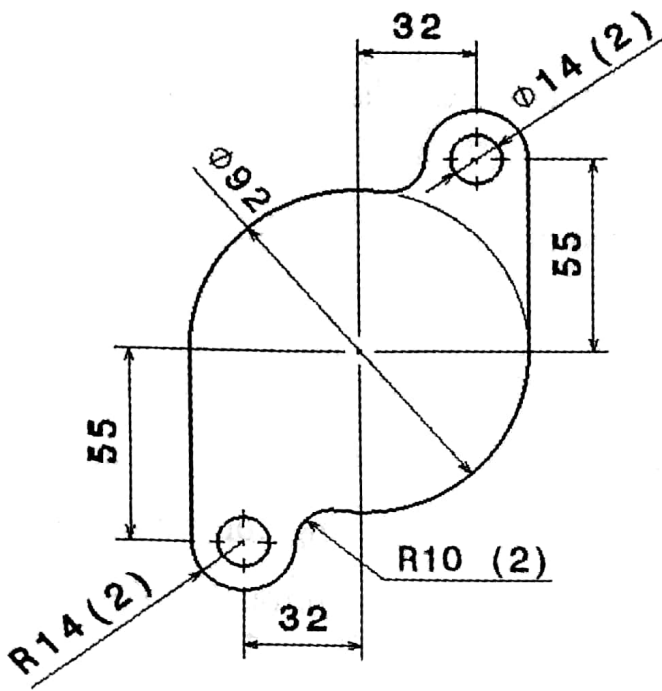
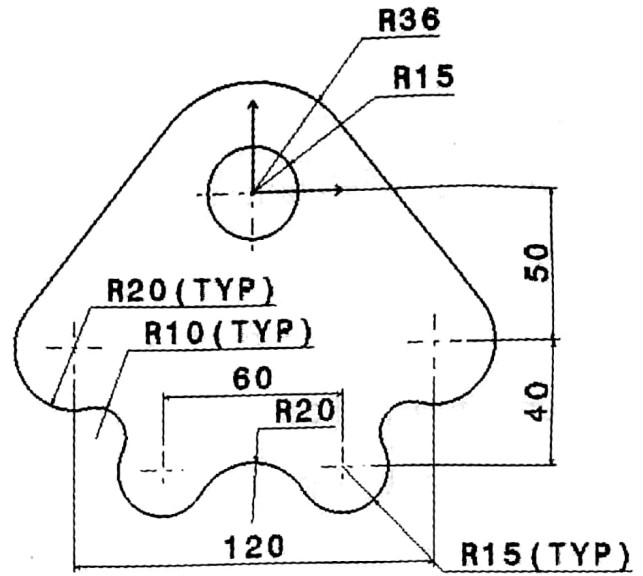


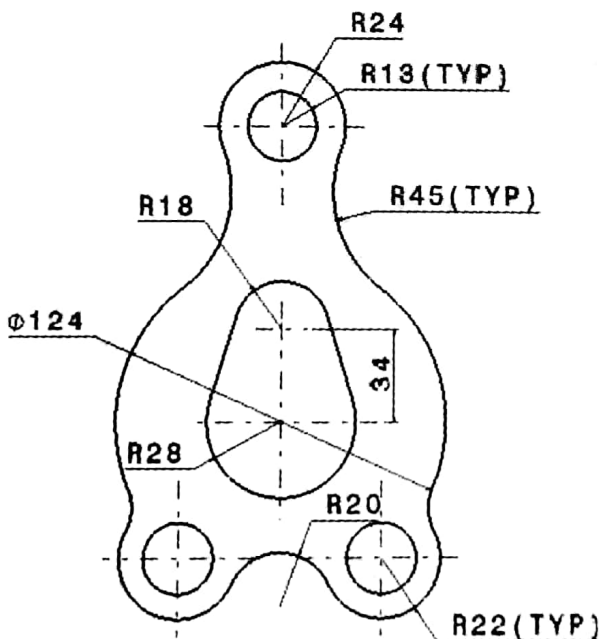
CONSTRAINT EXERCISE



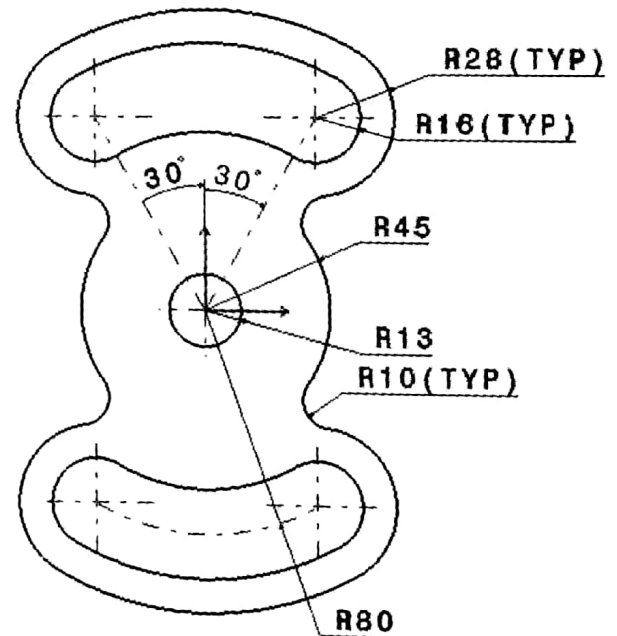
EX-1(Circle,Bi-tangent line,Fillet)



EX-2(Circle,Bi-tangent line,Fillet)

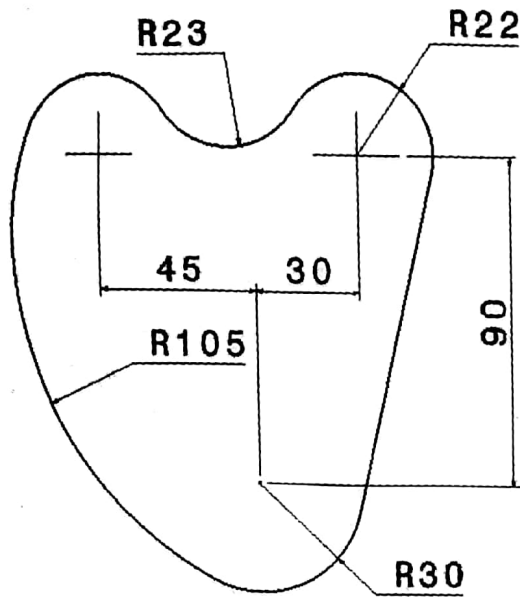


EX-3(Circle,Bi-tangent line Fillet,mirror)

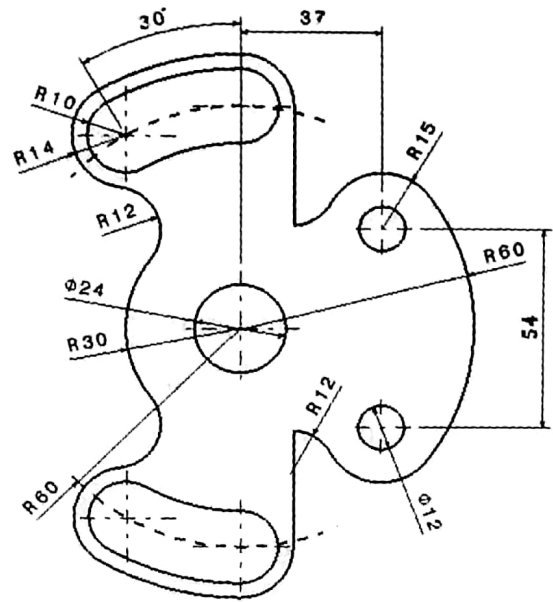


EX-4(Circle,Fillet,arc,offset,mirror)

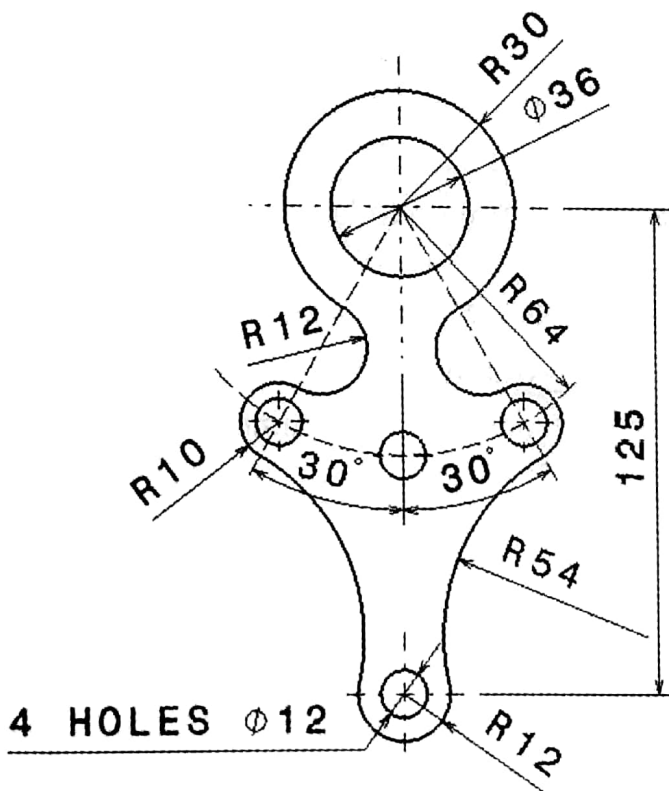
CONSTRAINT EXERCISE



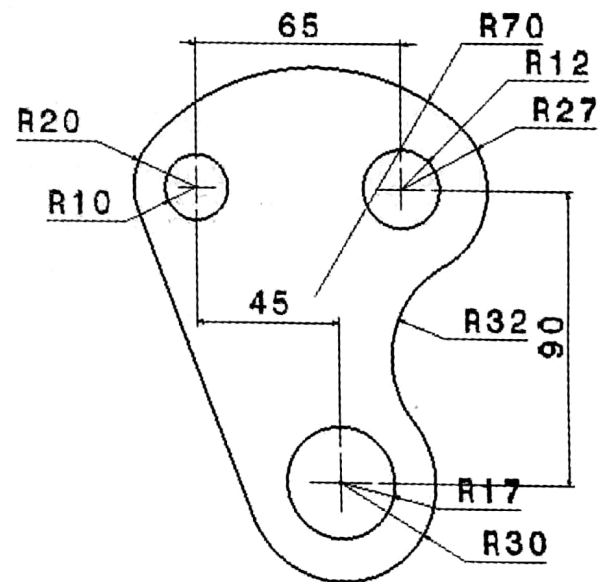
EX-5(Circle,Bi-tangent line, Fillet)



