

22207

21718

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.
 - (4) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.
 - (6) Use only H/2H grade pencils.
 - (7) Line work and cleanliness will be given due weightage.
 - (8) Retain all construction lines and nomenclature.

Marks

1. Solve any FIVE :

10

- (a) Draw neat and proportionate free hand sketch of Single Riveted, Single strap Butt Joint.
- (b) Draw neat and proportionate free hand sketch of Eye Foundation Bolt.
- (c) Draw neat and proportionate free hand sketch of Protected Flange Coupling.
- (d) Draw the conventional representation of following welded joints :
 - (i) Double U-butt
 - (ii) Single bevel butt

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P.T.O.

- (e) Draw the conventional representation of following materials in section :
- (i) Steel
 - (ii) Rubber
- (f) If a line is perpendicular to VP and parallel to HP, state whether the following statements are true or false :
- (i) Front view of a line shows true length.
 - (ii) Top view of a line is perpendicular to XY line.
- (g) With a simple sketch explain removed section.

2. Solve any THREE :

12

- (a) Line 'AB' is 70 mm long. Its FV and TV measure 40 mm and 60 mm respectively. End 'A' is 15 mm above HP and 20 mm in front of V.P. Draw projections of line 'AB' if end 'B' is in first quadrant. Find angle with HP and VP.
- (b) A circular plate of negligible thickness of 50 mm diameter is resting on HP on one of its points of circumference. The plate is perpendicular to VP and inclined to HP by 30° . Draw its projections.
- (c) An isosceles triangle 'ABC' of base 'AB' 40 mm and altitude 70 mm has its base 'AB' in V.P. and perpendicular to HP. The triangle is inclined to VP so that front view obtained is an equilateral triangle. Draw the projections and find the inclination of plane with VP.

(d) Fig. 2.1 shows front view and right hand side views of a regular pentagonal prism :

- (i) Add the top view (Use first angle method of projection)
- (ii) State the positions of planes ABCDE and ABGF with respect to reference planes.

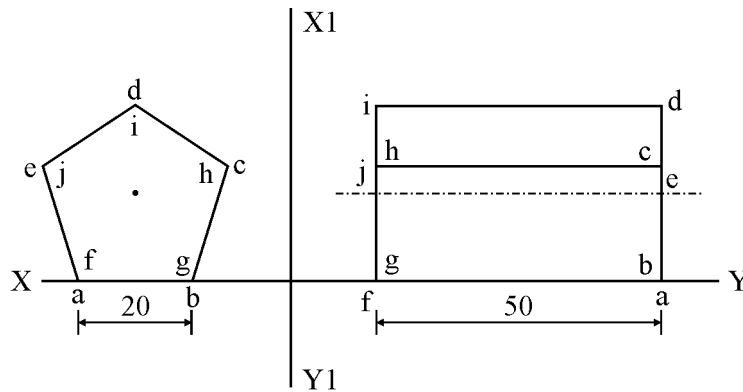


Fig. 2.1

(e) A right circular cone of 40 mm diameter base and 60 mm axis length is resting on a point of its circumference on HP with axis inclined at 30° to HP and parallel to VP. What will be the shape of its front view, top view, right hand and left hand side views ?

3. Solve any TWO :

16

- (a) A pentagonal pyramid base 30 mm side and axis 60 mm long is standing on a corner of its base on HP. Draw its projections when the slant edge containing that corner makes an angle of 45° to HP with axis parallel to VP.
- (b) A square prism base 40 mm side and axis 80 mm long is resting on HP on its base with all vertical faces equally inclined to VP. It is cut by a plane perpendicular to VP and inclined to HP by 60° , passing through a point on axis 55 mm above HP.

- Draw :
- (i) Front view
 - (ii) Sectional top view
 - (iii) True shape of section

P.T.O.

- (c) A right circular cone, 50 mm diameter base and 70 mm height is resting on its base on HP. It is cut by a section plane perpendicular to VP and inclined at 45° to HP. The cutting plane cuts the axis at a point 30 mm from the apex.

- Draw : (i) Front view
 (ii) Sectional top view
 (iii) Sectional side view
 (iv) True shape of section

4. Solve any TWO :

16

- (a) Fig. 4.1 shows a pictorial view of an object

- Draw : (i) Sectional front view along A–B
 (ii) Top view

Use first angle method of projection.

