

22207

11920

4 Hours / 70 Marks

Seat No.

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- 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. Attempt any FIVE :**

**10**

- (a) Draw neat & proportionate free hand sketch of Double Rivetted Lap joint.
- (b) Draw the conventional representation of :
  - (i) Spot Weld
  - (ii) Single J-butt Weld
- (c) Draw neat & proportionate free hand sketch of pulley with web.
- (d) Draw the conventional representation of following material :
  - (i) Concrete
  - (ii) Brass
- (e) Draw neat & proportionate free hand sketch of Half lap muff coupling.
- (f) Draw conventional representation of broken section.
- (g) A line AS, 55 mm long is lying on both HP & VP. Draw its projection.

**2. Attempt any THREE :**

**12**

- (a) A line AP, 75 mm long has its end A in both HP & VP. It is inclined at an angle of  $30^\circ$  to HP &  $45^\circ$  to VP. Draw the projections.
- (b) A hexagonal lamina of 24 mm side has its surface inclined at  $30^\circ$  to HP and resting on one of its corner on HP. Draw its projections.
- (c) A pentagonal lamina of 40 mm side has a circular hole of 35 mm diameter of its centre. It stands on one of its sides on VP with its plane perpendicular to HP, and  $45^\circ$  inclined to VP. Draw the projection.
- (d) Draw the projections of a cube of side 40 mm when it rests on the ground on one of its corners and a face containing that corner is inclined at  $30^\circ$  to ground and perpendicular to VP.
- (e) A triangular prism, side of base 30 mm & height 60 mm lies with one of its longer edges on H.P., such that its axis is parallel to V.P. Draw its projections.

## 3. Attempt any TWO :

16

- (a) A hexagonal prism, base 30 mm side and axis 70 mm long has a rectangular face on the H.P. with its axis parallel to VP. A vertical section plane inclined at  $45^\circ$  to VP cuts it at a point on the axis, 20 mm from one end.

Draw :

- (i) Top view
  - (ii) Sectional front view
  - (iii) True shape of section
- (b) A cylinder of 50 mm diameter & 70 mm height has its axis vertical, it is cut by a section plane perpendicular to VP and inclined at  $45^\circ$  to HP and intersecting the axis 40 mm above the base.

Draw :

- (i) Front view
  - (ii) Sectional top view
  - (iii) True shape of section
- (c) A square pyramid, side of base 40 mm, axis length 60 mm lying on the VP on one of its slant edge. Draw the projections of the pyramid when its axis is parallel to HP.

## 4. Attempt any TWO :

16

- (a) A pictorial view of a stay rod bracket is shown in Figure 1.

Draw :

- (i) Sectional front view in X direction
- (ii) L.H.S.V.

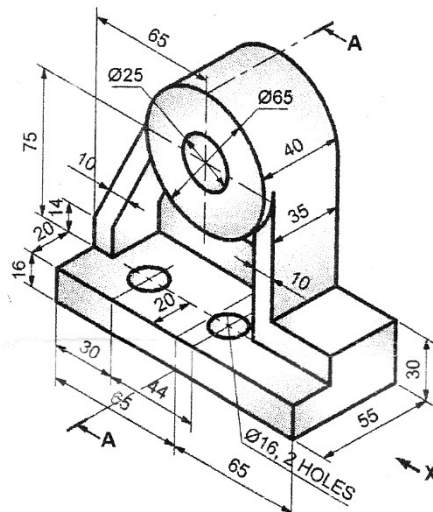


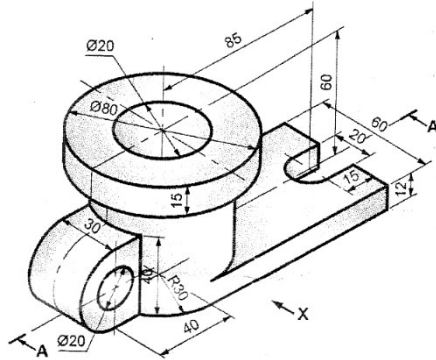
Fig. 1

(b) Figure 2 Shows isometric view of a machine component.