EX-6(Circle,Bitangent line,mirror)



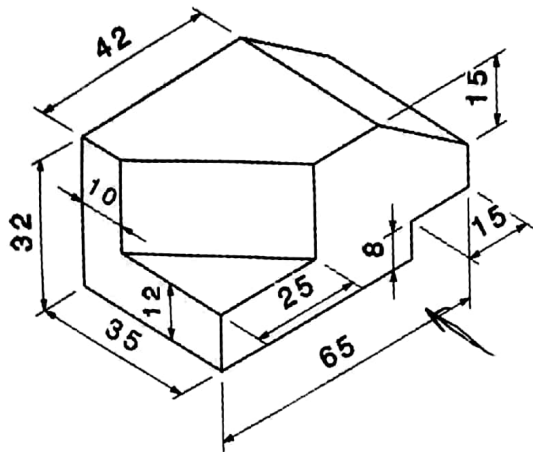
EX-7(Circle,mirror,Fillet)



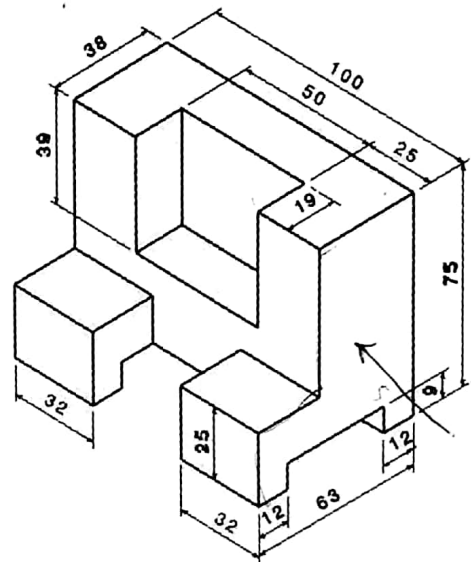
EX-8(Circle,Bi-tangent line,Fillet)

