22232

4 Hours / 70 Marks   Seat No.

Instructions :   (1)   All Questions are *compulsory*.

(2)   Answer each next main Question on a new page.

(3)   Figures to the right indicate full marks.

(4)   Assume suitable data, if necessary.

Marks

1.   **Solve any FIVE :**   **5 × 2 = 10**

(a)   Draw the conventional representation of following welding joints :

(i)   Single Bevel Butt

(ii)   Square Butt

(b)   Draw the conventional representation of following material :

(i)   Glass

(ii)   Wood

(c)   Draw neat and proportionate freehand sketch of Rag foundation bolt.

(d)   With a simple sketch explain revolved section.

(e)   Draw neat and proportionate freehand sketch of double rivetted lap joint.

(f)   Draw proportionate freehand sketch of a flanged coupling.

(g)   A line PQ, 70 mm long is lying on both H.P and V.P. Draw its projections.

2. **Solve any THREE :** **3 × 4 = 12**

(a) The top view of 75 mm long line AB measures 65 mm while the length of its front is 50 mm. Its one end A is in the H.P. and 12 mm in front of V.P. Draw the projection of AB.

(b) A 30° – 60° set square has its shortest edge 40 mm long in V.P. Its surface is perpendicular to H.P and inclined to V.P. such that its front view appears as an isosceles triangle. Draw its three view and determine its inclination with V.P.

(c) A circular plate of negligible thickness of 50 mm diameter resting on H.P. on one of its points of periphery. The surface of plate is perpendicular to V.P. and inclined to H.P. by 30°. Draw its projections.

(d) A pentagonal prism, side of base 25 mm and axis 65 mm long rests with one of the edges of its base on H.P. Its axis is inclined 30° to H.P. and parallel to V.P. Draw its projections.

(e) A tetrahedron of 60 mm long edges has one edge in the H.P. with that edge perpendicular to V.P. and the triangular face containing that edge is vertical. Draw three view.

3. **Solve any TWO :** 2 × 8 = 16

(a) A right circular cone of 60 mm base diameter and axis 80 mm long resting on its base on the H.P. It is cut by the section plane inclined at 45° to H.P. and perpendicular to V.P. bisecting the axis of cone. Draw front view, sectional top view and true shape of section.

(b) A right circular cylinder of 60 mm diameter and axis 80 mm long is resting on its base on the H.P. It is cut by a cutting plane perpendicular to V.P. and inclined at 45° to H.P. passing through the mid-point of axis. Draw front view, sectional top view and true shape of section.

(c) A cone base diameter 50 mm and axis length 60 mm is kept on the V.P. on a point of its base circle in such a way that its apex is 50 mm in front of V.P. Draw the projection of the cone when elevation of axis is parallel to the XY line.

4. **Solve any TWO :** 2 × 8 = 16
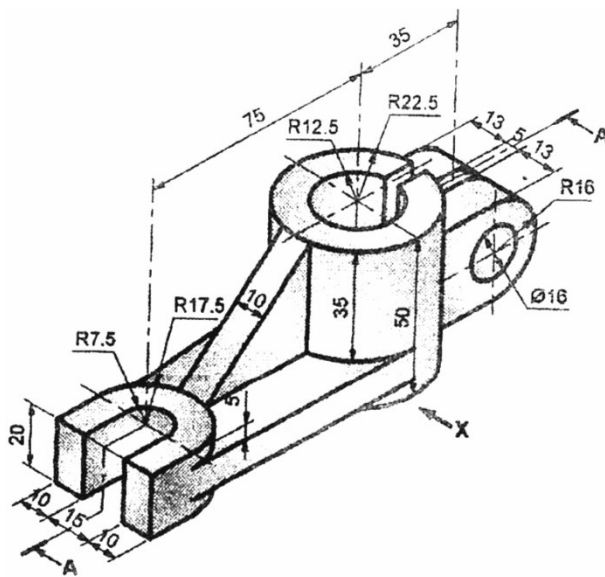
(a) Fig. 1 shows pictorial view of an object.

Fig. 1

Draw : (i) Sectional front view along section A – A.

(ii) Top view use first angle method of projection.

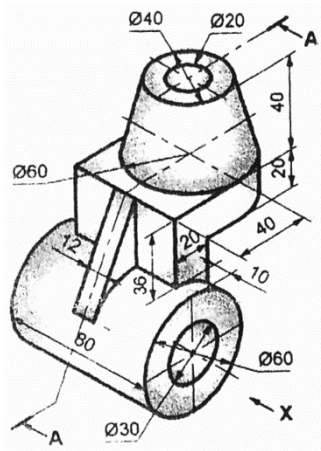(b) Fig. 2 shows isometric view of a CI block.

Fig. 2

Draw (i) Sectional F.V. in the X-direction.

(ii) T.V.

