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23242

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) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

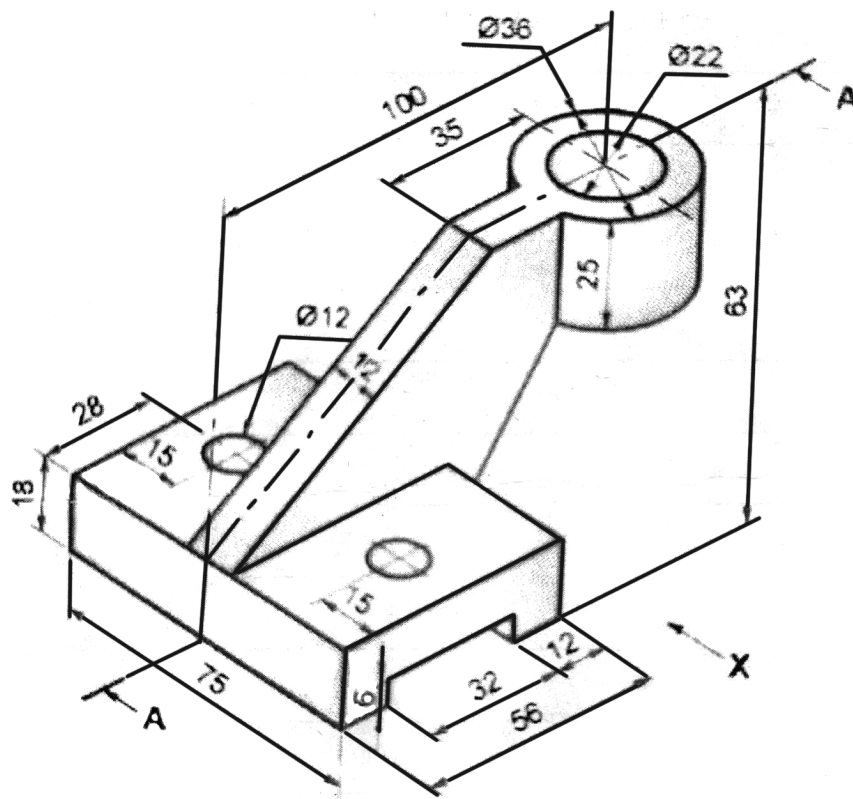
1. **Attempt any TWO of the following:** **8**
- a) A line AB 60 mm long has its end A 25 mm above H.P. and 30 mm in front of V.P. It is inclined at 30° to the H.P. and at 45° to the V.P. Draw its front view and top view.
 - b) Draw the projections of a line AB, 70 mm long having its end A in both, H.P. and V.P. it is inclined at 45° to H.P. and 30° to V.P.
 - c) An isosceles triangle of base 30 mm and altitude 50 mm is having its base on H.P. Plane is perpendicular to V.P. and is inclined to H.P. in such a way that T.V. appears to be an equilateral triangle. Find inclination of the plane with H.P.

P.T.O.

2. Attempt any TWO of the following:

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- a) A pentagonal plate 30 mm side rests on H.P. on one of its corners and is inclined at 40° to H.P. and perpendicular to V.P. Draw the projections.
- b) Fig. No. 1 shows a Pictorial view of an object using first angle method of projections. Draw
- Sectional F.V (A-A)
 - T.V.

Fig. No. 1

- c) Fig. No. 2 shows isometric view of a machine component.
Draw following views:
- Sectional F.V. looking in the direction of X (Section B-B).
 - T.V.