SOLID MODELLING EXERCISE

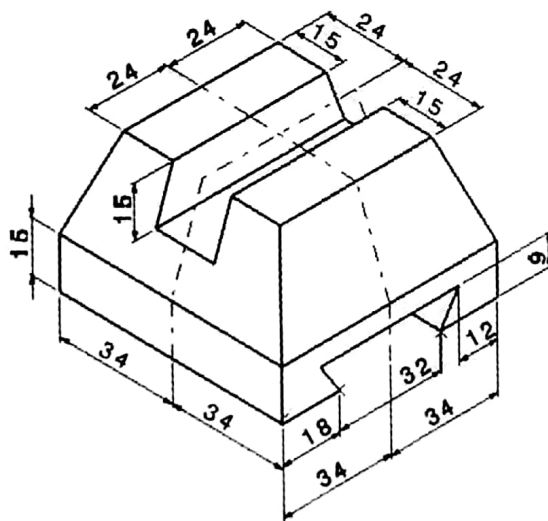
Exercise of Extrude, chamfer & round



EX-1

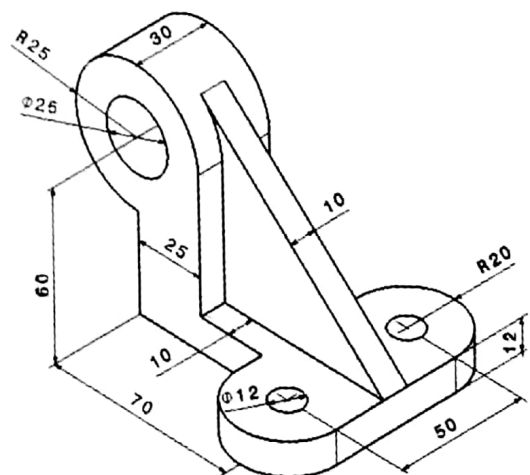


EX-2



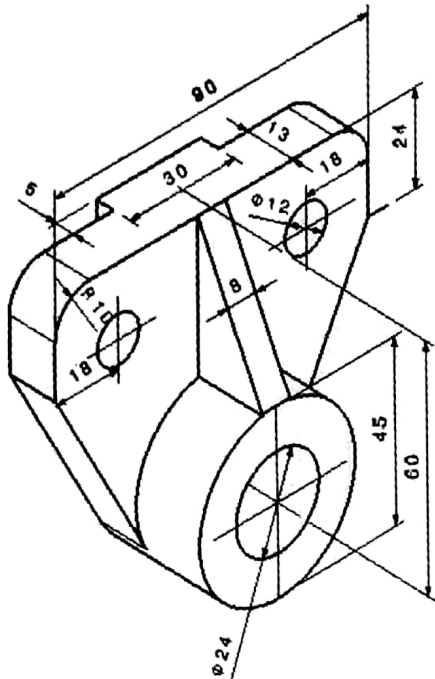
EX-3

EX-4



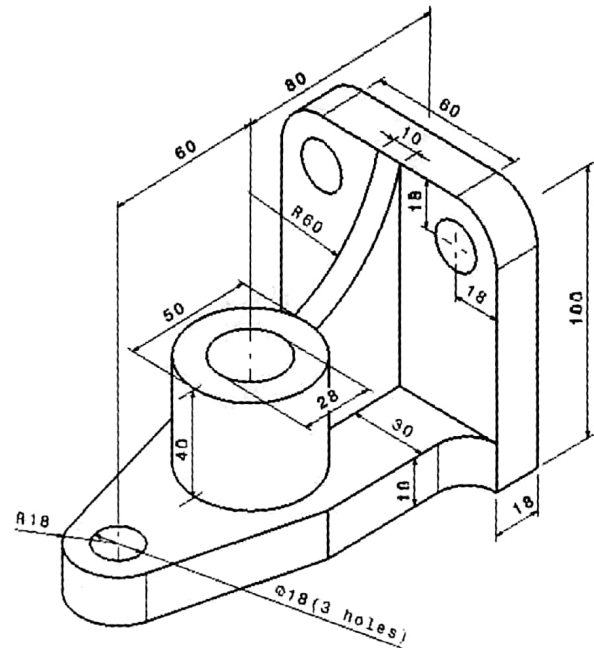
SOLID MODELLING EXERCISE

Exercise of Extrude, Chamfer, Round, Rib & Mirror

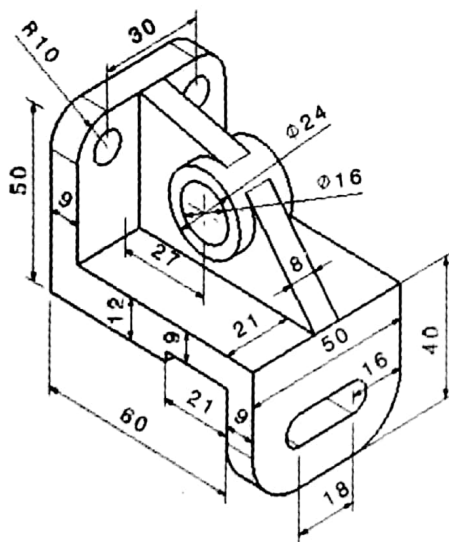


EX-6

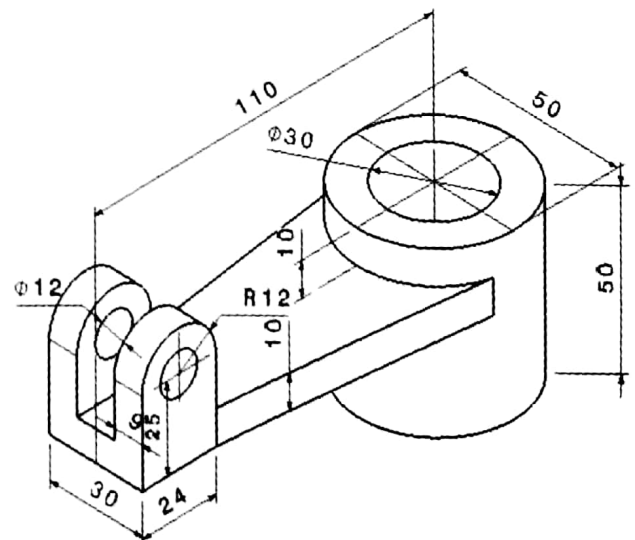
EX-5



EX-7

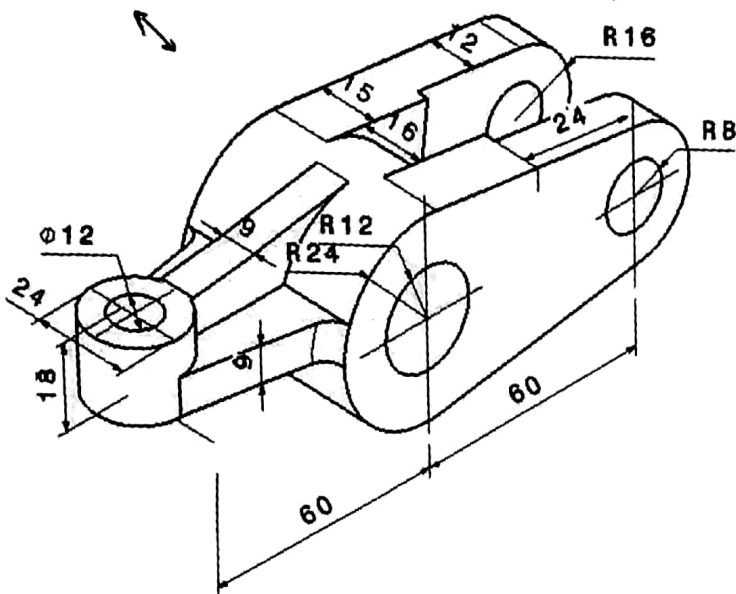


EX-8



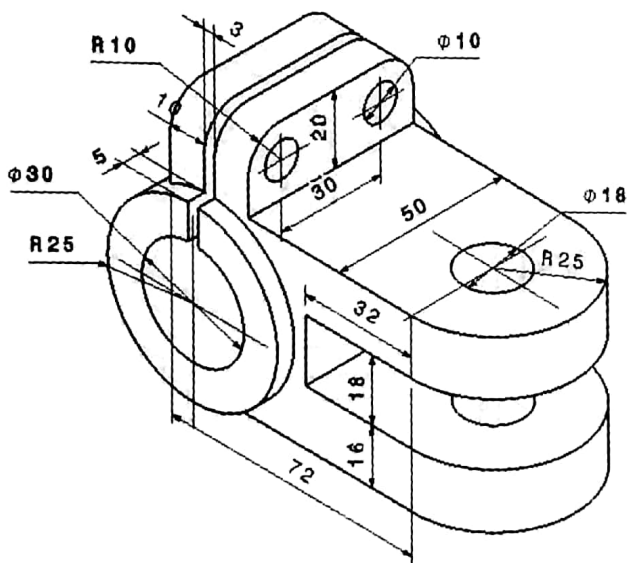
SOLID MODELLING EXERCISE

Exercise of Extrude, Chamfer, Round, Rib & Mirror

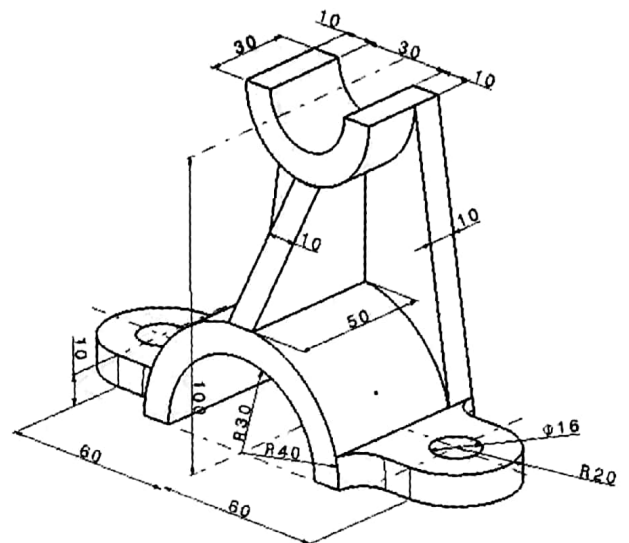


EX-9

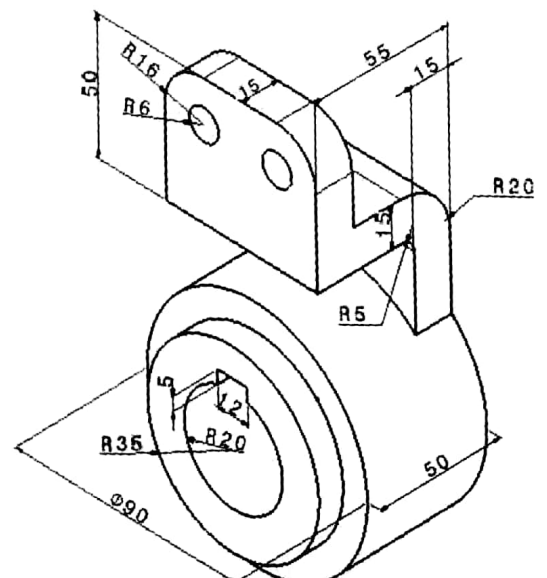
EX-10



EX-12

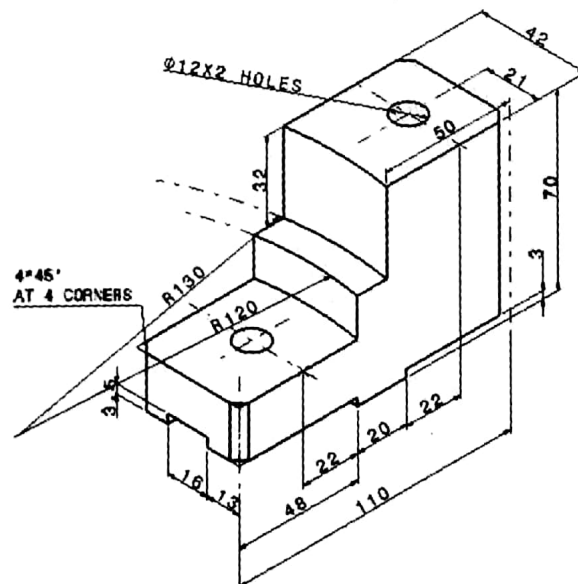
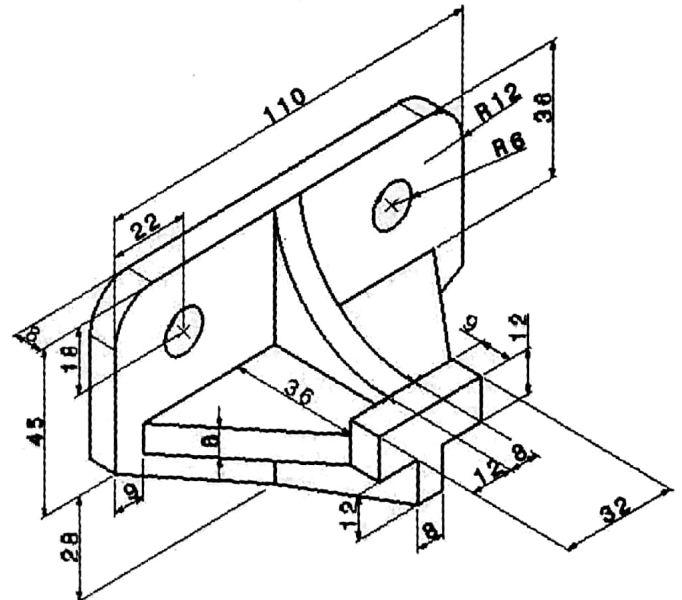
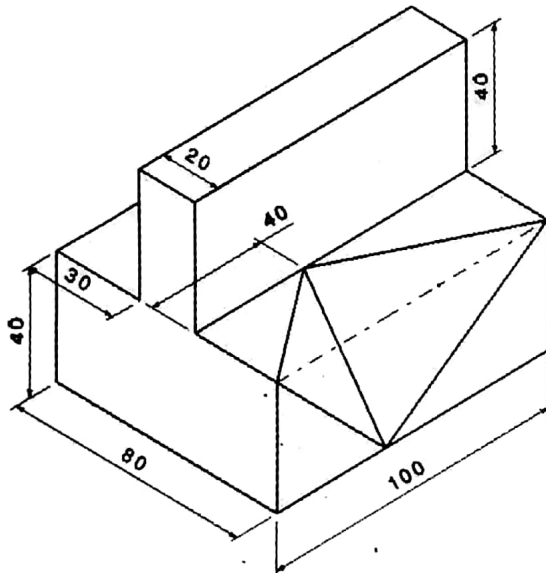
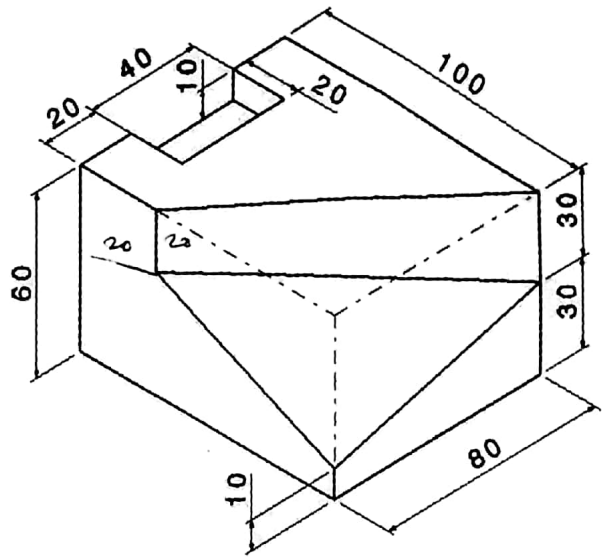
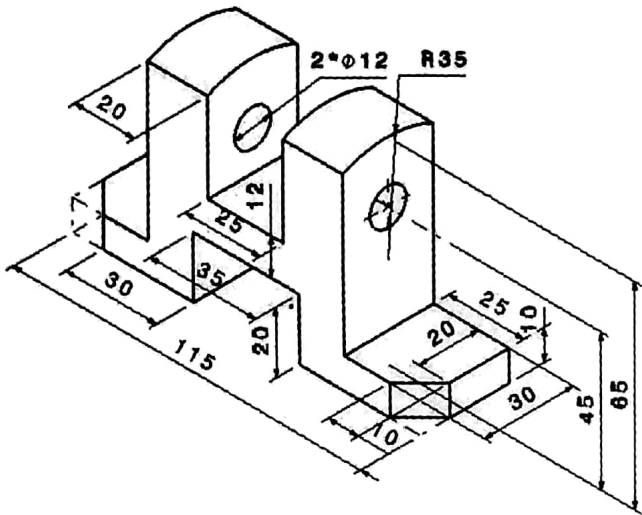


