B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2006.

First Semester

GE 1101 — ENGINEERING GRAPHICS

(Common to all Branches of Engineering and Technology)

(Regulation 2004)

Time : Three hours   Maximum : 100 marks

Answer all FIVE questions in A3 size drawing sheet book provided.

Use appropriate scale if necessary, to fit the solution within A3 size.

(5 × 20 = 100)

1. (a) (i)   A point A is 20 above H.P and in the first quadrant. Its shortest distance from the reference line XY is 40. Draw the projections of the point and determine its distance from VP.

    (ii) A line AB of 75 long, is inclined at an angle 30° with VP and lies in a plane perpendicular to both VP & HP. Its end A is in VP and the end B is in HP. Draw the projections of the line AB.

Or

    (b)   The projections of a line measure 80 mm in the top view and 70 mm in the front view. The mid point of line is 45 mm in front of VP and 35 mm above HP. One end is 10 mm in front of VP and nearer to it. The other end is nearer to HP. Draw the projections of the line. Find true length and true inclinations with reference planes.

2. (a)   A hexagonal pyramid of side of base 25 and axis 65 long resting on HP on one of its base edge. Draw the projections of the solid, when the axis makes an angle 45° with VP and the base of the solid is nearer to VP.

Or

    (b)   A pentagonal prism of side of base 25 and axis 55 long is resting on a lateral edge on HP. The rectangular face containing that edge is inclined at 30° to HP, when the axis inclined 40° to V.P.

3. (a) A cone of base 50 diameter and 65 height is resting on its base on HP. It is cut by a section plane such that the true shape produced is a parabola of base 35. Draw the sectional views and find its true shape.

Or

(b) A cylinder of 45 diameter and 70 long is resting on one of its bases on HP. It is cut by a section plane inclined at 60° with HP and passing through a point on the axis at 15 from one end. Draw the development of the truncated cylinder.

4. (a) Draw the isometric projection of a pentagonal pyramid of base side 20 and height 60 resting on its base on the HP with one of its base edge parallel to VP. It is cut by a plane perpendicular to the VP and inclined at 45° to HP. The plane passes through a point on the axis located at 30 from the apex.

Or

(b) A cube of side 40 rests on the ground on its base with all the vertical faces equally inclined to picture plane. One vertical edge is touching the picture plane and is 20 to the left of the station point which is 75 above ground and 50 in front of picture plane. Draw the perspective view of the cube.

5. (a) Draw the front, top and right side view of the object shown in Fig. 1.
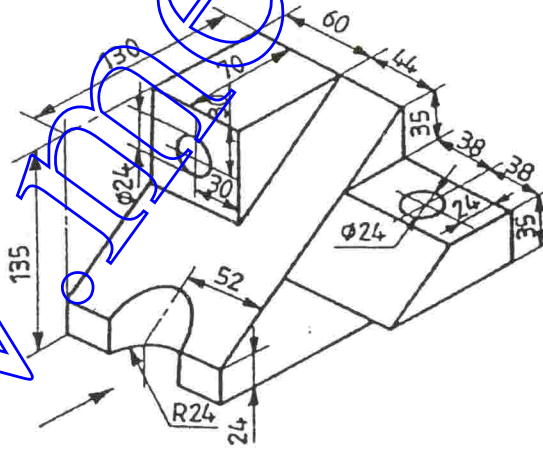

Fig. 1

(All dimensions are in mm)

Or

2

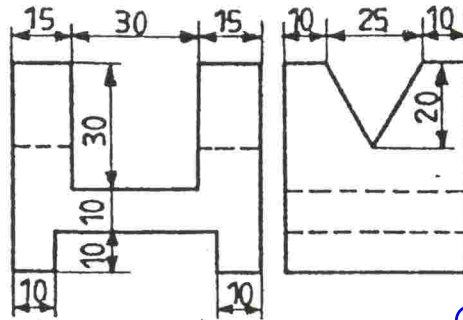(b) Fig. 2 shows the orthographic view of an object. Sketch the pictorial view of it.

Fig. 2

(All dimensions are in mm)