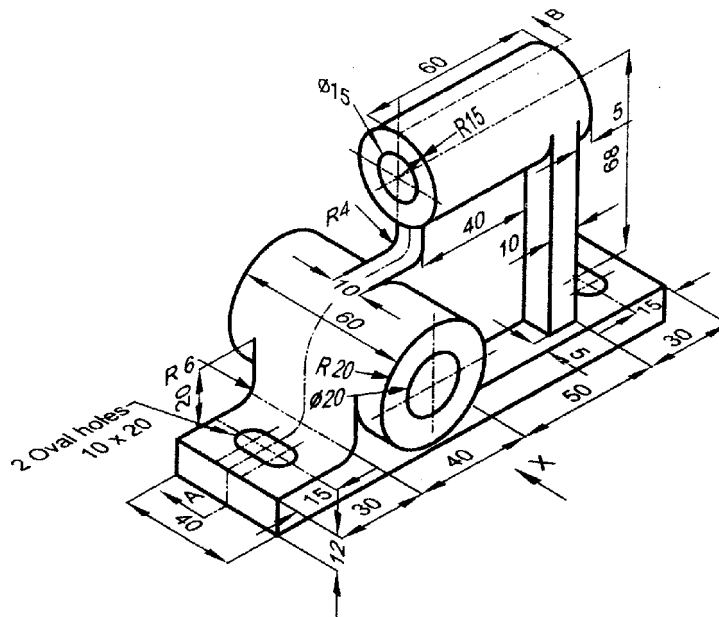


Fig. 4.1

- (b) Fig. 4.2 shows a pictorial view of an object.
 Draw : (i) Front view in a direction of arrow 'A'.
 (ii) Sectional side view along P-P from right.
 Use first angle method of projection.

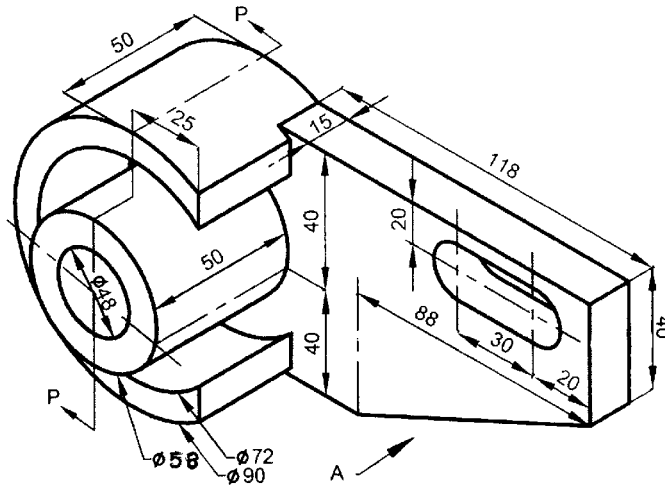


Fig. 4.2

- (c) Fig. 4.3 shows front view, incomplete auxiliary top view and incomplete left hand side view.
 Draw the given views and complete the left hand side view.

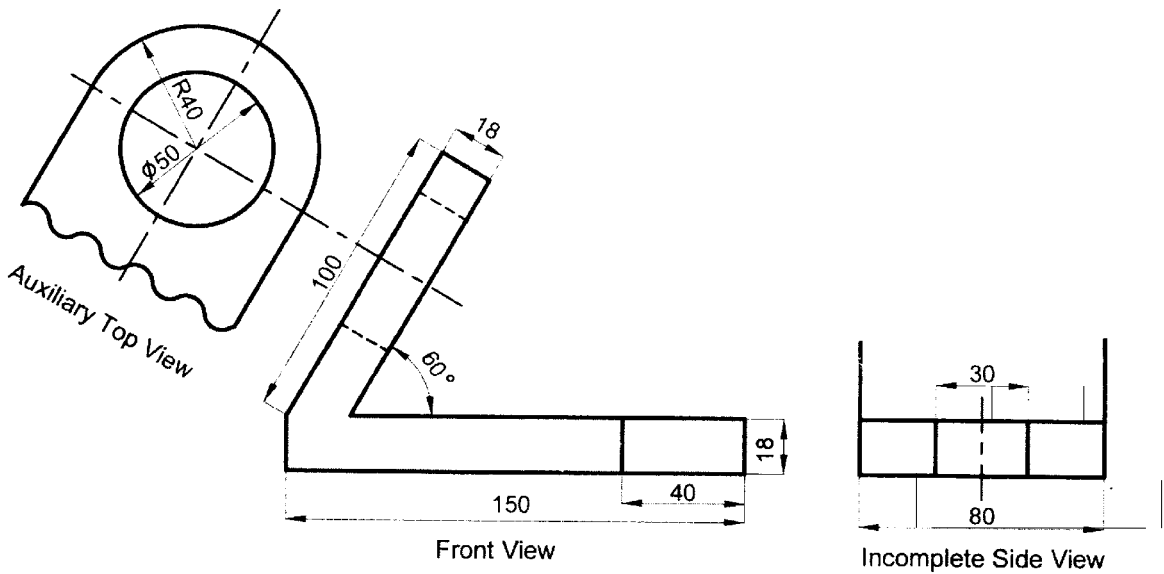


Fig. 4.3

5. Attempt any TWO :

- (a) Fig 5.1 shows front view and top views of an object. Draw the following views by using first angle method of projection.
- Sectional front view along A-A
 - Top view
 - Right hand side view