EX-11



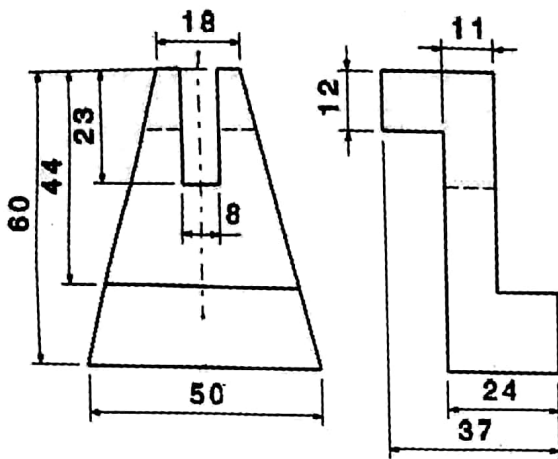
SOLID MODELLING EXERCISE

Exercise of Extrude, Chamfer, Round, Rib, Mirror, Creation of plane & point

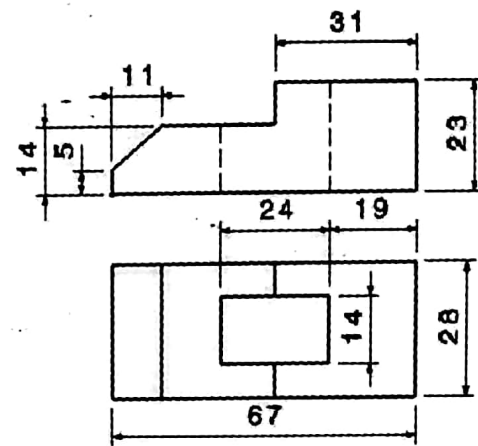


SOLID MODELLING EXERCISE

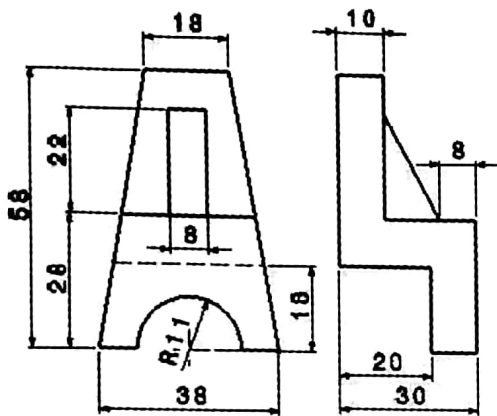
Two view Projection is given; Create The Solid Model & Construct 3rd one



