

( 3 Hours )

Marks : 60

- NB : (1) Question **No.1** is **compulsory**. Solve **any three** out of remaining **five** questions.  
 (2) Use your **Judgement** for **any unspecified dimension**.  
 (3) Use **First Angle** method of projection only.  
 (4) Retain **all construction lines**.  
 (5) **Figures** to the **right** indicate full **marks**.  
 (6) All dimensions are in **mm**.

1. (a) A circle of 50mm diameter rolls along a straight line without slipping, draw the curve traced by a point 'P' on the circumference of the circle for one complete revolution. **6**
- (b) The pictorial view of a machine part is given in Fig. Draw
- (a) Front View in the direction of 'X' **4**
  - (b) Top View **4**
  - (c) Insert at least 10 major dimensions **1**

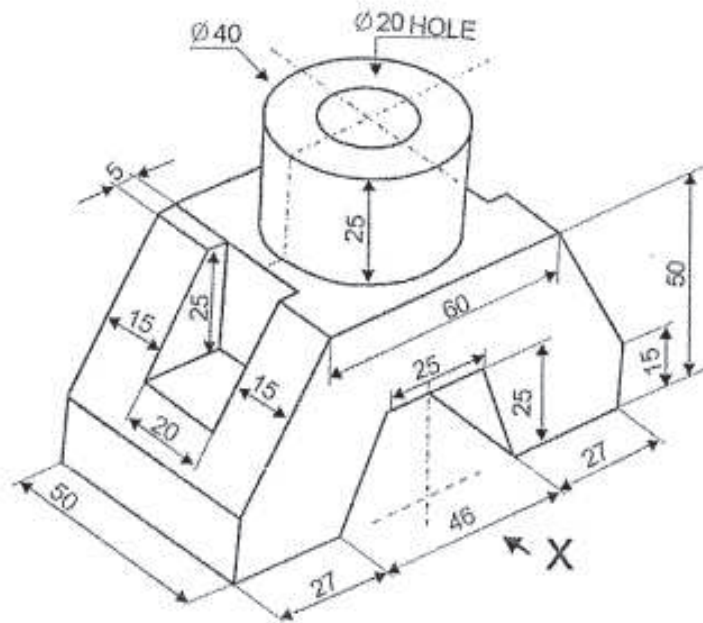
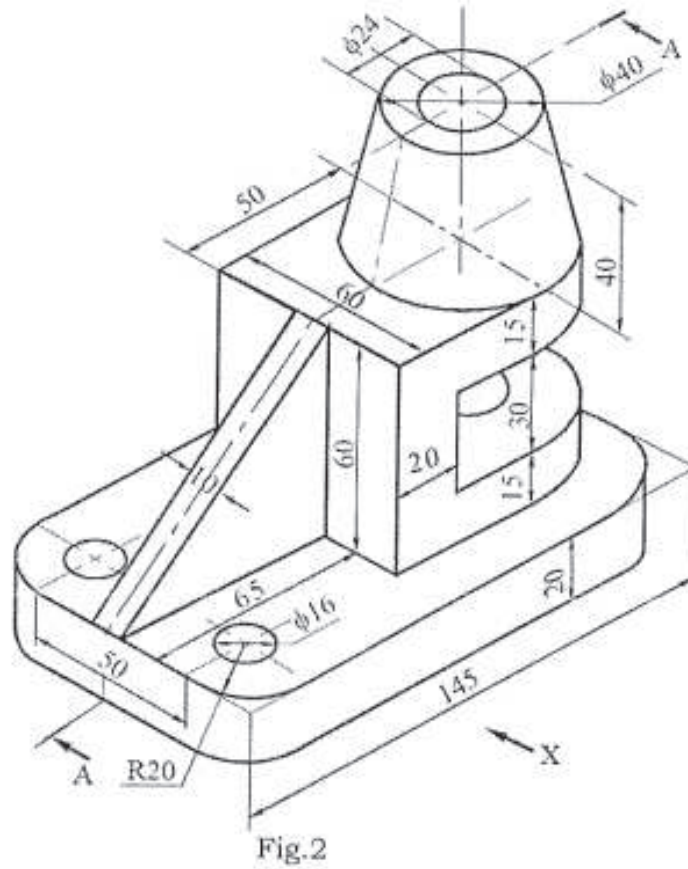


