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Question Paper Code : 63274

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2016.

First Semester

Civil Engineering

ME 1101 — ENGINEERING GRAPHICS

(Common to all Branches)

(Regulations 2008)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

(5 × 20 = 100)

1. (a) A circle of radius 25 mm rolls on the concave side of another circle of radius 50 mm. Draw the path traced by a point on the rolling circle.

Or

- (b) Draw the top view, front view and right side view of the component shown in Figure 1.

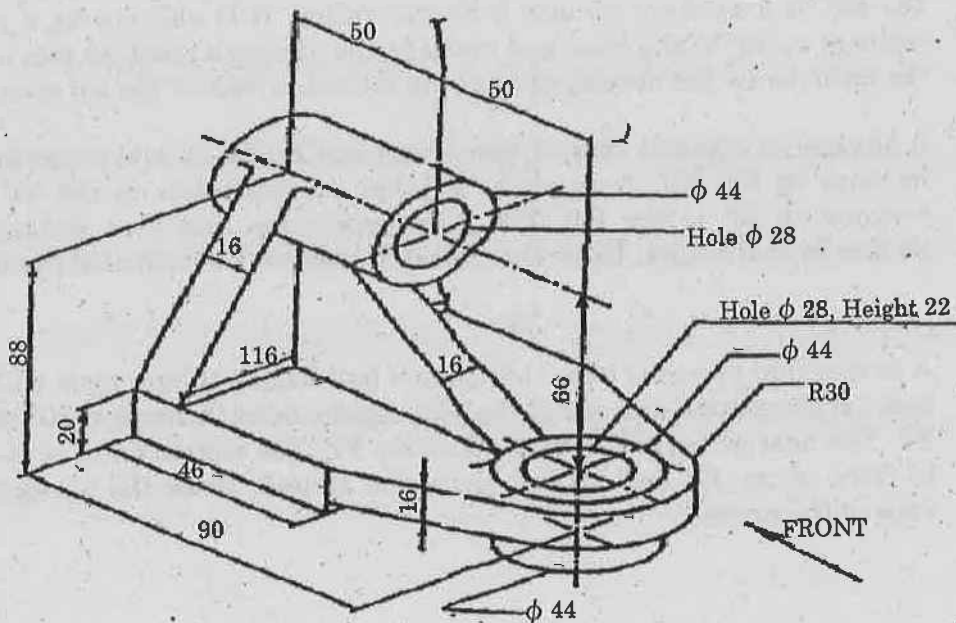


Fig. 1

2. (a) A line PQ, 100 mm long has its lower end in the HP and the upper end in the VP. Its elevation and plan measures 80 mm and 70 mm respectively. Draw the projection of the line and find its inclination with the HP and the VP.

Or

- (b) A pentagon of side 30 mm rests on the ground on one of its sides inclined at 30° to the VP. The surface of the pentagon makes an angle of 50° with the ground. Draw the top and front views of the pentagon.
3. (a) A square prism of base edge 30 mm and axis length 60 mm is resting on HP on one of its longer edges with its axis inclined at 35° to VP. One of the rectangular faces containing the resting edge is inclined at 25° to HP. Draw its projections.

Or

- (b) A cone of base diameter 35 mm and height 70 mm is resting on its rim on HP such that the base is inclined at 60° to HP and the axis is parallel to VP. Draw the projections.
4. (a) A hexagonal pyramid of base side 25 mm and axis 55 mm rests on its base on the HP with two base edges perpendicular to the VP. It is cut by a plane perpendicular to the VP and inclined at 30° to the HP meeting the axis at 20 mm from the vertex. Draw the FV, sectional top view and the true shape of the section.

Or

- (b) A 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 parallel to the HP at a distance 20 mm from the vertex. It is also cut by a plane inclined at 40° to the base and meeting the axis at a point 20 mm above the base. Draw the development of the lateral surface of the cut cone.
5. (a) A hexagonal pyramid of base side 50 mm and height 75 mm is resting on its base on the HP. It is cut by a plane perpendicular to the VP and inclined at 30° to the HP. The plane meets the axis at a distance of 30 mm from the apex. Draw the isometric view of the truncated pyramid.

Or

- (b) A pentagonal prism of base side 30 mm and height 40 mm rests with its base on the ground and one of the rectangular faces inclined at 30° to the PP. The nearest vertical edge touches the PP. The station point is 45 mm in front of the PP and 65 mm above the ground. Draw the perspective view of the prism.