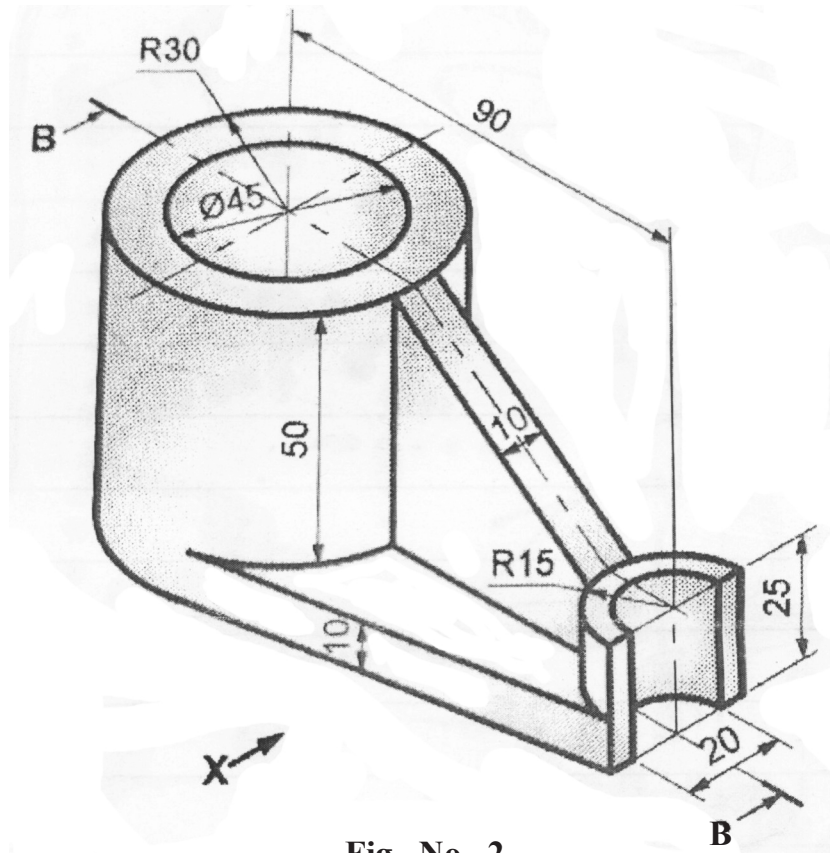


Fig. No. 2

3. Attempt any THREE of the following:**18**

- a) A hexagonal prism edge of base 25 mm and axis 60 mm long rests on H.P. on an edge of base with that edge perpendicular to V.P. and axis inclined 45° to H.P. and Parallel to V.P. Draw:
 - i) F.V.
 - ii) T.V.
- b) A pentagonal pyramid side of base 30 mm and axis length 65 mm is kept on the H.P. on a corner of its base such that axis makes an angle of 30° to the H.P. and parallel to the V.P. Draw its projections.
- c) A vertical square prism 50 mm side of base and 100 mm long having its faces equally inclined to V.P. is completely penetrated by a horizontal cylinder 40 mm diameter and 100 mm long the axis of which is parallel to V.P. and 6 mm away from that of axis of prism. Draw the projections of solids showing curves of intersection.
- d) A vertical square prism, base 50 mm side and height 90 mm is completely penetrated by a horizontal square prism, base 35 mm side and axis length 90 mm so that their axis are 6 mm apart. The axis of horizontal prism is parallel to the V.P. while the faces of both prisms are equally inclined to the V.P. Draw the projections of the Prisms showing lines of intersection.

5. Attempt any TWO of the following: 16

- a) A vertical cone of base diameter 100 mm and axis length 90 mm is penetrated by a horizontal cylinder of base diameter 50 mm and axis length 120 mm. The axis of cylinder is parallel to V.P. and is 30 mm above the base of cone. The axis of cylinder is 12 mm away from the axis of cone. Draw the projections of the solids showing curves of intersection.
 - b) Draw the development of lateral surface of a cylinder of base diameter 40 mm and height 60 mm kept on H.P. On its base and is cut by an A.I.P. inclined 45° to H.P. and bisecting the axis of the cylinder.
 - c) A right circular cone having diameter of base 40 mm, axis length 60 mm resting on its base on H.P. it is cut by an A.I.P. inclined at 45° to H.P. and bisecting the axis. Draw the DLS of the cone retaining the portion containing the base.
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