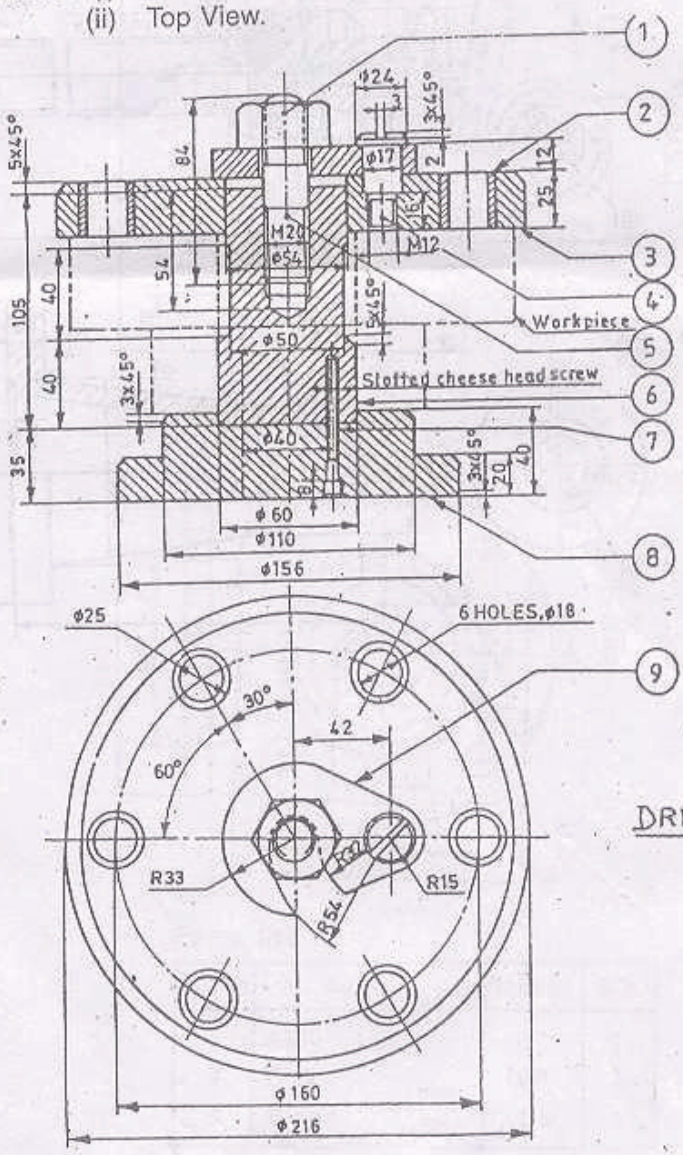
N.B. (1) Question No. **1** is **compulsory**.
(2) Attempt any **four** questions from remaining.
(3) Assume **suitable** dimensions wherever **necessary**.
(4) Use **drawing sheet** only.

1. (a) A vertical cylinder of 60 mm diameter and 100 mm long, has a square hole of 30 mm sides cut through it. The axis of the hole is horizontal, parallel to the VP and 6 mm away from the axis of the cylinder. The faces of the hole are equally inclined to both HP and VP. Draw projections of the cylinder showing hole in it. **10**

(b) A vertical cone, base 80 mm diameter, axis 100 mm long, is penetrated by a horizontal cylinder of 40 mm diameter, the axis of which is 25 mm above the base of the cone, parallel to the VP and 6 mm away from the axis of the cone. Draw the projections, showing curves of intersection. **10**

2. **Figure** shows assembly of a drill jig. Draw the following views for :—

(a)	Jig plate	(i) Sectional Front View	3
		(ii) Top View.	3
(b)	Base plate	(i) Sectional Front View	4
		(ii) Top View.	4
(c)	Latch washer	(i) Sectional Front View	3
		(ii) Top View.	3



