

**COMBINED FIRST AND SECOND SEMESTER B.TECH (ENGINEERING)  
DEGREE EXAMINATION, MAY 2010**

EN 09. 108(B)—ENGINEERING GRAPHICS (B)

(2009 admissions)

[Common to CE, CS, IT, ME, CH, BM]

Time : Three Hours

Maximum : 70 Marks

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

**Part A**

1. (a) A line EF 75 mm. long is inclined at an angle of  $40^\circ$  to VP and parallel to HP. The point E is 20 mm. above HP and 30 mm. in front of VP. Draw the projections of the straight line.

Or

- (b) A square lamina of side 35 mm. having a hole of 20 mm. diameter at the centre is perpendicular to HP and resting on one of its edge on HP. Lamina makes an angle of  $30^\circ$  to V.P. Draw its projections.

2. (a) A pentagonal prism of side 30 mm. and axis 75 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  $40^\circ$  to HP. Draw its projections.

Or

- (b) A pentagonal pyramid of base side 45 mm. and altitude 100 mm. rests with its base on HP and with a side of base parallel to VP. It is cut by a section plane perpendicular to VP and inclined at  $35^\circ$  to HP and bisecting the axis. Draw the sectional plan of the pyramid and the true shape of section.

3. (a) A vertical cylinder of 70 mm. diameter and 110 mm. length is penetrated by another horizontal cylinder, 40 mm. diameter and length 145 mm. the axis of the horizontal cylinder bisects the axis of the vertical cylinder. Draw the projections showing the curves of inter section.

Or

- (b) A pentagonal prism, side of base 25 mm. and axis 55 mm. long, rests with its base on HP and an edge of the base is inclined at  $45^\circ$  to VP. It is cut by a plane perpendicular to VP, inclined at  $30^\circ$  to HP and passing through a point on the axis at a distance of 35 mm. from the base. Develop the lateral surface of the truncated prism.

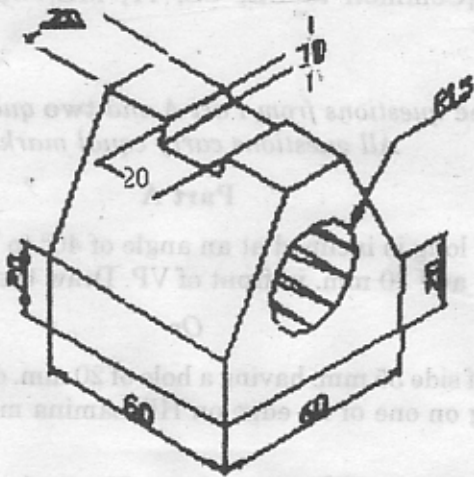
**Part B**

4. A hexagonal prism of base 30 mm. side and axis height 70 mm. has a hole of diameter 30 mm. such that the axes are collinear. Draw the isometric view.

Turn over

5. A rectangular pyramid of base size  $30 \times 20$  mm. and height 35 mm. rest with its base on the ground such that one of the longer base edge is in the picture plane and rest behind in it. The station point is 30 mm. in front of the picture plane, 50 mm above the ground and 30 mm. to the left of the axis of the pyramid. Draw the perspective view of the solid.

6. Draw the plan elevation and left side view of the block shown in Figure below.



- (a) A pentagonal prism of side 30 mm. and axis 75 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  $40^\circ$  to HP. Draw its projections.
- (b) A square lamina of side 50 mm. having a hole of 20 mm. diameter at the centre is perpendicular to HP and resting on one of its edges. The lamina makes an angle of  $30^\circ$  to VP. Draw its projections.
- (a) A vertical cylinder of 70 mm. diameter and 110 mm. length is penetrated by another horizontal cylinder 40 mm. diameter and length 145 mm. the axis of the horizontal cylinder bisects the axis of the vertical cylinder. Draw the projections showing the curves of inter section.
- (b) A pentagonal prism, side of base 25 mm. and axis 55 mm. long, rests with its base on HP and an edge of the base is inclined at  $45^\circ$  to VP. It is cut by a plane perpendicular to VP, inclined at  $30^\circ$  to HP and passing through a point on the axis at a distance of 35 mm. from the base. Develop the lateral surface of the truncated prism.

Part B

1. A hexagonal prism of base 30 mm. side and axis height 70 mm. has a hole of diameter 30 mm. such that the axes are collinear. Draw the isometric view.

Turn over