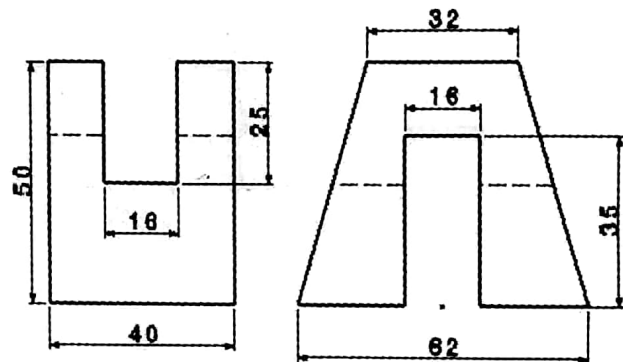
EX-1



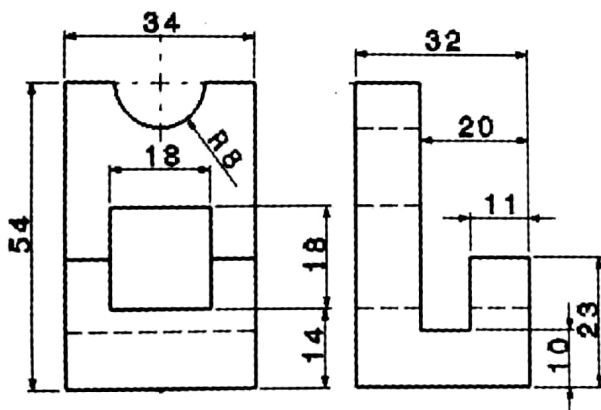
EX-2



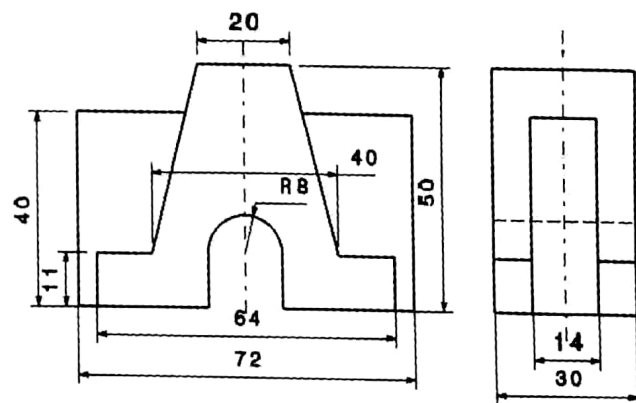
EX-3



EX-4



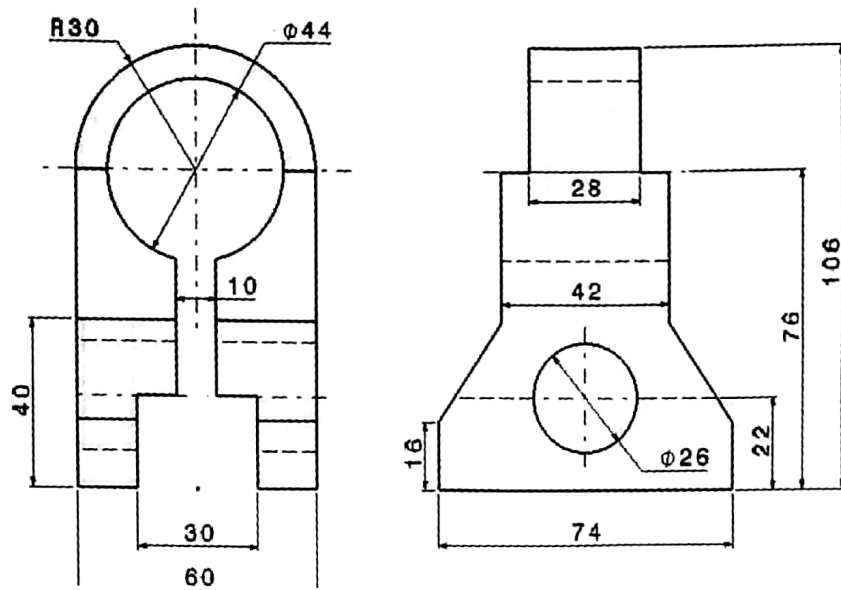
EX-5



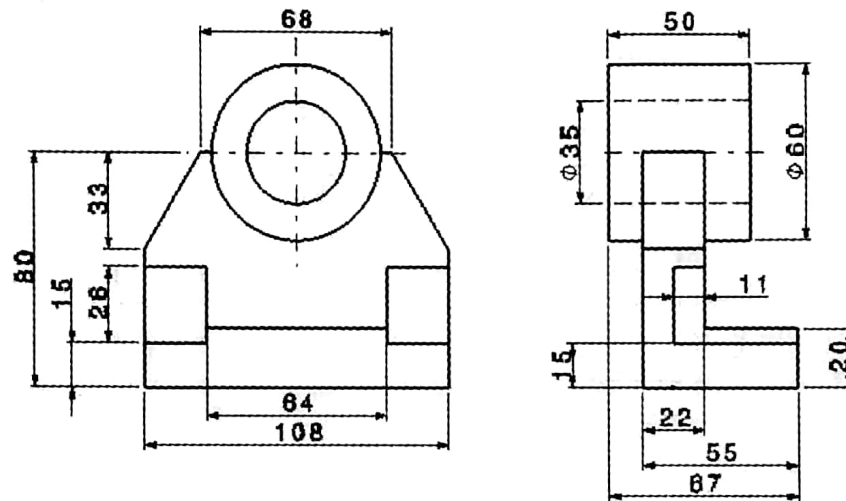
EX-6

SOLID MODELLING EXERCISE

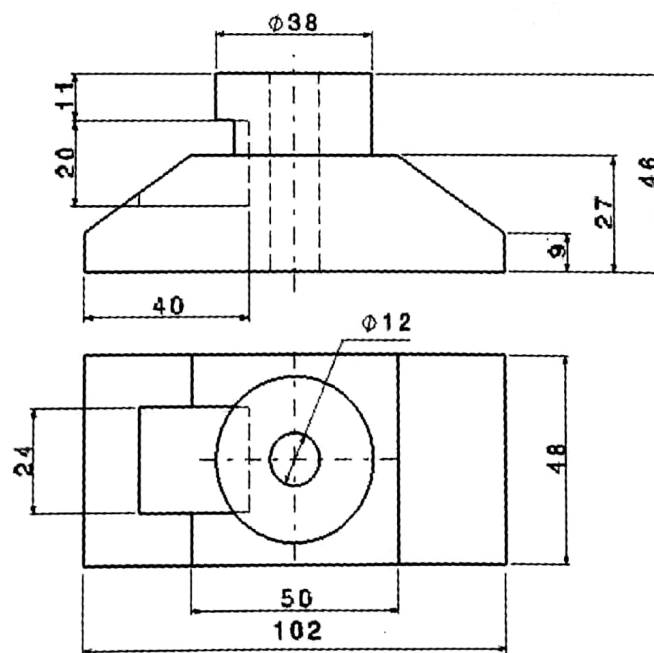
EX-7



EX-8

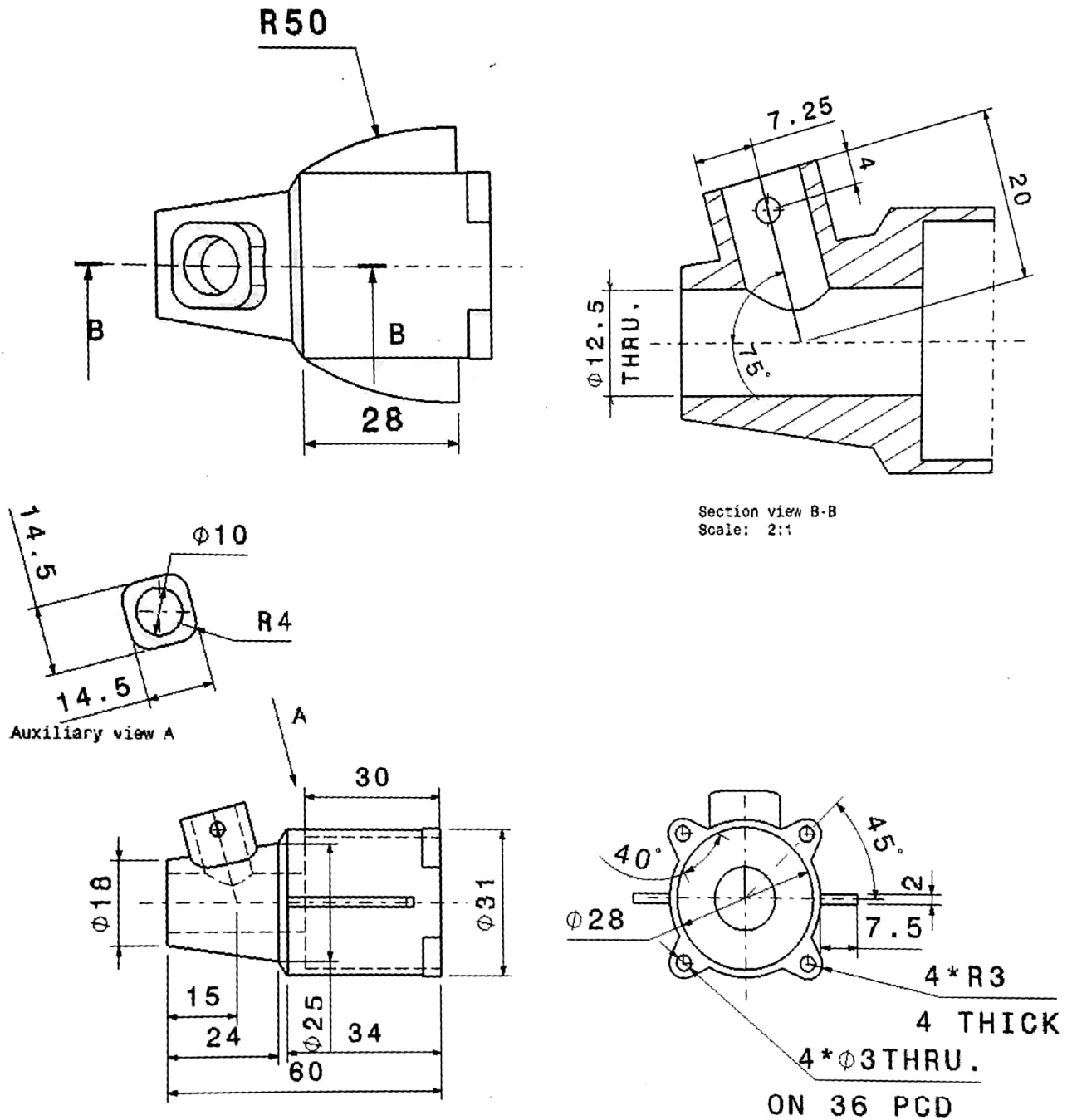


EX-9



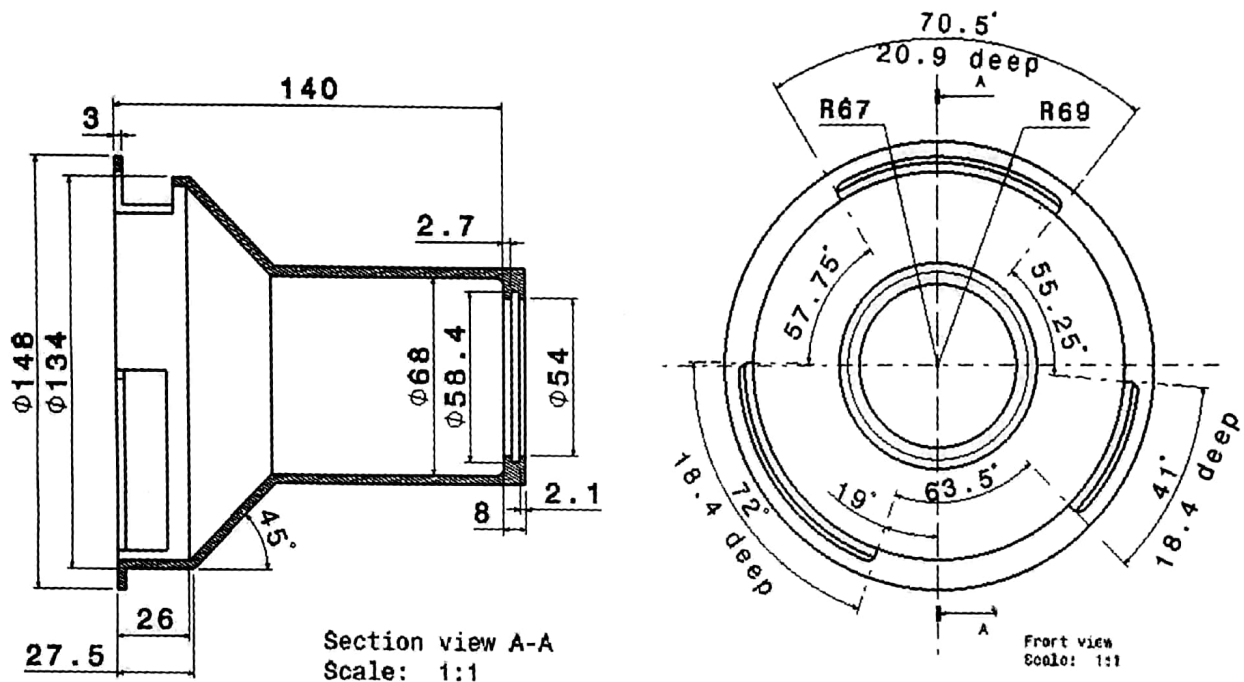
SOLID MODELLING EXERCISE

Exercise of Revolve, Extrude, Round, Pattern & Creation of plane



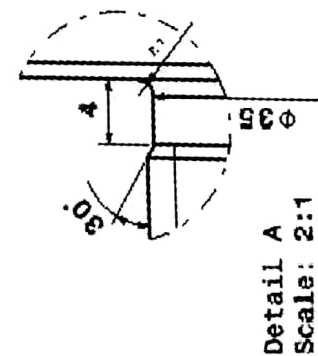
ENGINE BLOCK

Exercise of Revolve, extrude & Round



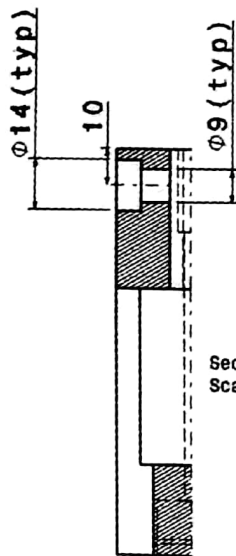
Fillet radius 0.4 mm unless otherwise specified