(c) Fig. 3 shows the top view, incomplete front view and partial auxiliary view of bracket. Draw the top view and complete the front view showing all details.
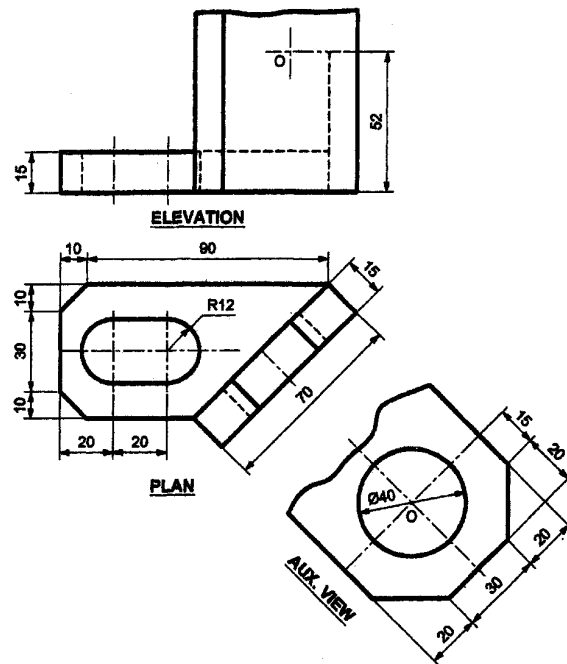

Fig. 3

5. Solve any TWO : **2 × 8 = 16**

   (a) Fig. 4 shows front view, auxiliary top view and incomplete side view. Draw
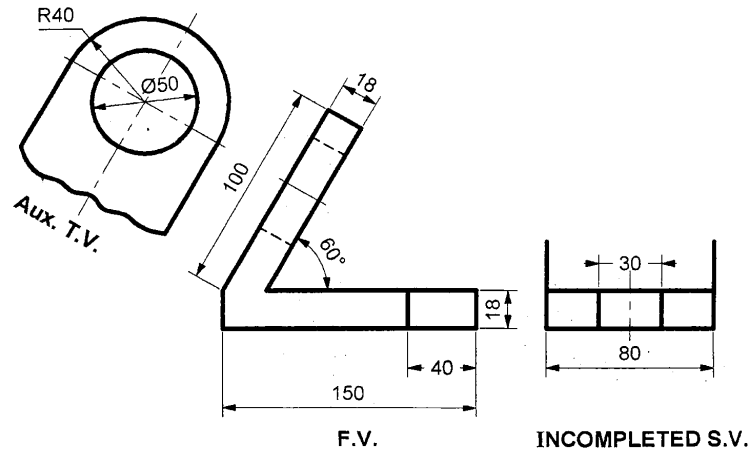   the given view and complete the side view.

Fig. 4

   (b) Fig. 5 shows that F.V. and T.V of a bracket drawn by first angle method of
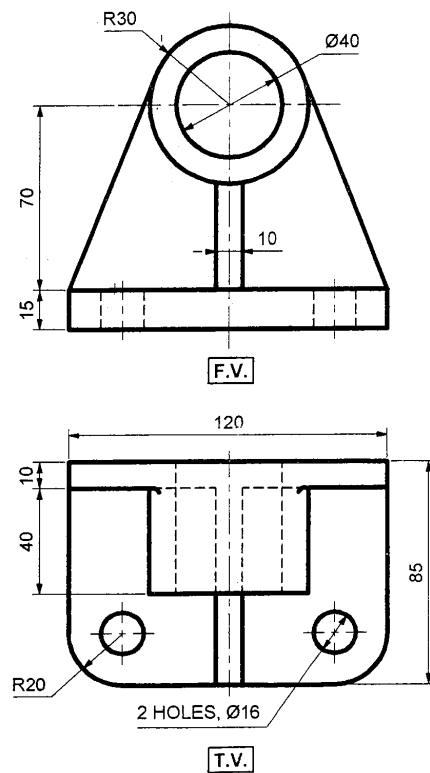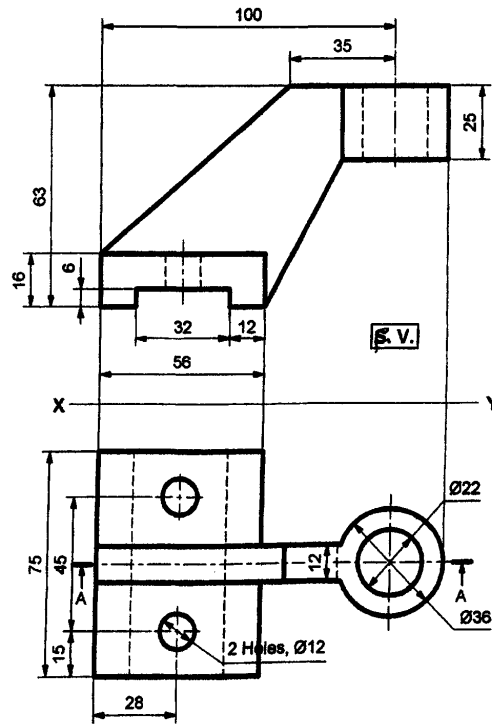   projection. Redraw F.V. and T.V. and complete L.H.S.V.

Fig. 5

(c)   Fig. 6 shows front view and top view of the object. Draw the following views of the object (Use First angle method) :

T.V.

Fig. 6

(i)   Sectional front view along A – A.

(ii)   Top view

(iii) L.H.S.V.