22207

24225

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 : **10**

(a) Draw neat and proportionate free hand sketch of Double-Riveted lap joint.

(b) Draw neat and proportionate free hand sketch of Lewis foundation bolt.

(c) Draw free hand proportionate sketch of Muff coupling.

(d) Draw the conventional representation of following materials :

(i) Concrete

(ii) Cast Iron

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

(i) Single V-Butt Weld

(ii) Spot weld

(f) With a simple sketch show 'Half Section'.

(g) If a line is parallel to H.P. and inclined to V.P., state whether following statements are true or false :

(i) Front view of the line shows its true length.

(ii) Top view of the line is inclined to XY.

2. Solve any THREE : **12**

(a) The point A of 65 mm long AB in H.P. and 15 mm in front of V.P. The line is inclined to H.P. & V.P. at 40° & 35° respectively. Draw the projections of line 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 views and determine its inclination with V.P.

(c) A regular hexagonal plate of 30 mm side, is resting on H.P. on one of its edges. The surface of the plate is inclined at 45° to H.P. and perpendicular to V.P. Draw the projections of the plate.

(d) A pentagonal pyramid side of base 30 mm and axis length 65 mm is kept on H.P. on a corner of its base such that axis makes an angle of 30° to H.P. and parallel to V.P. Draw its projections.

(e) A cylinder of base diameter 40 mm and axis length 60 mm is kept on the V.P. on a point of its base circle such that its axis is inclined to V.P. at 30° and parallel to H.P. Draw projections of cylinder.

3. Solve any TWO : **16**

(a) Draw the projections of cone, base 50 mm diameter and axis 55 mm long, when it is resting on the H.P. on a point of its base circle with axis inclined 30° to H.P. & parallel to V.P.

(b) A square prism, base 45 mm side and 80 mm height, stands vertically on the H.P. with the edge of base equally inclined to V.P. A cutting plane, perpendicular to V.P. and inclined at 60° to H.P. cuts its axis 15 mm from its top end. Draw :

(i) Front view

(ii) Sectional top view

(iii) True shape of section

(c) A cylinder of 60 mm diameter and axis 80 mm long is resting on its base on 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 :

(i) Front view

(ii) Sectional top view

(iii) True shape of section

4. Solve any TWO : **16**

(a) Fig. 4.1 shows the pictorial view of an object. Draw :

(i) Sectional front view along A – A

(ii) Top view

(iii) R.H.S.V.

(Use first angle projection method)

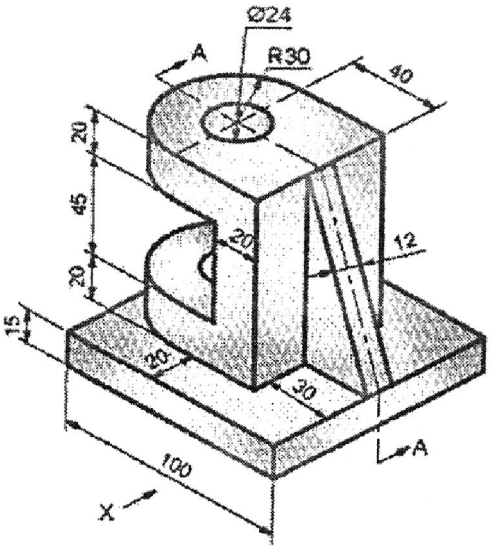

Fig. 4.1

(b) Fig. 4.2 shows isometric view of a machine component. Draw :

(i) Sectional front view in the X-direction

(ii) Side view in Y-direction

(Use first angle projection method)

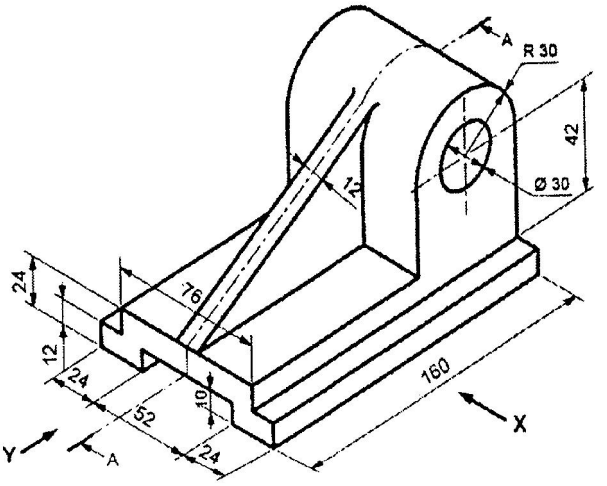

Fig 4.2

(c) Fig. 4.3 shows the top view and front view of a bracket. Draw missing view (L.H.S.V.) of an object.

