C 3255

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2007.

First Semester

(Regulation 2004)

Civil Engineering

GE 1101 — ENGINEERING GRAPHICS

(Common to all branches)

Time : Three hours

Maximum : 100 marks

Answer all FIVE questions.

Each question carries 20 marks.

1. (a) A line EF, 85 mm long has its end E, 25 mm above the HP and 20 mm in front of the VP. The top and front views of the line have lengths of 55 mm and 70 mm respectively. Draw the projections of the line and find its true inclinations with the VP and the HP.

Or

(b) A hexagonal plate of side 20 mm rests on the HP on one of its sides inclined at 45° to the VP. The surface of the plate makes an angle of 30° with the HP. Draw the front and top views of the plate.

2. (a) A square pyramid of base side 30 mm and axis length 50 mm has one of its triangular faces in the VP and the axis parallel to and 25 mm above the HP. Draw its top and front views.

Or

(b) A square prism of base side 35 mm and axis length 60 mm lies on the HP on one of its longer edge with its faces equally inclined to the HP. Draw its projections when its axis is inclined at 30° to the VP.

3. (a) A hexagonal prism of base side 30 mm and axis length 70 mm rests on one of its ends on the HP with two base edges parallel to the VP. It is cut by a plane perpendicular to the VP and inclined at 30° to the HP. The cutting plane meets the axis at 30 mm from the top. Draw the front view, sectional top view and the true shape of the section.

Or

(b) A right circular cone of base diameter 60 mm and height 70 mm is resting on its base on the ground. It is cut by a plane perpendicular to the VP and inclined at 30° to the HP. The cutting plane bisects the axis of the cone. Draw the development of the lateral surface of the truncated cone.

4. (a) Draw the isometric view of a frustum of a hexagonal pyramid when it is resting on its base on the HP with two sides of the base parallel to the VP. The side of base is 20 mm and top 8 mm. The height of the frustum is 55 mm.

Or

(b) A square prism of base 25 × 25 mm and height 40 mm rests on the GP with the edges of the base making 45° with PP. The corner nearest to the PP is 25 mm to the right of the station point and 25 mm behind the PP. The station point is 55 mm above the GP and 70 mm in front of the PP. Draw the perspective view of the square prism.

5. (a) Make free-hand sketches of front, top and right side views of the pictorial view shown in Fig. 1

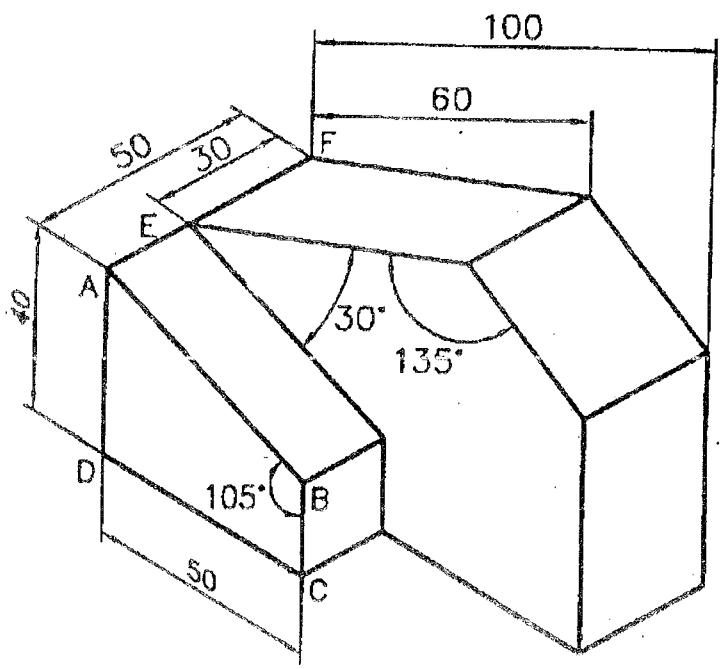

Fig. 1

Or

(b) Make free-hand sketch of the object, the orthographic views of which are shown in Fig. 2.

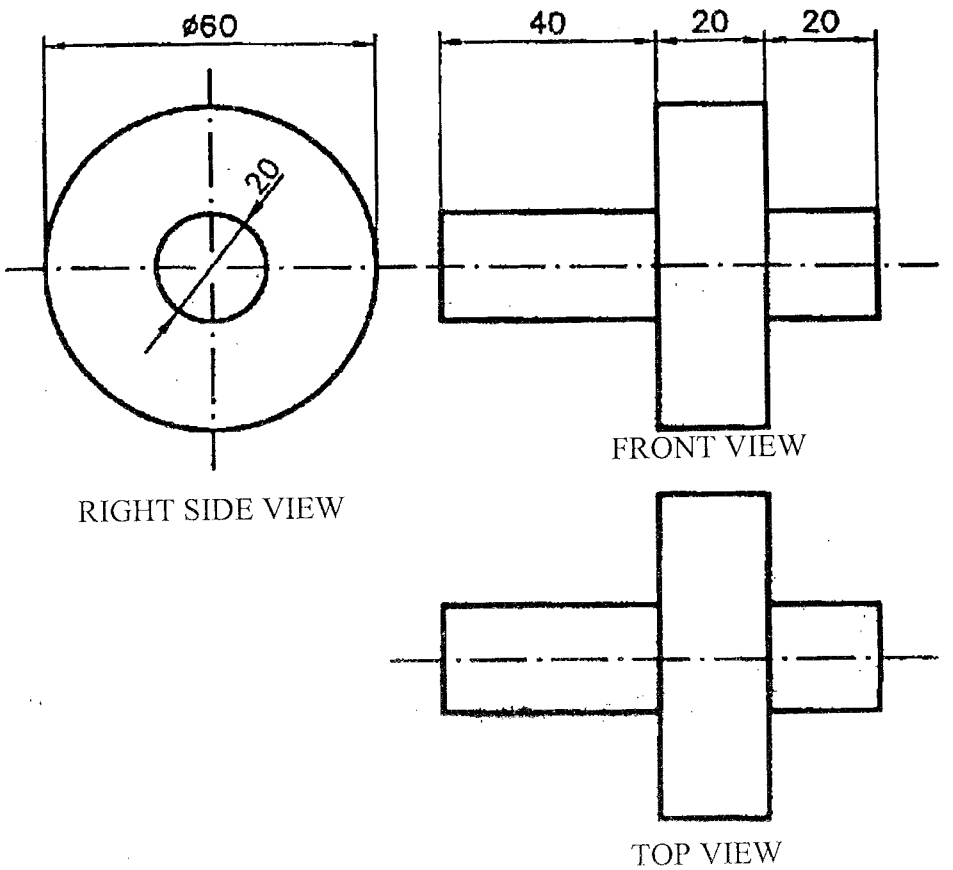

Fig. 2