Exercise of Revolve, Hole, chamfer & Round

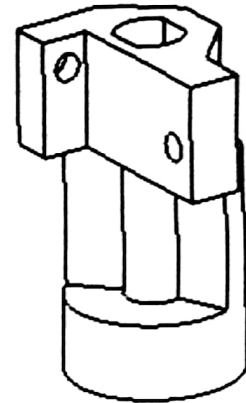


SOLID MODELLING EXERCISE

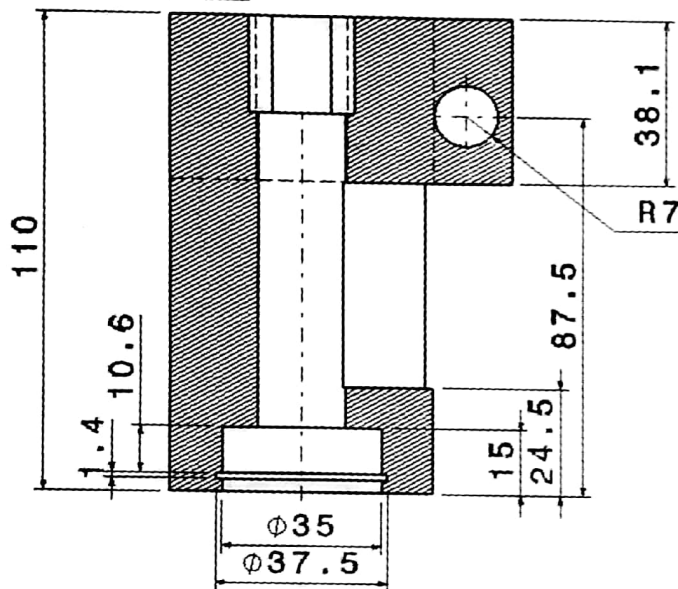
Exercise of Extrude & Hole



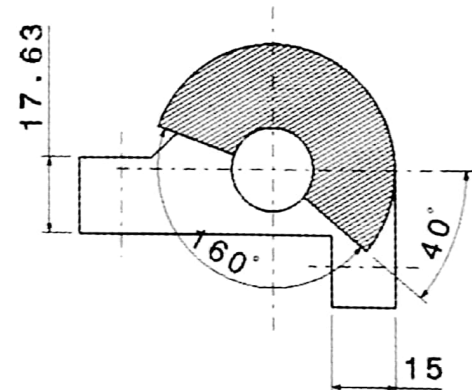
Section view B-B
Scale: 1:1



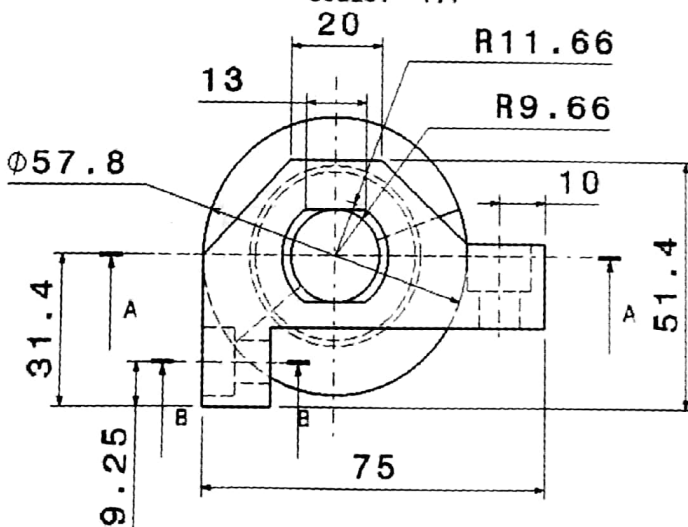
Isometric view



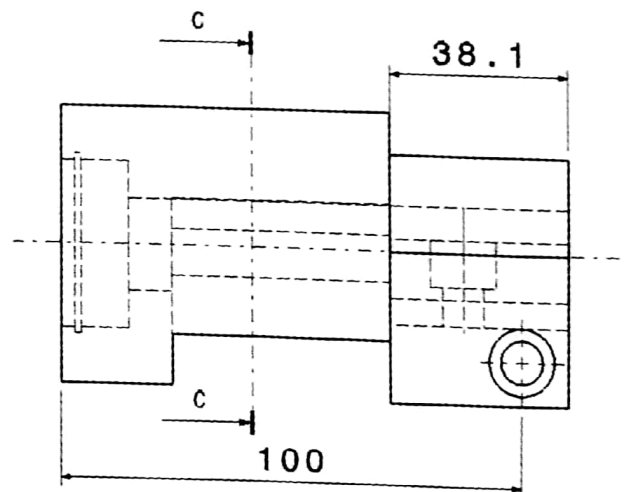
Section view A-A
Scale: 1:1



Section view C-C
Scale: 1:1



Front view
Scale: 1:1

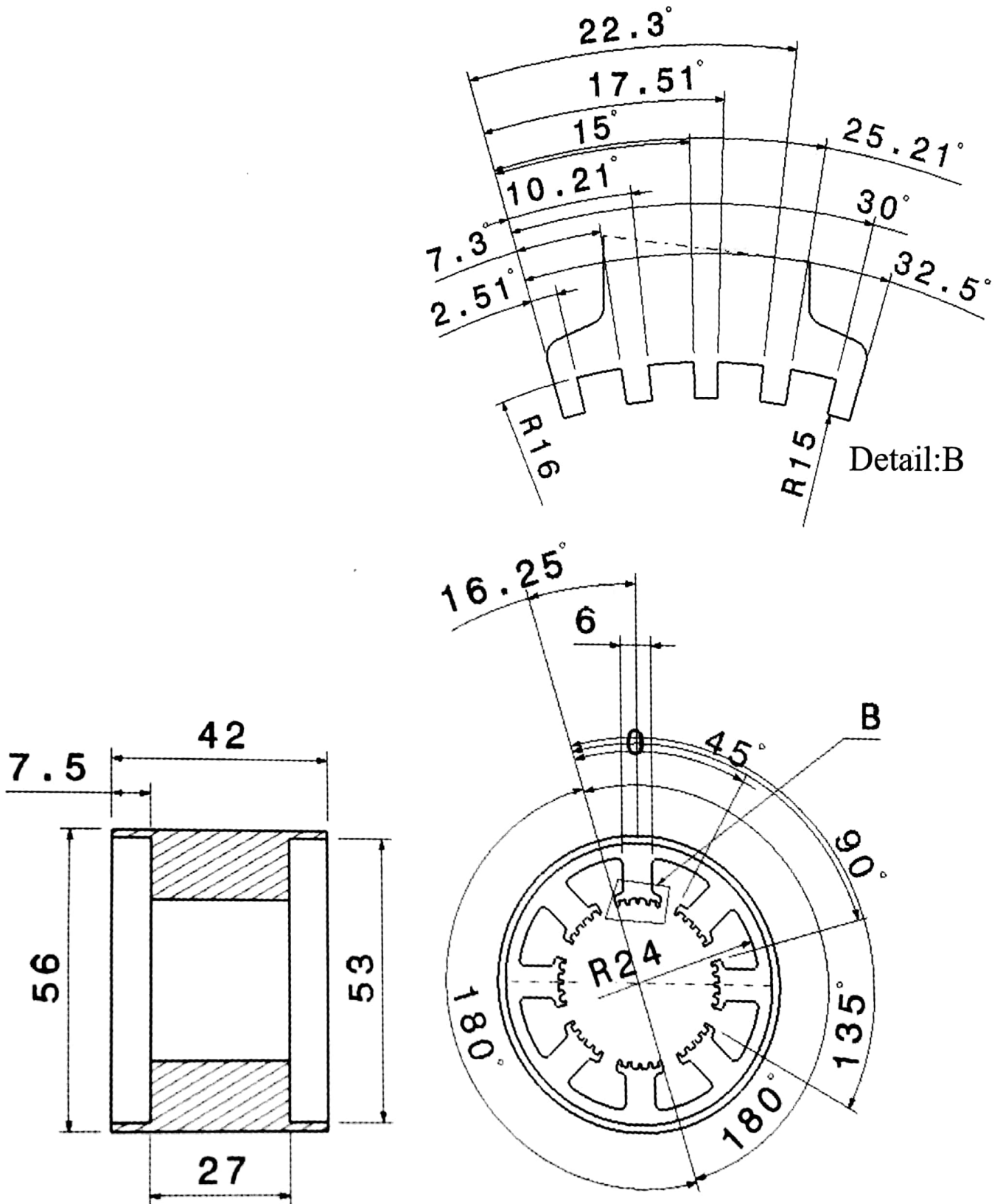


Left view
Scale: 1:1

For counter bore → hole → use standard hole profile as drill hole profile.

