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## Question Paper Code : X 11207

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

First Semester

Civil Engineering

GE 8152 – ENGINEERING GRAPHICS

(Common to all branches)

(Regulations 2017)

Time : Three Hours

Maximum : 100 Marks

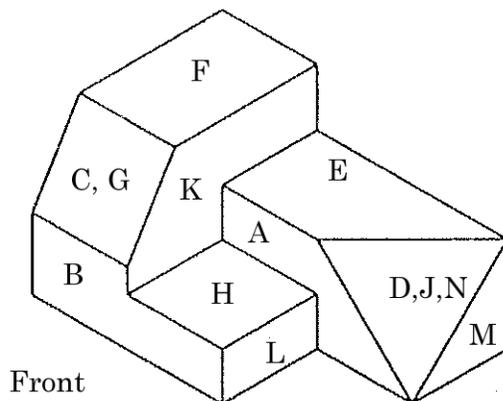
Answer ALL questions.

(5x20=100 Marks)

1. a) Construct an ellipse when the distance of its focus from its directrix is equal to 50 mm and eccentricity is  $\frac{2}{3}$ . Also draw a tangent and a normal to the ellipse at a point 70 mm away from the directrix.

(OR)

- b) Draw the front, top and side view of the component shown below. Dimensions of the component may be assumed suitably.



2. a) The projectors of the ends of a line AB are 5 cm apart. The end A is 2 cm above the H.P. and 3 cm in front of V.P. The end B is 1 cm below H.P. and 4 cm behind the V.P. Determine the true length and traces of AB and its inclination with the two planes.

(OR)

- b) The top view of a square lamina of side 60 mm is a rectangle of sides 60 mm  $\times$  20 mm, with the longer side of the rectangle being parallel to the XY line in both the front view as well as top view. Draw the front view and top view of the lamina.

3. a) A square pyramid having 25 mm edge at its base and an axis 70 mm long has its axis parallel to the VP and inclined at  $60^\circ$  to the HP. Draw its projections if one of its base edges is inclined at  $30^\circ$  to the VP and the apex is on the HP and 40 mm away from the VP.

(OR)

- b) Draw the projections of a cylinder of 75 mm diameter and 100 mm long lying on the ground with its axis inclined at  $30^\circ$  to VP and parallel to the ground.
4. a) A triangular pyramid with 40 mm edges at its base and the axis 50 mm long is resting on its base with an edge of the base parallel to and near the VP. It is cut by a section plane perpendicular to the HP and parallel to the VP and 10 mm from the axis. Draw a sectional front view and a top view of the pyramid.

(OR)

- b) A hexagonal pyramid with side of base 30 mm and height 75 mm stands with its base on HP and an edge of the base parallel to VP. It is cut by a plane perpendicular to V.P. inclined at  $45^\circ$  at HP and passing through the mid-point of the axis. Draw the (sectioned) top view and develop the lateral surface of the truncated pyramid.
5. a) A right circular cone of base diameter 60 mm and height 75 mm is cut by a plane making an angle of  $30^\circ$  with the horizontal. The plane passes through the mid point of the axis. Draw the isometric view of the truncated solid.

(OR)

- b) A square lamina of 30 mm side lies on the ground plane. One of its corners is touching the PP and edge is inclined at  $60^\circ$  to PP. The station point is 30 mm in front of PP, 45 mm above GP and lies in a central plane which is at a distance of 30 mm to the right of the corner touching the PP. Draw the perspective projection of the lamina.
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