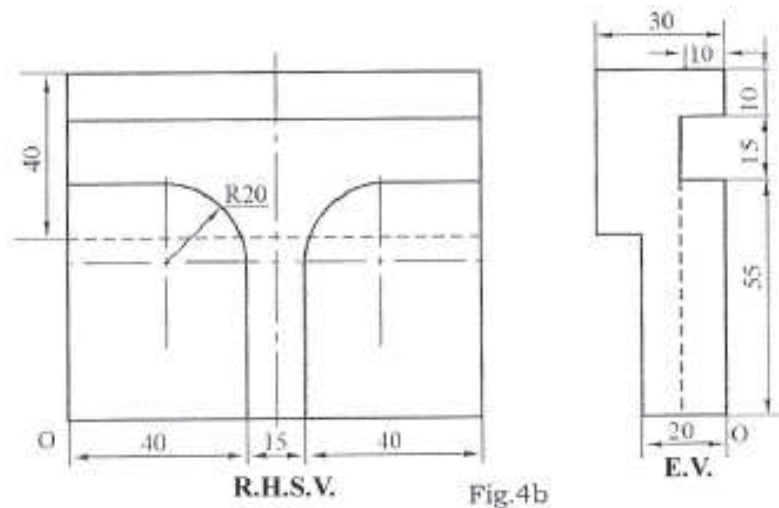
Fig.1b

2. Figure shows a pictorial view of a machine part, Draw:
- (a) Sectional Front View looking along 'X' (Section A-A) **5**
  - (b) Top View **4**
  - (c) LHSV **4**
  - (d) Insert at least 10 major dimensions. **2**

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3. A pentagonal pyramid of 30mm edge of base and 65mm length of axis has a 30mm edge on the HP. The axis is inclined at  $30^\circ$  to HP, and  $45^\circ$  to VP. Draw the projections. **15**
4. (a) A cylinder of base diameter 50 mm and height 70 mm is resting on one of the base point on H.P. with axis inclined at  $45^\circ$  to H.P. parallel to V.P. Draw its projections. **6**
- (b) Draw an isometric view of the following object using natural scale. **9**



5. A right circular cone of diameter 60 mm and length of axis 65 mm is resting on HP on its base. It is cut by a cutting plane perpendicular to VP and inclined to HP such that the true shape is a parabola of height 50mm. Draw FV, sectional TV and the true shape of section. **15**
6. (a) A line AB 90mm long is inclined at an angle of  $30^\circ$  to HP and  $45^\circ$  to VP. Its end point 'A' is 15mm above HP and 20mm in front of VP. Draw the projections when point 'B' is in the third quadrant. **9**
- (b) Draw an isometric view of the following object using natural scale. **6**

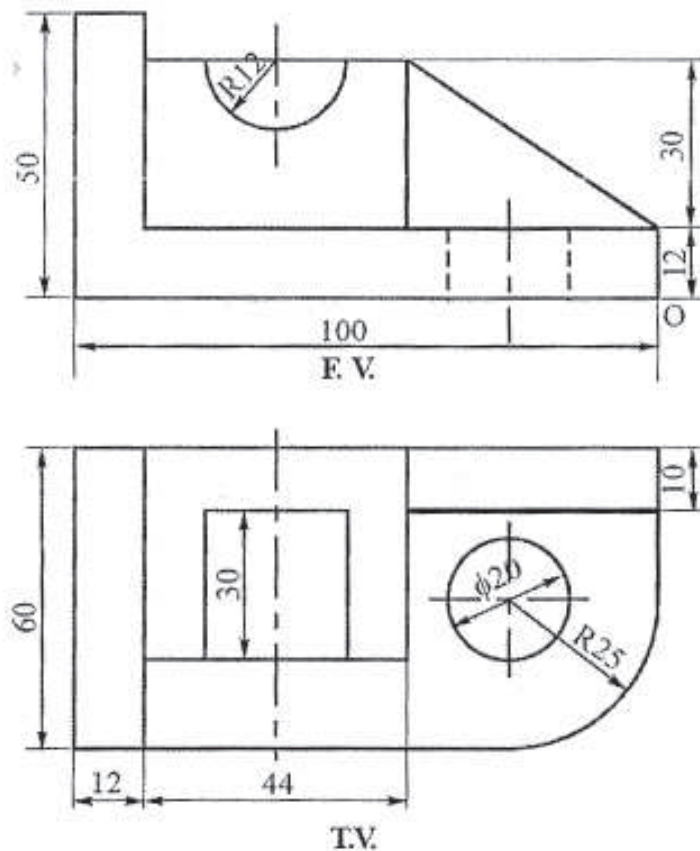


Fig.6b

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