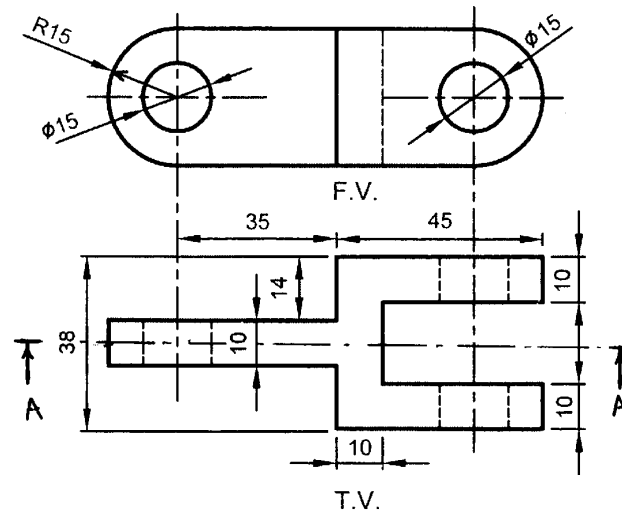


Fig. 5.1

- (b) Fig 5.2 shows front view and top view of an object. Draw the following views by using first angle method of projection.
- Sectional front view along B-B
 - Top view
 - Left hand side view

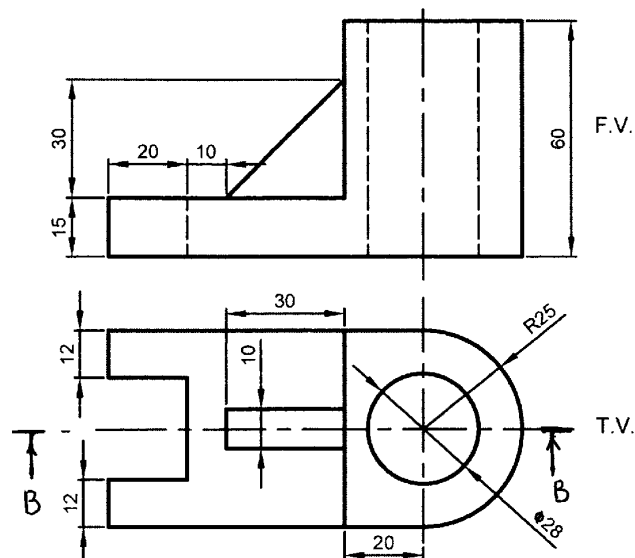


Fig. 5.2

- (c) Fig 5.3 shows front view, incomplete auxiliary view and incomplete right hand side view.

Draw the given views and complete the right hand side view.

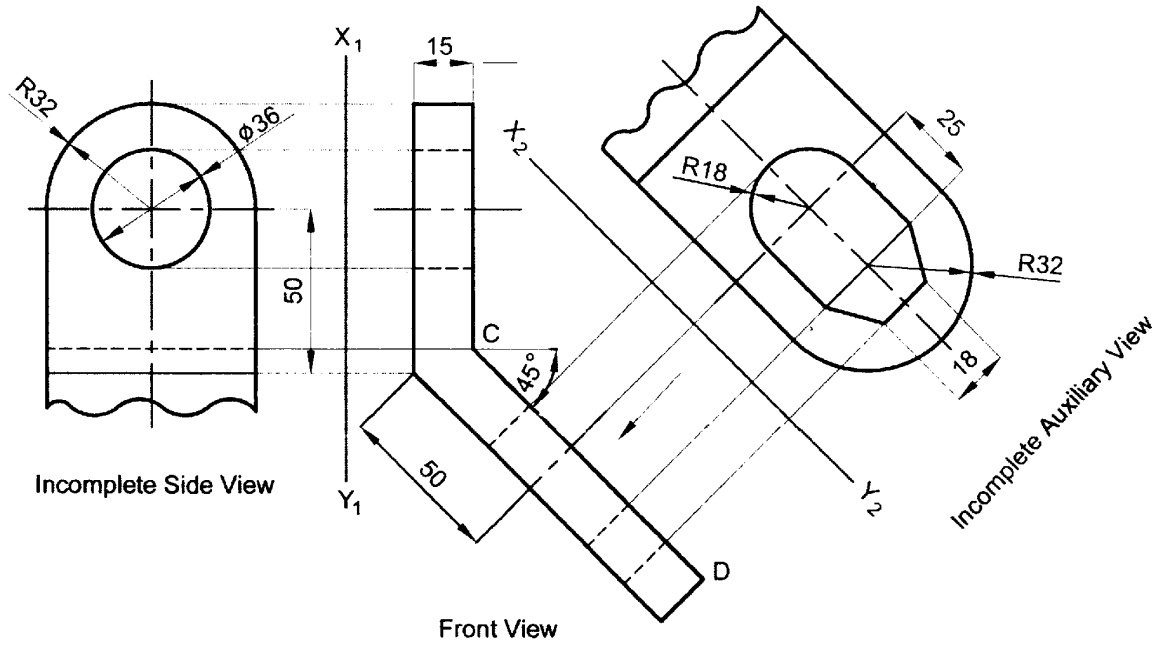


Fig. 5.3

