

22207

12425

4 Hours / 70 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
  - (2) Figures to the right indicate full marks.
  - (3) Assume suitable data, if necessary.

**Marks**

**1. Draw neat and proportionate free hand sketch of any FIVE of the following : 10**

- (a) Single riveted lap joint.
- (b) Split muff coupling.
- (c) Eye foundation Bolt.
- (d) (i) Draw symbol of square butt weld.  
(ii) Seam weld
- (e) Draw conventional representation of following material :
  - (i) Wood
  - (ii) Concrete
- (f) Draw neat and proportional free hand sketch of flat belt.
- (g) Draw neat and proportionate free hand sketch of split pulley.

**2. Solve any THREE :**

**12**

- (a) The top view of 80 mm long line AB measures 68 mm, while the length of its F.V. measures 54 mm. Its one end A is in H.P. and 15 mm in front of V.P.

Draw projection of AB and determine its inclination with H.P. & V.P. Also locate traces of the line.



- (b) A circular plate of 50 mm dia. is resting on point of circumference on H.P. The plane of plate is normal to V.P. and inclined at  $45^\circ$  to H.P. A central square hole of 15 mm side is cut centrally through it. Take all sides of hole equally inclined to V.P. Draw (i) F.V. (ii) Top view
- (c) A regular pentagonal plate has 30 mm side, has a central hole of 20 mm diameter. The plate is resting on one of its corners in H.P., with its surface perpendicular to V.P. and inclined at  $45^\circ$  to H.P. Draw its projection.
- (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  $30^\circ$  to H.P. and  $11^\circ$  to V.P. Draw its projection.
- (e) Draw the projection of a pentagonal prism on auxiliary plane, base 25 mm side and axis 50 mm long, resting on one of its rectangular face on H.P. with axis inclined at  $45^\circ$  to V.P.

**3. Solve any TWO :**

16

- (a) A pentagonal pyramid having side of base 30 mm and axis 65 mm long is resting in H.P. on one of its base corners. Draw its projections, if slant edge containing that corner makes an angle  $45^\circ$  to H.P. and its axis parallel to V.P.
- (b) A right circular 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  $45^\circ$  to H.P., passing through the mid point of axis. Draw (1) F.V. (2) S.T.V. and (3) True shape of section.
- (c) A tetrahedron of 60 mm edges stands on a face on the ground with an edge contained by that face perpendicular to V.P. It is cut by a section plane perpendicular to V.P. inclined at  $30^\circ$  to H.P. and passing through a corner of the base. Draw the following :
  - (i) F.V.
  - (ii) Section T.V.
  - (iii) True shape of section

4. Solve any TWO :

- (a) Fig. (A) shows pictorial view of an object. Draw following views :  
 (i) Sectional F.V. looking in X direction  
 (ii) T.V.

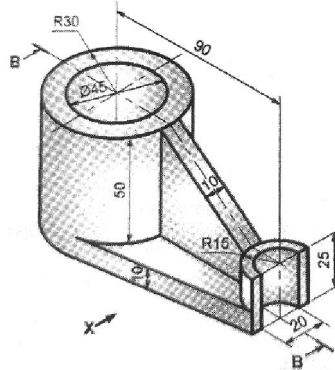


Fig. (A)

- (b) Fig. (B) shows a pictorial view of an object. Draw following views :  
 (i) Sectional F.V. along with A-A.  
 (ii) Top view

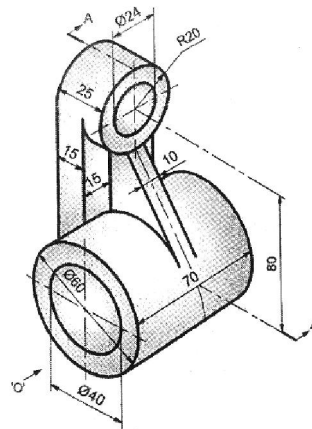


Fig. (B)

- (c) Fig. (C) shows F.V., auxiliary T.V. and incomplete side view. Redraw given figure and complete S.V. & Auxiliary view.

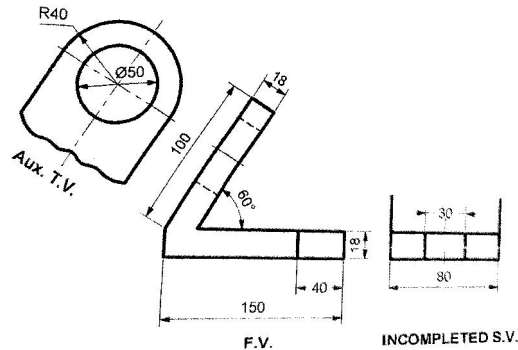


Fig. (C)

5. Solve any TWO :

(a) Fig. (D) shows F.V. and T.V. of an object. Draw following views :

- (i) Sectional F.V. (ii) T.V. (iii) L.H.S.V.

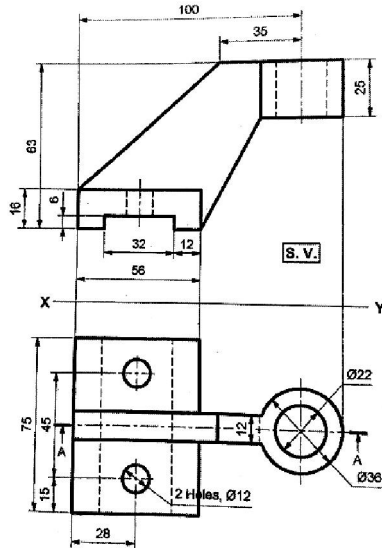


Fig. (D)

(b) Fig. (E) shows an object. Draw :

- (i) Sectional F.V. (Section A-A) (ii) T.V. (iii) L.H.S.V.

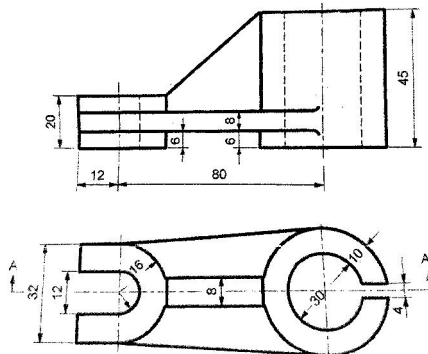


Fig. (E)

(c) Fig. (F) shows a F.V. & L.H.S.V. of an object. Draw the given views and project an auxiliary T.V. looking in X-direction.

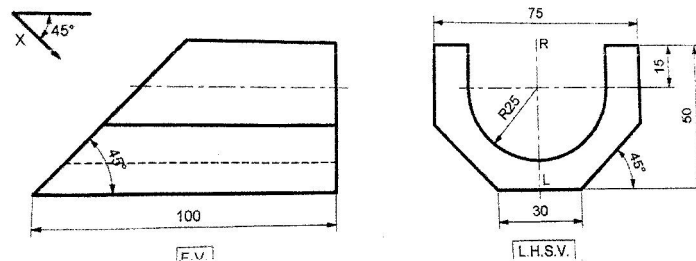


Fig. (F)