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Name.....

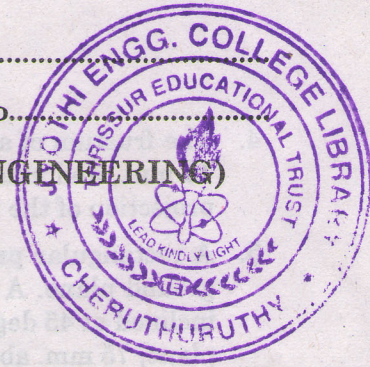
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COMBINED FIRST AND SECOND SEMESTER B.TECH. (ENGINEERING)
DEGREE EXAMINATION, MAY 2011

EN 09 108—ENGINEERING GRAPHICS (A)

(AE, AN, AU, BT, EC, EEE, IC, PE, PT)

[2009 admissions]



Time : Three Hours

Maximum : 70 Marks

Answer three questions from Part A and any two questions from Part B.

All questions carry equal marks.

Part A

1. (a) A line AB 70 mm. long has its end A 20 mm. above the HP and 15 mm. in front of the VP. Its top view and front view measure 60 mm. and 40 mm. respectively. Draw the projections of the line and determine its true inclinations with HP and VP.

Or

- (b) A regular hexagonal plate of 30 mm. side has one corner touching the VP and the opposite corner touching the HP. The plate is inclined at 60° to VP and 30° to HP. Draw the projections of the plate assuming its thickness equal to line thickness.
2. (a) A hexagonal prism of side 30 mm. and axis 70 mm. long lies with one of its longer edge with its axis parallel to both HP and VP. One of its rectangular face containing resting edge is inclined 40° to HP. Draw its projections.

Or

- (b) A cone, base 50 mm. diameter and axis 65 mm. long, rests its base on HP. It is cut by a section plane perpendicular to VP, inclined at 45° to HP and passing through a point on the axis 35 mm. above the base. Draw the sectional top view and the true shape of section.
3. (a) A cylinder of 60 mm. diameter and axis 80 mm. long stands with its base on HP. It is completely penetrated by a horizontal cylinder of 40 mm. diameter and axis 80 mm. long such that their axes bisect each other at right angles. The axis of the penetrating cylinder is parallel to VP. Draw the projections showing curves of intersection.

Or

- (b) A pentagonal pyramid is resting on its base with an edge of its base parallel to the VP and away from the observer. The edge of the base of the pyramid measures 40 mm. and its axis is 75 mm. A square hole of 24 mm. sides is cut through it so that the axis of the hole is perpendicular to the VP and intersects the axis of the pyramid 30 mm. from the base. Side faces of the hole are equally inclined to the HP. Draw the projections and develop the lateral surface of the pyramid.

Turn over

Part B

4. The frustum of a hexagonal pyramid, the edge of its base being 30 mm., the top edge measuring 15 mm., and axis 60 mm., is resting on HP with one of its trapezoidal faces. Draw the isometric projection of the frustum.
5. A rectangular prism, sides of base 50 × 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 degree to picture plane and behind it. The station point is 50 mm. in front of picture plane, 75 mm. above the ground plane and lies in a central plane which passes through the centre of the prism. Draw the perspective view.
6. Draw the plan elevation and left side view of the block shown in Fig. 1.

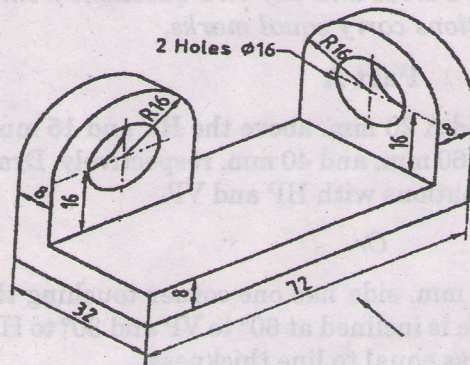


Fig. 1