C 26480 (Pages : 2) Name.....

Reg. No.....

COMBINED FIRST AND SECOND SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, MARCH 2012

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

(2009 Scheme)

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

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) Line AB has the ends A, 50 mm. above HP and 24 mm. in front of V.P., while the other end B is 20 mm. below H.P. and 60 mm behind V.P. If the distance between the end projectors is 90 mm, draw the projections and locate the traces.

Or

(b) The top view of a line is 65 mm. long and inclined to XY at 30°. One end is 20 mm. above the HP and 10 mm. in front of VP. The other end is 60 mm above HP and is in front of VP. What is the true length of the line, its inclination to HP and VP ? Also show its traces.

2. (a) A hexagonal plane of side 30 mm is resting on a corner in the H.P. with its surface making an angle of 30° with the H.P. Then the top view is inclined at 40° to the V.P. Draw the projection.

Or

(b) A cylinder of 50 mm. diameter and axis 65 mm. long is standing vertically on its base on H.P. It is penetrated by a square prism of 28 mm side and 90 mm length, such that the faces are equally inclined to H.P. The axes of the solids intersect at right angles. Draw the projections showing the curves of intersection.

3. (a) A monument is in the form of a frustum of square pyramid of base 1.2 m. side, top 0.5 m. side and height 1.0 m. Determine the shortest distance between one corner of the base and diagonally opposite corner to the top.

Or

(b) Draw the perspective projection of a pentagonal prism of side 30 mm. and length 60 mm. lying on one of its rectangular faces on the ground plane and one pentagonal face touching the picture plane. The station point is 55 mm. in front of the picture plane and lies in the central plane which is 75 mm. to the left of the centre of the prism. Station point is 30 mm. above the ground plane.

(3 × 14 = 42 marks)

Turn over

Part B

4. A hemisphere of 50 mm. diameter is nailed to the top of a frustum of hexagonal pyramid sides of top and bottom ends being 20 mm and 35 mm. respectively. The height of the frustum is 50 mm. The axes of the solids coincide. Draw the isometric projections of the combination of solids.

5. A square pyramid of side of base 50 mm and altitude 75 mm stands on the ground vertically with an edge of base parallel to and 20 mm behind PP. the station point is 50 mm in front of PP and 75 mm above the ground. The central plane is located 40 mm to the left of the axis of the solid. Draw the perspective projection.

6. Draw the dimensioned orthographic views (all *three*) of the object shown in Fig. 1.

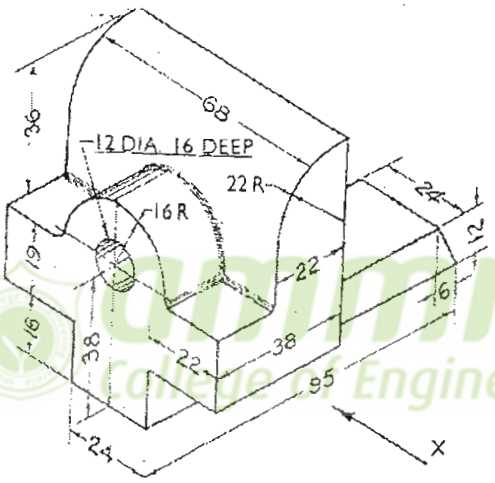

Fig. 1

(2 × 14 = 28 marks)