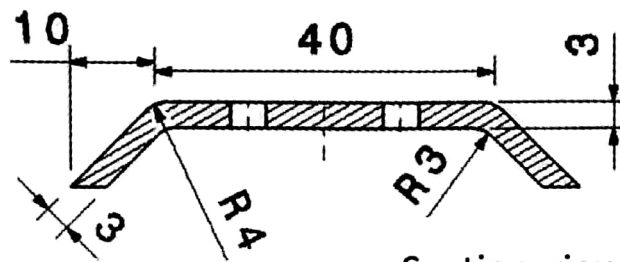
SOLID MODELLING EXERCISE

Exercise of Extrude, Revolve & Pattern



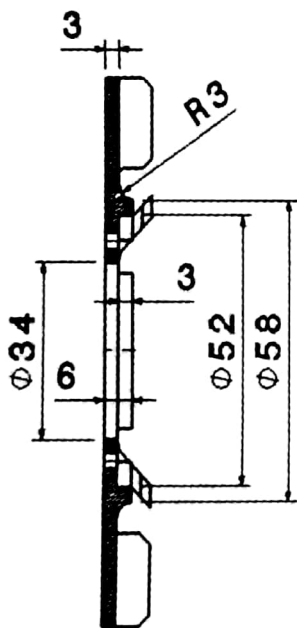
SOLID MODELLING EXERCISE

Exercise of Extrude, Chamfer, Round, Hole, Mirror & Pattern

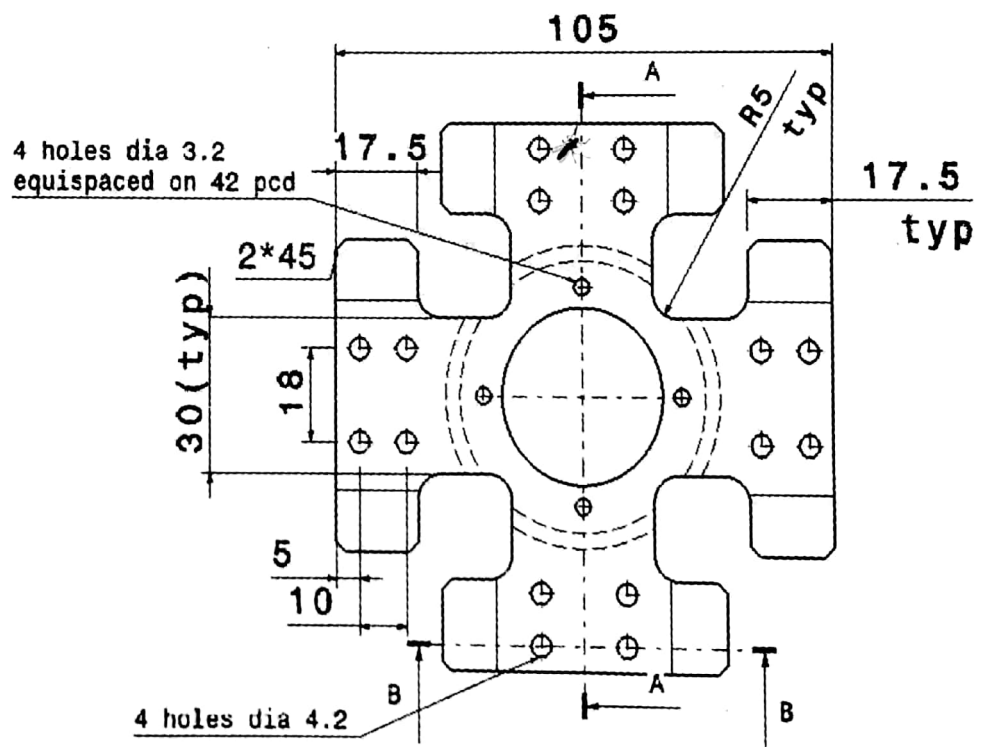


Section view B-B

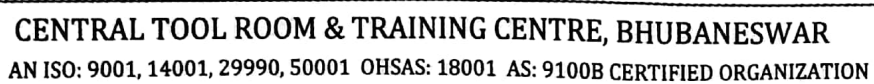
SCALE-2:1



Section view A-A



Exercise of Extrude, Revolve, Round & Pattern



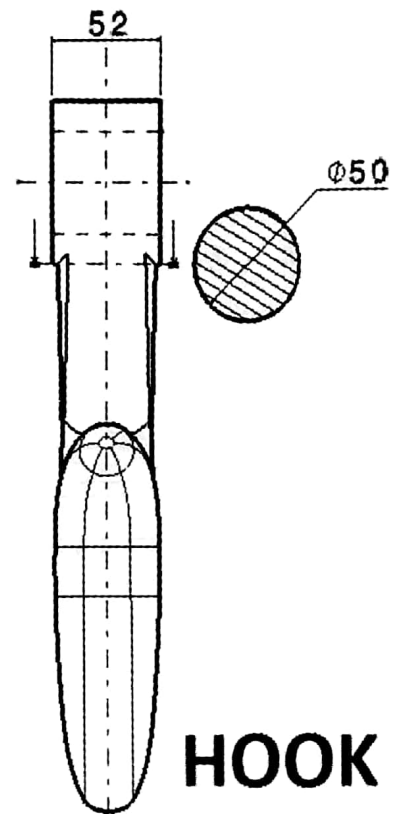
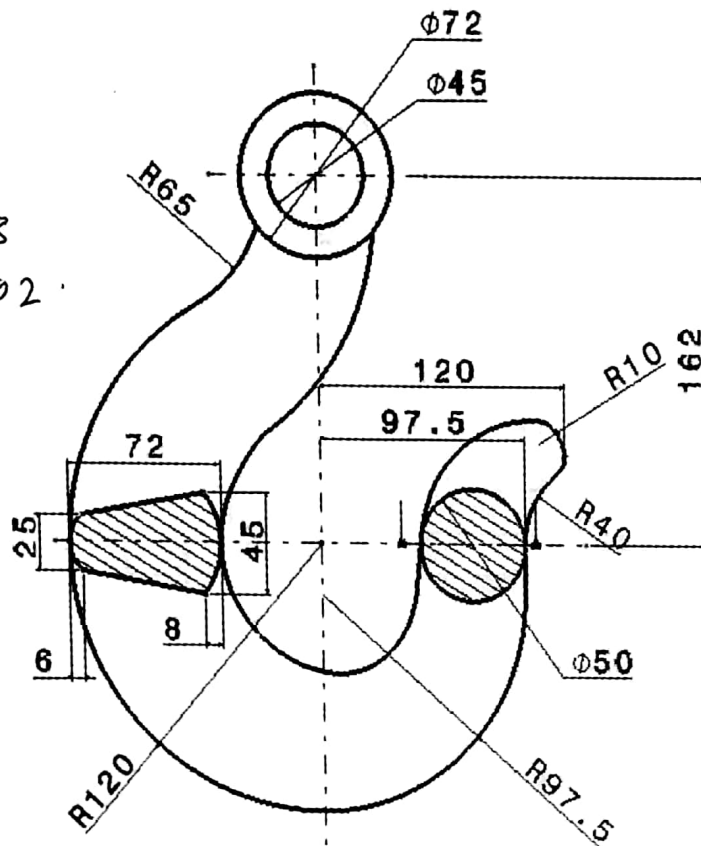
SOLID MODELLING EXERCISE

Exercise of Swept Blend, Extrude, Revolve & Round

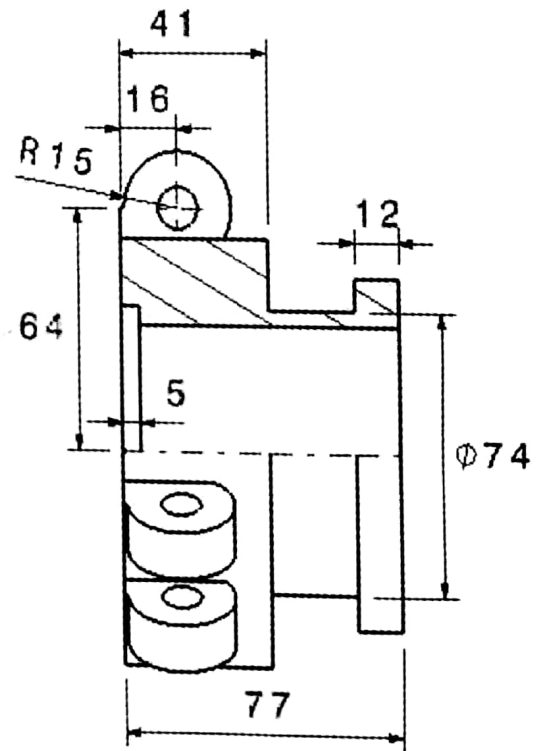
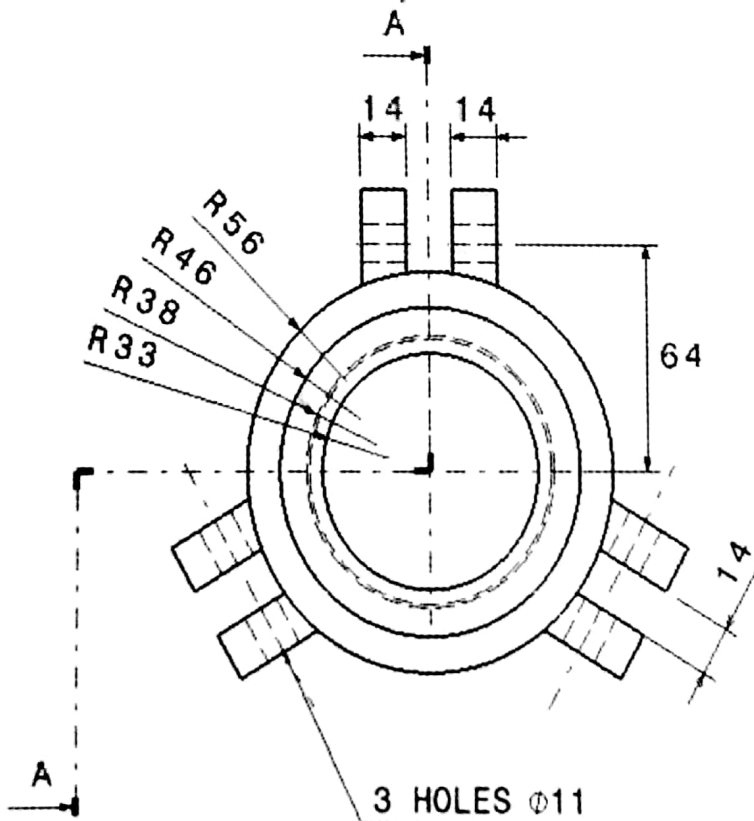
197.364

364-148

44,7192

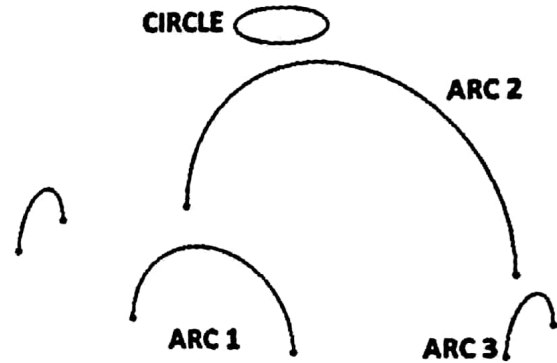
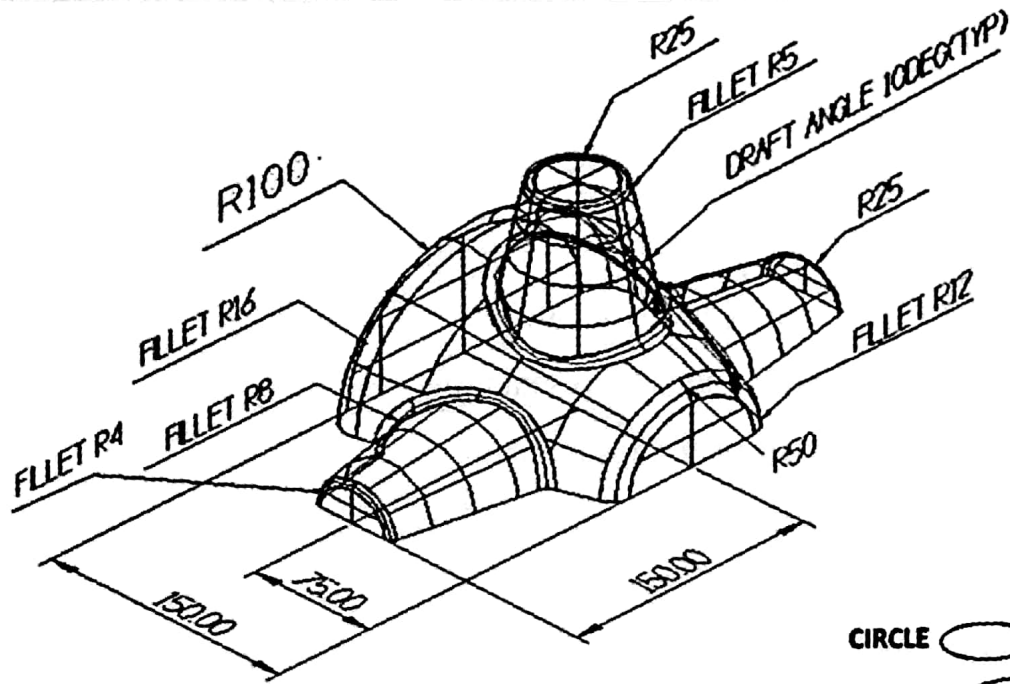


