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Question Paper Code: 41707

B.E./B.Tech. DEGREE EXAMINATION, MAY 2022

First Semester

Civil Engineering

14UME107 – ENGINEERING GRAPHICS

(Common to ALL branches)

(Regulation 2014)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

1. (a) (i) Draw the projections of the following points on a common reference line, keeping the distance between their projectors 30 mm apart. CO1- App (10)
- (1) Point A is 20 mm below the HP and 50 mm in front of the VP
 - (2) Point B is in the HP and 40 mm behind the VP
 - (3) Point C is 30 mm in front of the VP and in the HP
 - (4) Point D is 50 mm above the HP and 30 mm behind the VP
 - (5) Point E is 20 mm below the HP and 50 mm behind the VP
- (ii) A triangular plane is in the form of an isosceles triangle having base with a 30 mm side and an altitude of 40 mm. It is kept in the first quadrant such that the surface is perpendicular to both HP and VP. Draw its projections when the base is parallel to the VP. CO1- App (10)
- Or
- (b) A square lamina PQRS of side 50 mm rests on the ground on its corner P in such a way that the diagonal PR is inclined at an angle of 50 to the HP and apparently inclined at an angle of 30 to the VP. Draw its Projections. CO1- App (20)

2. (a) A pentagonal prism having a base with a 30 mm side and 60 mm long axis is resting on one of its rectangular faces on the HP with axis parallel to the VP. Draw its projections. CO2- App (20)

Or

- (b) Draw the projections of a cube of side 50mm when it rests on the ground on one of its corners and a face containing that corner is inclined to the ground at 45° to HP and perpendicular to V.P. CO2- App (20)

3. (a) A pentagonal pyramid having a base with a 30 mm side and a 70 mm long axis is resting on its base in the HP with an edge of the base parallel to the VP. A horizontal section plane cuts the pyramid at a distance of 30 mm from the base. Draw its front view and sectional top view. CO3- App (20)

Or

- (b) A circular hole of diameter 30mm is drilled through a vertical cylinder of diameter 50mm and height 65mm. The axis of the hole is perpendicular to the VP and meets the axis of the cylinder at right angles at a height of 30mm above the base. Draw the development of the lateral surface of the cylinder. CO3- App (20)

4. (a) Pentagonal pyramid, base 25 mm and height 65 mm stands with its base on HP. An edge of the base is parallel to VP and nearer to it. A horizontal section plane cuts the pyramid and passes through a point on the axis at a distance 25 mm from the apex. Draw the isometric view of the frustum of the pyramid. CO4- App (20)

Or

- (b) A square prism of base 20 mm side and height 50 mm rests on one of its ends on the HP. All the base sides of the prism are equally inclined to the VP. It is cut by a plane perpendicular to the VP and inclined at an angle of 45° to the HP that passes through a point on the axis 10 mm from the top. Draw the isometric projection of the solid. CO4- App (20)

5. (a) Draw the elevation looking from the direct arrow F, plan and right side view, left side view from the pictorial view shown in the. CO5- App (20)

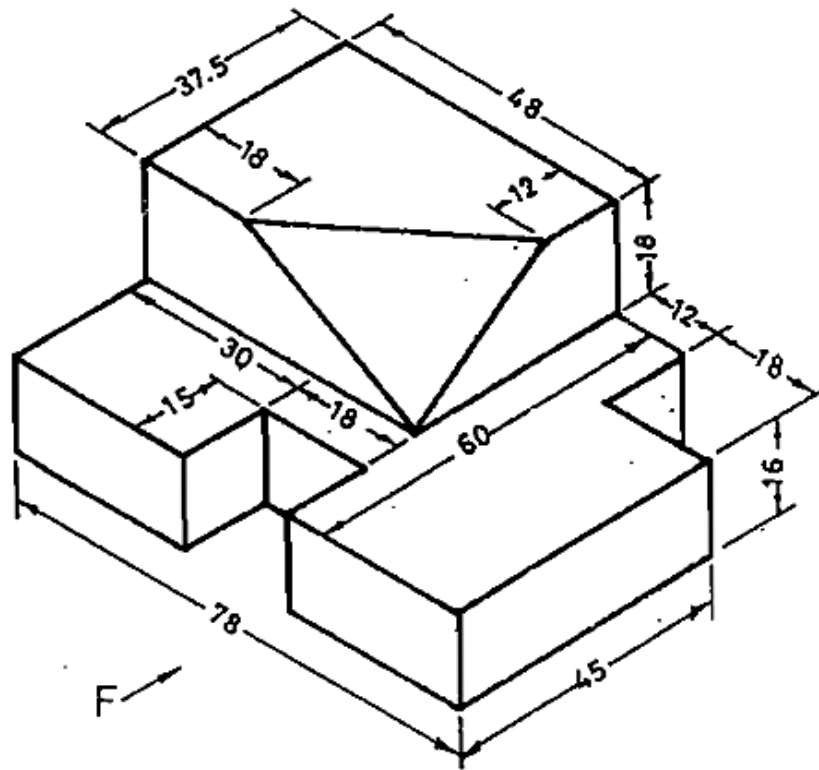


Figure 1

Or

- (b) Draw the front, right side and top view of the given isometric CO5- App (20) drawing shown in figure below. All dimensions are in mm.

