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Question Paper Code : X 60638

B.E./B.Tech. DEGREE EXAMINATIONS, NOV./DEC. 2020

First Semester

Civil Engineering

GE 2111/ME15 – ENGINEERING GRAPHICS

[Common to all Branches]

(Regulations 2008)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

(5×20=100 Marks)

1. a) The focus of a conic is 50 mm from the directrix. Draw the locus of a point 'P' moving in such a way that its distance from the directrix is equal to its distance from the focus. Name the Curve. Draw a tangent to the Curve at a point 60 mm from the directrix. (20)

(OR)

- b) Draw the front view in the direction of X, top view and left hand side view of the given parts in Figure 1. (20)

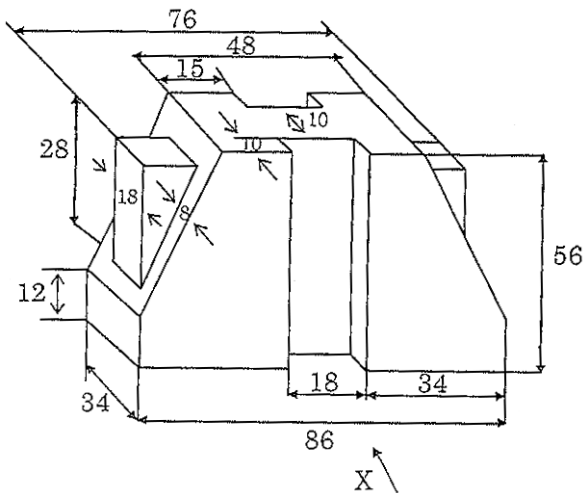


Figure 1.



2. a) A straight line AB has its end point A 15 mm in front of V.P. while the other end B is 50 mm in front of V.P. The plan view of the line is 50 mm long and the HT of the line is 10 mm in front of V.P. Draw the projection of the line if it is inclined at 30° to the H.P. Also find its VT. (20)

(OR)

- b) A rhombus ABCD has its diagonal AC = 50 mm and BD = 80 mm. The side AB of the plane is in the H.P. The side BC is in the V.P. and the plane makes an angle 30° with the H.P. Obtain the projections of the plane and find its inclination with the V.P. (20)
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. (20)

(OR)

- b) A solid cylinder of diameter 60mm 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. (20)
4. a) A solid cone of base diameter 60mm 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. (20)

(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. (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 plan. 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)
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