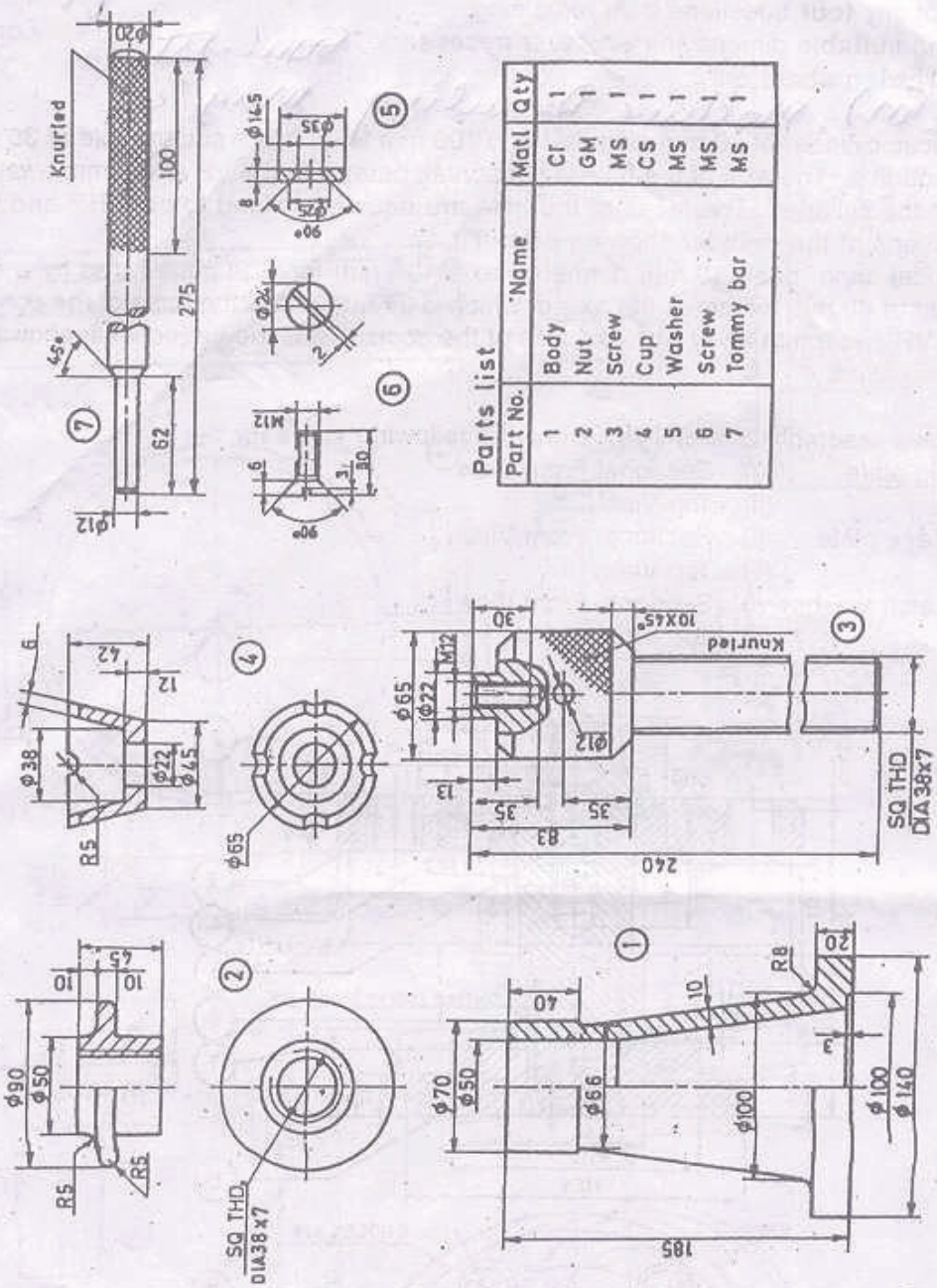
DRILL JIG

Parts List

Part No.	Qty.	Name	Matl.
1	1	Nut	
2	6	Bush	MCS
3	1	Jig plate	CI
4	1	Screw	MS
5	1	Stud	MS
6	1	Stem	MS
7	3	Screw	MS
8	1	Base	CI
9	1	Latch washer	MS

[TURN OVER

3. **Figure** shows details of screw jack. Draw the following views of the assembly — 12
   (a) Sectional Front View
   (b) Top View. 8



