane perpendicular to VP and inclined at 45° to HP cuts the cylinder such that it passes through a point on the axis 50 mm above the base. Draw the isometric projection of the truncated cylinder showing the cut surface. (20)

Or

- (b) Draw the perspective view of a square prism base side 20 mm height 35 mm resting on its base on the ground with a rectangular face parallel to the picture plane. The axis of the prism is 25 mm behind the picture plane and 25 mm to the right of the eye. The eye is 50 mm in front of picture plane and 50 mm above the ground. (20)