Reg. No. :

Question Paper Code : **X67623**

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2020
First Semester
Information Technology
ME1101 – ENGINEERING GRAPHICS
(Common to All Branches)
(Regulations 2008)

Time : Three Hours   Maximum : 100 Marks

Answer ALL questions

(5×20=100 Marks)

1. a) Draw an ellipse of major and minor axes of 140 mm and 85 mm, respectively.
        Use any of methods for drawing the ellipse.   **(20)**

                                    (OR)

    b) For the object shown in Fig. Q. 1 b, draw free hand sketching of i) front view
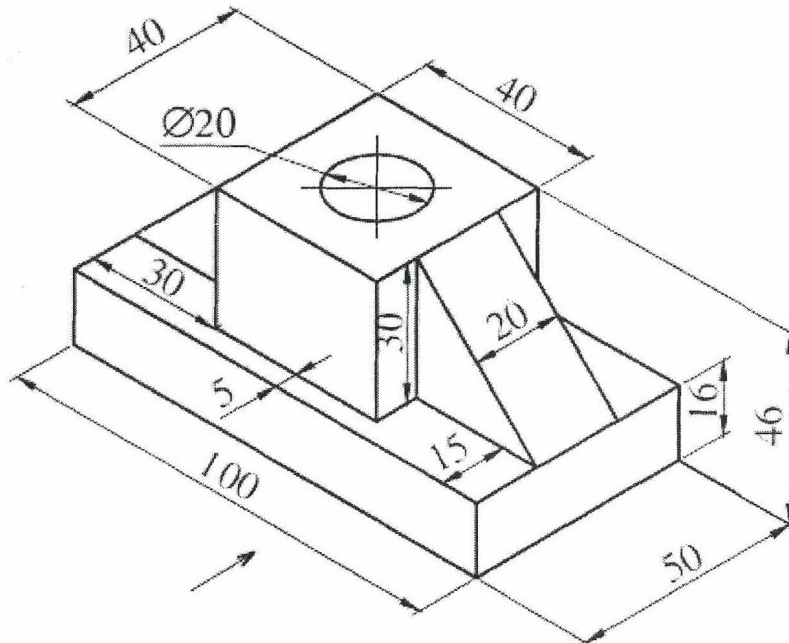   ii) top view and iii) right hand side view.   **(20)**

Fig. Q. 1b
Note : All dimensions are in 'mm'

2. a) A line CD has its one end C 20 mm above HP and 25 mm in front of VP. The other end 'D' is 65 mm above HP and the line is inclined at 45° to VP. The distance between the end projectors of the line which is measured parallel to the line of intersection of HP and VP is 60 mm. Draw the projections of the line and find its inclination with HP. **(20)**

<div align="center">(OR)</div>

b) A thin rectangular card board lamina has one of its corners on the HP and the surface makes 60° with the HP. Draw its projections, when the top view of the diagonal passing through the corner on HP, makes 45° with the reference line. The size of the lamina is 50 × 25 mm.

3. a) A hexagonal prism of base edge 30 mm and axis 70 mm long has one of rectangular faces inclined at 45° to VP. Draw its projections when the base edge on this face lies on VP and perpendicular to HP.

<div align="center">(OR)</div>

b) A cone of base diameter 30 mm and axis 70 mm long has one of its generators on VP. Draw its projections when the axis is parallel to HP.

4. a) A hexagonal prism of 30 mm sides and axis 80 mm long is resting on HP on its base with two of its lateral faces parallel to VP. The prism is cut by an inclined section plane that passes through the midpoint of the axis and makes 60° with the HP. Draw the sectional top view and the true shape of the section if the section plane is perpendicular to VP.

<div align="center">(OR)</div>

b) A vertical chimney of cylindrical shape has 400 mm diameter and located on the top of the roof of a room sloping at 35° to the horizontal. If the shortest portion of the chimney above the roof is 300 mm high, determine the shape of the sheet metal area from which the chimney can be made. Use 1 : 10 scale.

5. a) Draw the isometric projection of a hexagonal pyramid of 20 mm base edges and height 60 mm long when it rests on its base on HP with two of its opposite sides of base parallel to VP.

<div align="center">(OR)</div>

b) A square pyramid of base edge 25 m and altitude 40 mm rests on its base on the ground with a base edge parallel to the picture plane. The axis of the pyramid is 25 mm behind the PP and 25 mm to the right of the station point. The station point is 50 m in front of the PP and 50 mm above the ground. Draw its perspective view.

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