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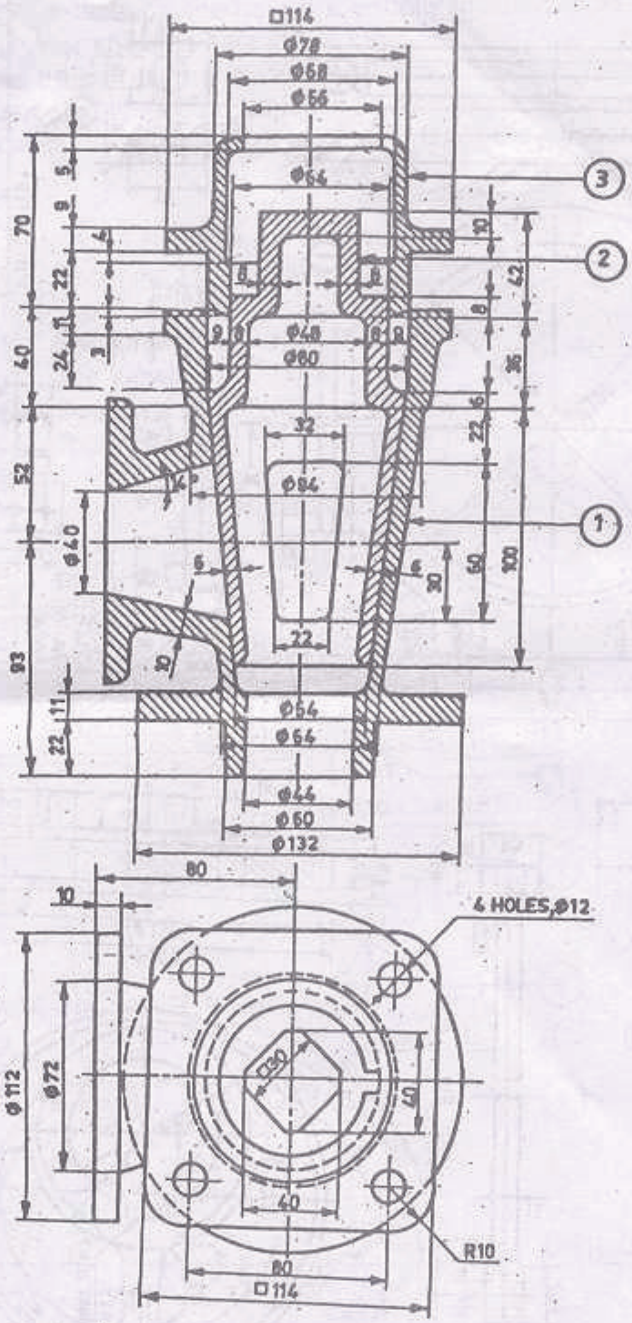
4. **Figure** shows an assembly of a blow-off cock.
Draw the following views for —

(a)	Body	(i)	Sectional Front View	4
		(ii)	Top View	4
(b)	Cock	(i)	Sectional Front View	3
		(ii)	Top View	3
(c)	Glad	(i)	Sectional Front View	3
		(ii)	Top View.	3