Draw :

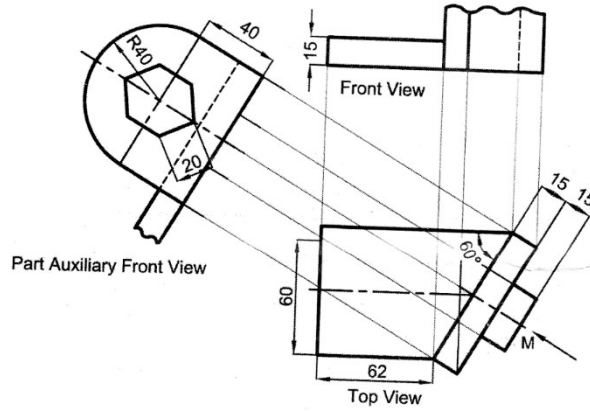
(i) Sectional F.V. in X direction

(ii) Top view



**Fig. 2**

(c) Figure 3 Shows incomplete front view, top view & partial auxiliary front view. Draw the given views and complete the front view.



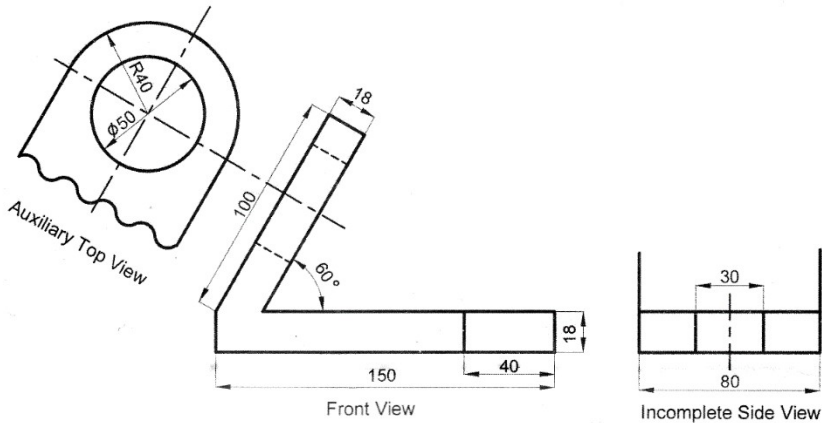
**Fig. 3**

5. **Attempt any TWO :**

16

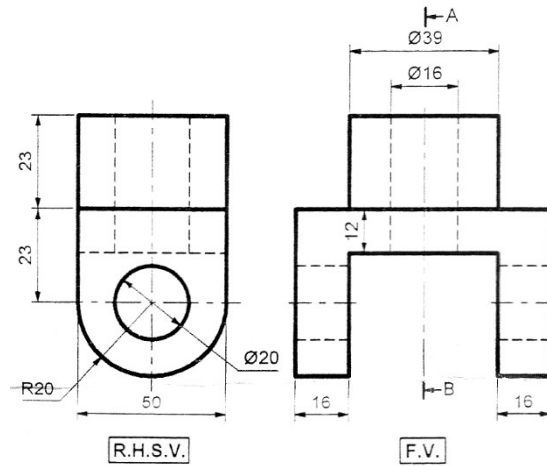
(a) Figure 4 Shows front view, auxiliary top view and incomplete side view.

Draw the given views and complete the side view.



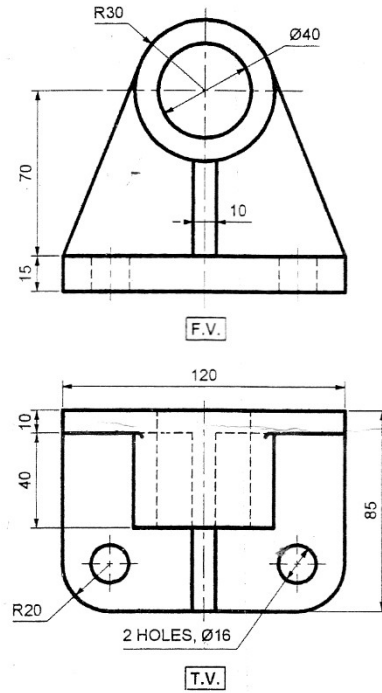
**Fig. 4**

- (b) Figure 5 shows front view and right hand side view of an object. Draw :
- (i) Top view
  - (ii) Front view
  - (iii) Sectional R.H.S.V. along A – B



**Fig. 5**

- (c) Figure 6 shows F.V. & T.V. of a bracket drawn by first angle method of projection. Redraw F.V. & T.V. and complete L.H.S.V.



**Fig. 6**