

C 170

✓ B.E./B.Tech. DEGREE EXAMINATION, JANUARY 2006.

First Semester

mech.

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 pentagonal prism, side of base 30 mm and axis 60 mm long, lies with one of its rectangular faces on H.P. and its axis is inclined at 30° to V.P. A section plane perpendicular to H.P. and parallel to V.P. cuts the prism into two equal parts. Draw its top and sectional front views.
2. (a) A line PQ 70 mm long has its end P 10 mm above H.P. and 15 mm in front of V.P. Its top view and front view measure 60 mm and 40 mm respectively. Draw the projections of the line and determine its inclinations with HP and VP.

Or

- (b) A rectangular lamina PQRS is perpendicular to H.P. and inclined at Φ to V.P. Draw its projections and obtain the traces.
3. (a) A hexagonal pyramid, side of base 25 mm and axis 50 mm long, rests with one of the edges of its base on H.P. and its axis is inclined at 30° to H.P. and parallel to V.P. Draw its projections.

Or

- (b) A cone of base 40 mm diameter and axis 50 mm long touches the V.P. on a point of its base circle. Its axis is inclined at 30° to V.P. and parallel to H.P. Draw its projections.

4. (a) A frustum of a cone has its top and bottom diameters 35 mm and 50 mm respectively and altitude 53 mm. It rests on the top face of a frustum of a square pyramid. The sides of the top and bottom faces of the pyramid are 58 mm and 70 mm respectively. The height is 22 mm. Draw the isometric view.

Or

- (b) A rectangular prism, sides of base 50 mm \times 30 mm and height 55 mm, rests with its base on the ground plane. A vertical edge is in the picture plane and one of the longer edges of its base is inclined at 45° to PP and behind it. The station point is 50 mm in front of PP, 75 mm above the ground plane and lies in a central plane which passes through the center of the prism. Draw the perspective view.
5. (a) A cone of base 50 mm diameter and height 65 mm rests with its base on H.P. A section plane perpendicular to V.P. and inclined at 30° to H.P. bisects the axis of the cone. Draw the development of the lateral surface of the truncated cone.

Or

- (b) Sketch by free hand, the following views of the given object shown in figure 5 (b). The dimensioning is also to be made by free hand.
- (i) The front view in the direction of the arrow. (10)
- (ii) The top view. (5)
- (iii) The side view, as viewed from the side available for viewing. (5)

