

(3 Hours)

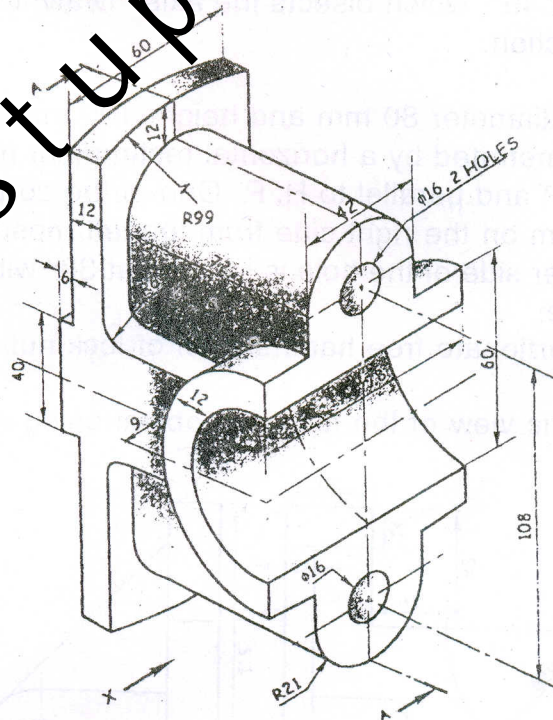
[ Total Marks : 75

- N.B.** (1) Question No. 1 is **compulsory**.  
 (2) Attempt any **four** questions out of remaining **six** questions.  
 (3) Use **drawing** sheets only for **answering**.  
 (4) **All** dimensions in **figure** are in **mm**.  
 (5) Use your **own** judgement for any **unspecified** dimension.  
 (6) Use only **first** angle method of **projections**.  
 (7) Use scale **1 : 1** only.

1. **Figure** shows the pictorial view of a machine part.  
 Draw the following views :—

- (a) Sectional F. V. along Section A-A  
 (b) Right hand side view  
 (c) Top view.

Insert at least ten major dimensions.



4  
5  
4  
2

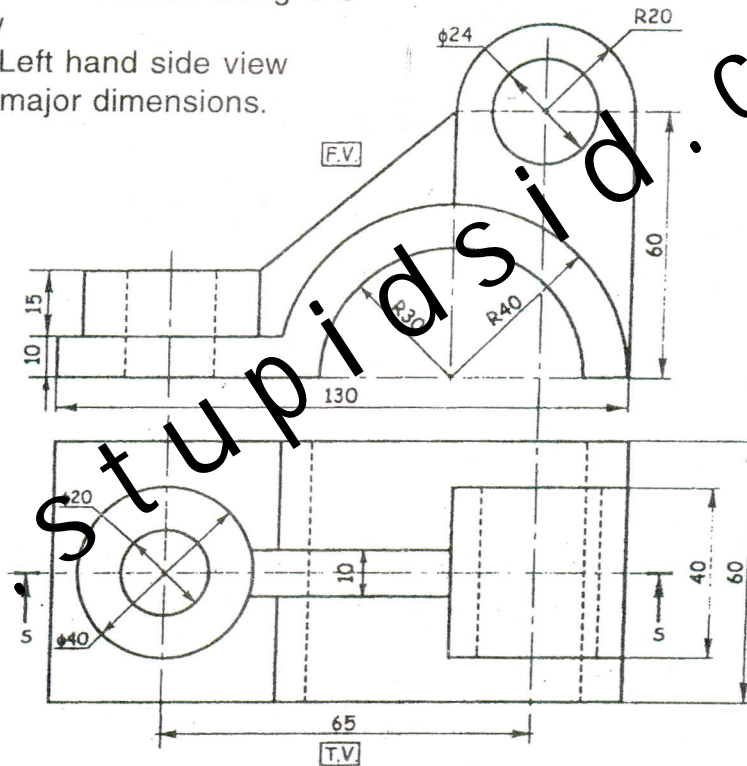
2. **Figure** shows the F. V. and T. V. of an object. Draw the following views :—

(a) Sectional F. V. section along S-S

(b) Top view

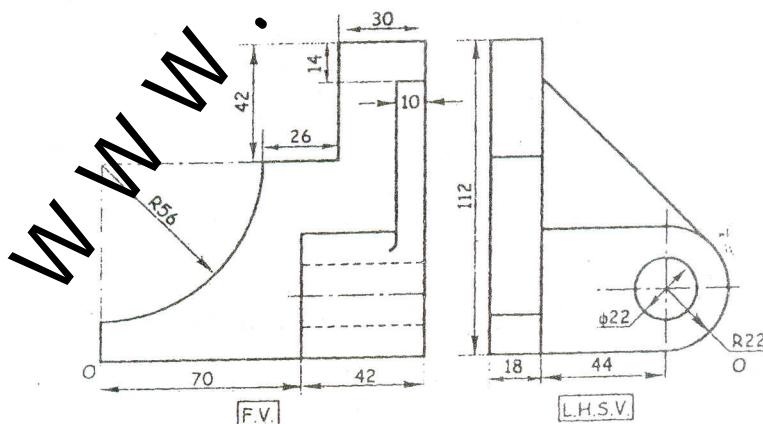
(c) Missing Left hand side view

Insert atleast six major dimensions.



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3. (a) A circle of 50 mm 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 end A of straight line AB 90 mm long is in the second quadrant and 15 mm from both H. P. and V. P. End B is in the third quadrant. The line is inclined at  $30^\circ$  with the H. P. and the distance between the end projectors measured parallel to the XY line is 60 mm. Draw the projections of line, find its inclination with V. P. and locate its traces. 9
4. A Pentagonal pyramid has a height of 60 mm and the side of base 30 mm. The pyramid rests with one of the sides of a base on the H. P. Such that the triangular face containing that side is perpendicular to H. P. and makes an angle  $30^\circ$  with V. P. Draw its projections. 15
5. A cylinder base, 45 mm diameter, axis height 75 mm long is lying on the H. P. with the axis parallel to both the H. P. and V. P. It is cut by an auxiliary vertical plan inclined to the V. P. at  $45^\circ$ , which bisects the axis. Draw its sectional F. V., T. V. and true shape of the section. 15
6. (a) A cone of base diameter 80 mm and height 100 mm is resting on its base on the H. P. It is penetrated by a horizontal rectangular hole such that the axis of hole is  $\perp^{\text{er}}$  to V. P. and parallel to H. P. One of the corner of the hole is 25 mm above and 20 mm on the right side from the left most point at the base of the cone. The smaller side of the hole is inclined at  $30^\circ$  with H. P. Draw the D. L. S. of cone with hole. 12
- (b) Draw neat proportionate free hand sketch of lock nut (Two views). 3
7. (a) Draw an isometric view of the following object using natural scale : 12



- (b) Draw neat proportionate free hand sketch of Eye foundation bolt (one view only). 3