(Use first angle projection method)

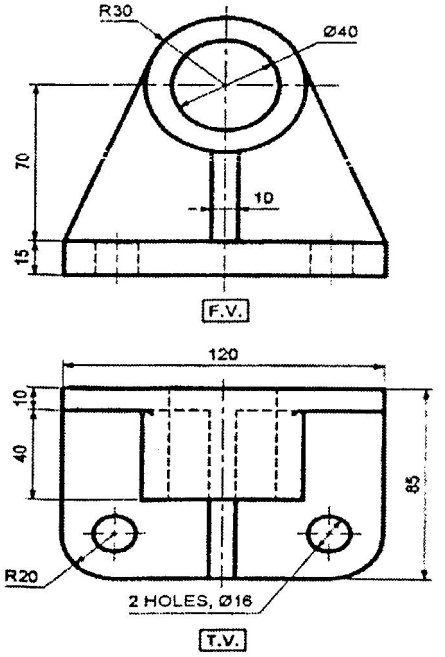

Fig. 4.3

5. Solve any TWO : **16**

(a) Fig. 5.1 shows front view and top view of an object. Draw :

(By first angle projection method)

(i) Sectional front view along A – A

(ii) Top view

(iii) Right hand side view

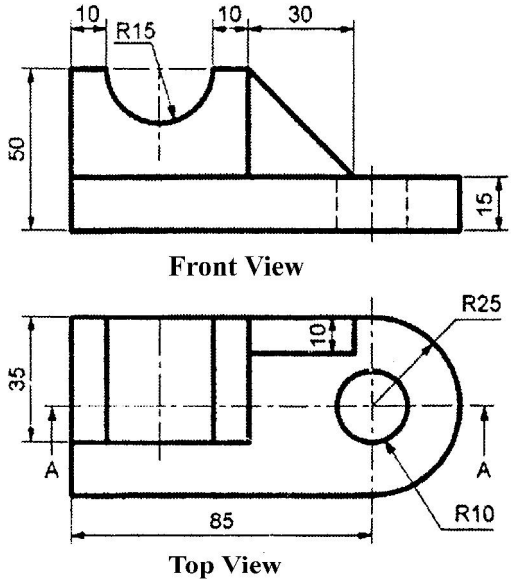

Fig. 5.1

(b) Fig. 5.2 shows partial auxiliary view, incomplete top view and front view. Complete the top view with the help of given views.

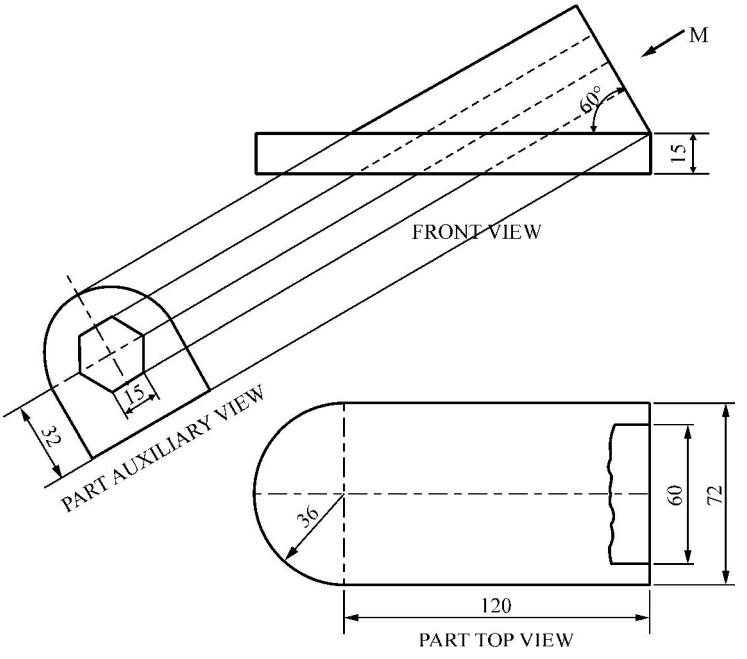

Fig. 5.2

(c) Fig. 5.3 shows front view, auxiliary top view and incomplete side view. Complete the side view with the help of given views.

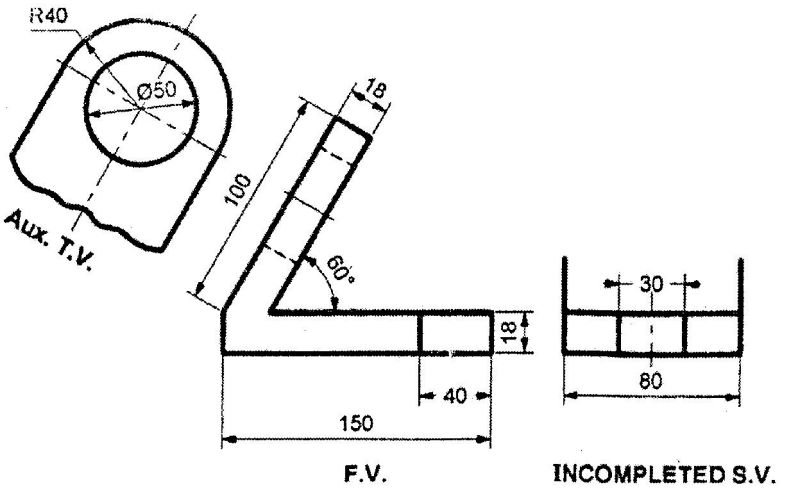

Fig. 5.3