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(Pages : 2)

Name...................

Reg. No...................

COMBINED FIRST AND SECOND SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, APRIL 2014

EN 09 108 (B)—ENGINEERING GRAPHICS (B)
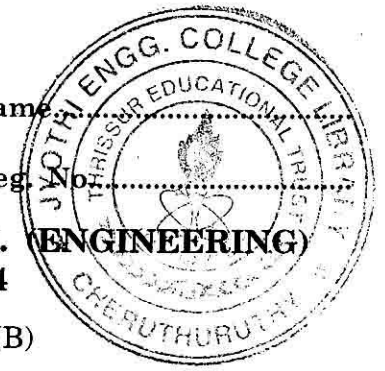
Time : Three Hours

Maximum : 70 Marks

Answer any **three** *questions from Part A and any* **two** *questions from Part B.*
All questions carry equal marks.

Part A

1. (a) A line PQ 100 mm. long has its and P in the first quadrant, 25 mm. from both HP and VP and the other end Q in the second quadrant, 50 mm. from both HP and VP. Draw its projections and determine its traces and inclinations to the HP and VP.

Or

   (b) A thin rectangular plate of sides 60 mm. × 30 mm has its shorter side in the VP and inclined at 30° to the H.P. Project its top view if its front view is a square of 30 mm. long sides.

2. (a) A square pyramid side of base 50 mm. and axis 70 mm. long, has one of its slant edges in the VP and the edge of its base contained by that slant edge makes an angle of 30° with the HP. Draw the projections of the pyramid.

Or

   (b) A cone diameter of base 60 mm. and height 75 mm. is resting on one of its generators on HP with axis parallel to VP. It is cut by a sectional plane passing through a point on the axis 50 mm. away from the apex. Draw the elevation and sectional plan.

3. (a) A lamp shade is formed by cutting a cone of 72 mm. diameter and 87 mm. height by a horizontal plane at a distance of 36 mm. from the apex and another plane inclined at 30° to the HP passing through one extremity of the base. Draw the development of the shade.
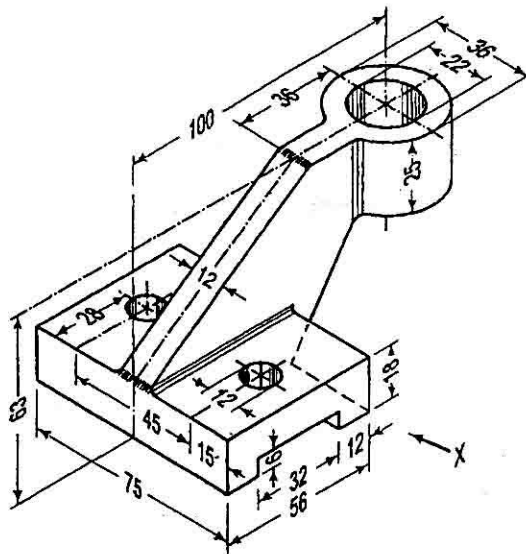
Or

   (b) A vertical cylinder of 72 mm. diameter and 100 mm. length is punctuated by another horizontal cylinder 54 mm. diameter and 100 mm. long. The axis of the horizontal cylinder is parallel to VP and bisects the axis the vertical cylinder. Draw the projections showing the curves of intersection.

(3 × 14 = 42 marks)

Turn over

Part B

4. A hemisphere 60 mm. diameter is resting on its curved surface centrally on the top of a square prisms side of base 60 mm. and length of axis 40 mm. Draw the isometric projection using isometric scale.

5. Draw the perspective view of a hexagonal pyramid of base 30 mm. and height 70 mm. The nearest point is at a distance of 120 mm. from the PP, 50 mm. above the ground and 80 mm. to the right of the apex of the solid.

6. Draw the dimensioned orthographic views (all *three*) of the object shown in Figure.

(2 × 14 = 28 marks)