Parts list

Part No.	Name	Material	Qty.
1	Body	CS	1
2	Cock	GM	1
3	Gland	CS	1

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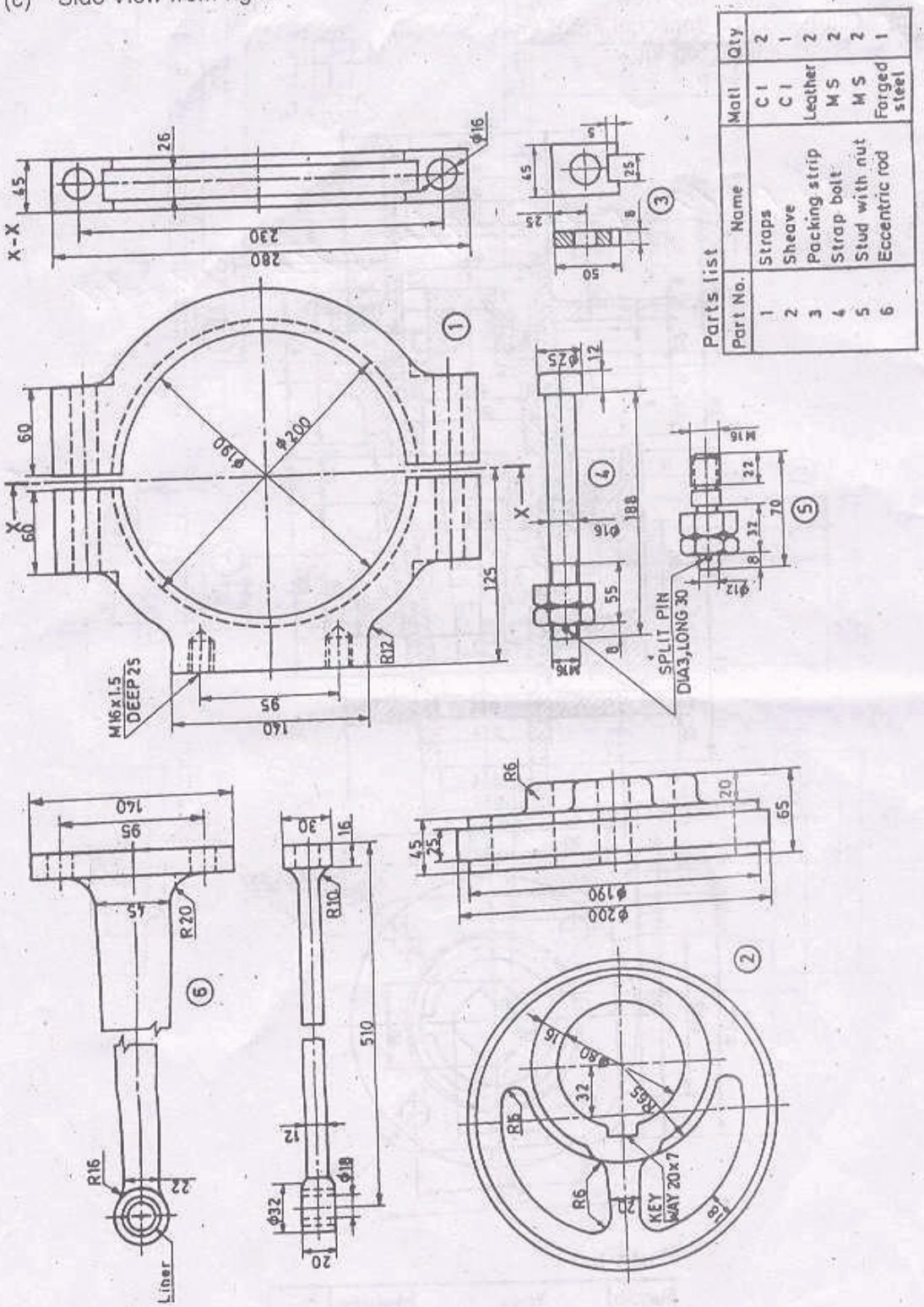
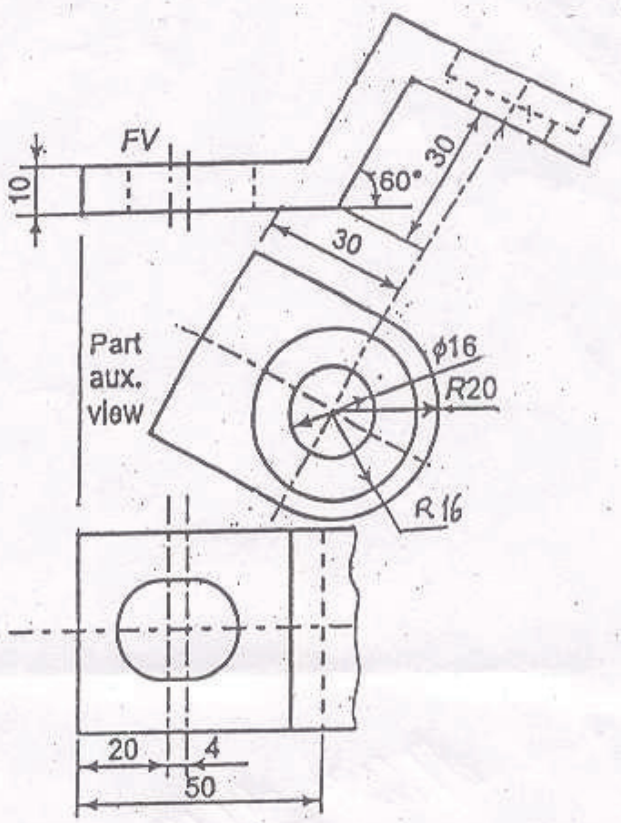
5. **Figure** shows the details of Eccentric. 8
Draw the following views of the assembly — 6
(a) Front View 6
(b) Top View
(c) Side View from right.



6. (a) **Figure** shows Front View, Auxiliary View and Partial Top View of a block. Draw the following :— 4
   (i) Complete Top View 2
   (ii) Front View 4
   (iii) Side View from right.
   (b) Draw two views of following :— 5
   (i) Flanged coupling 5
   (ii) Cotter and sleeve joint.



7. (a) Define tolerance, allowance and fit and its type. 8
   (b) Explain meaning of ϕ 50 H_7 / S_6 of tolerance are H_7 : + 25 μm 6
   00 μm
   S_6 : + 59 μm
   + 43 μm
   indicate type of fit.
   (c) Draw two views of fast and loose pulley assembly. 6