HOOK



Section view A-A

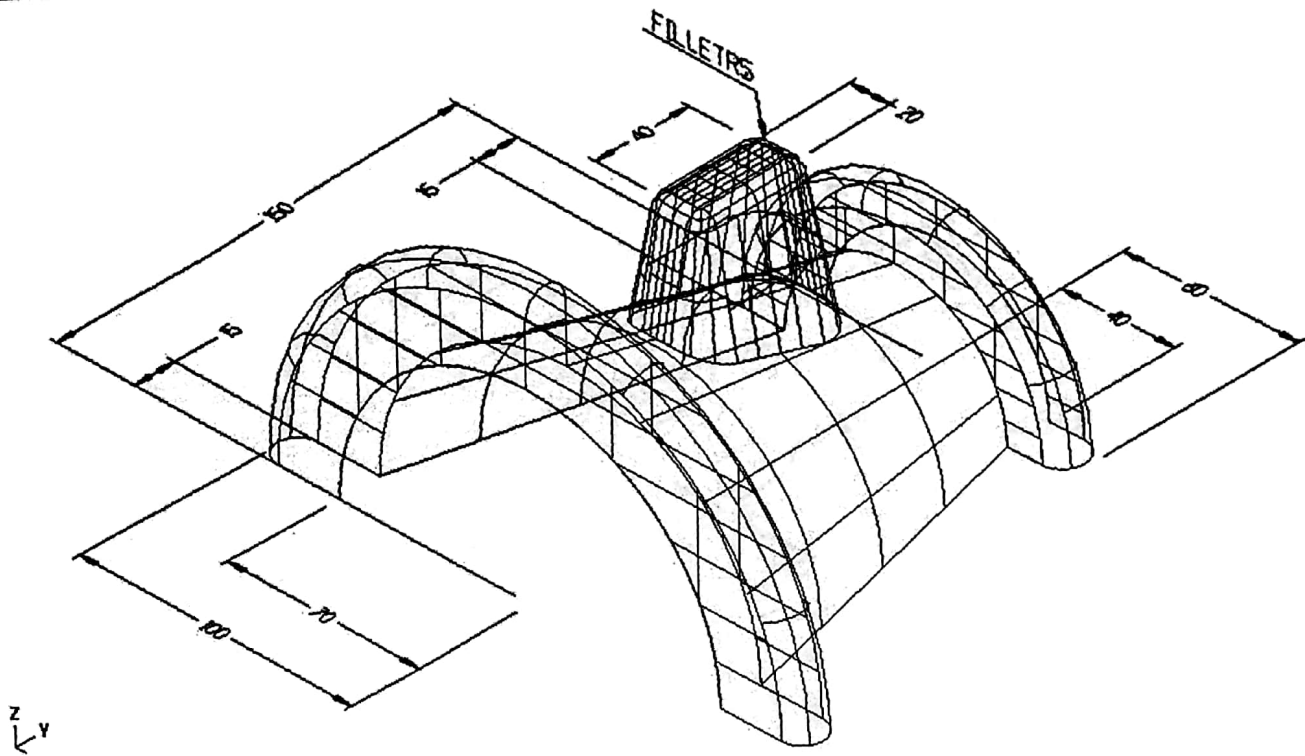
SURFACE MODELLING EXERCISE



Procedure

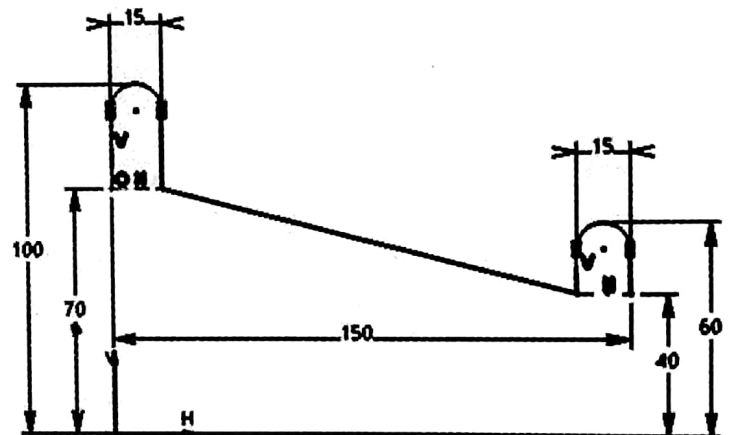
- Create an arc1 of R50 in Front plane.
- Offset the Front plane 150 mm & create an arc2 of R100.
- Create surface by using Boundary Blend.
- Offset Top plane 150 mm above & offset Right plane 150mm in Both Direction.
- Create an arc3 in Offset Right plane of R25 & Extrude the arc 120mm. Define Draft By selecting the Created Extrude Surface with Draft angle 10° .
- Select the draft surface and mirror about Right plane and Define Draft on Mirroring surface with Draft angle 10° .
- Create a circle of R50 on Offset Top plane & extrude upto 120 mm. Define Draft by selecting the extrude surface with Draft angle 10° .
- Then select required surfaces and apply Merge to eliminate extra portion.
- Create Fill surface over Each Arc and Circle.
- Then select all the fill surface and merged surface to Apply Merge.
- Apply Round over required edges.

SURFACE MODELLING EXERCISE

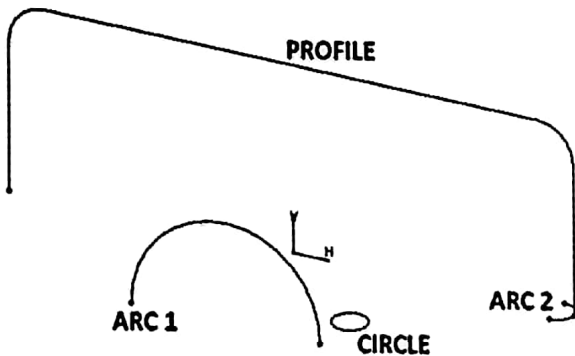
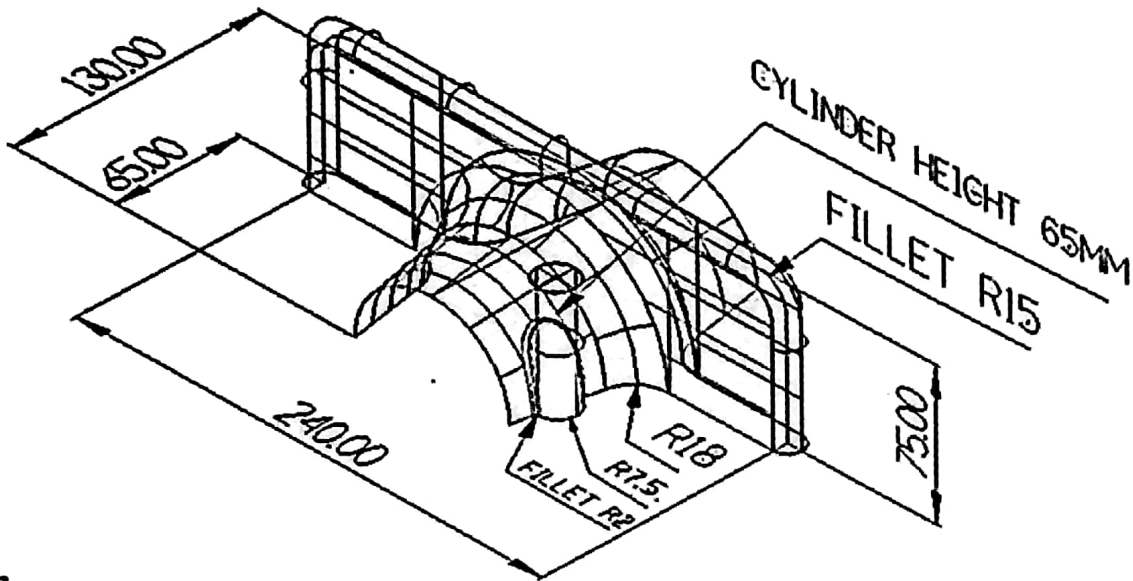


Procedure

- Create the profile over Top plane by using sketch.
- Then revolve the sketch with 180° angle.
- Offset the Top plane 120mm above.
- Create a filleted rectangle over the Offset plane.
- Extrude the rectangle upto 80mm.
- Define Draft over the extruded surface with draft angle 10° .
- Create fill surface over offset plane.
- Then merge the fill and extrude surface.
- Define Round of R5.
- At last Merge the Revolve surface and Merge surface to eliminate the extra surface.



SURFACE MODELLING EXERCISE

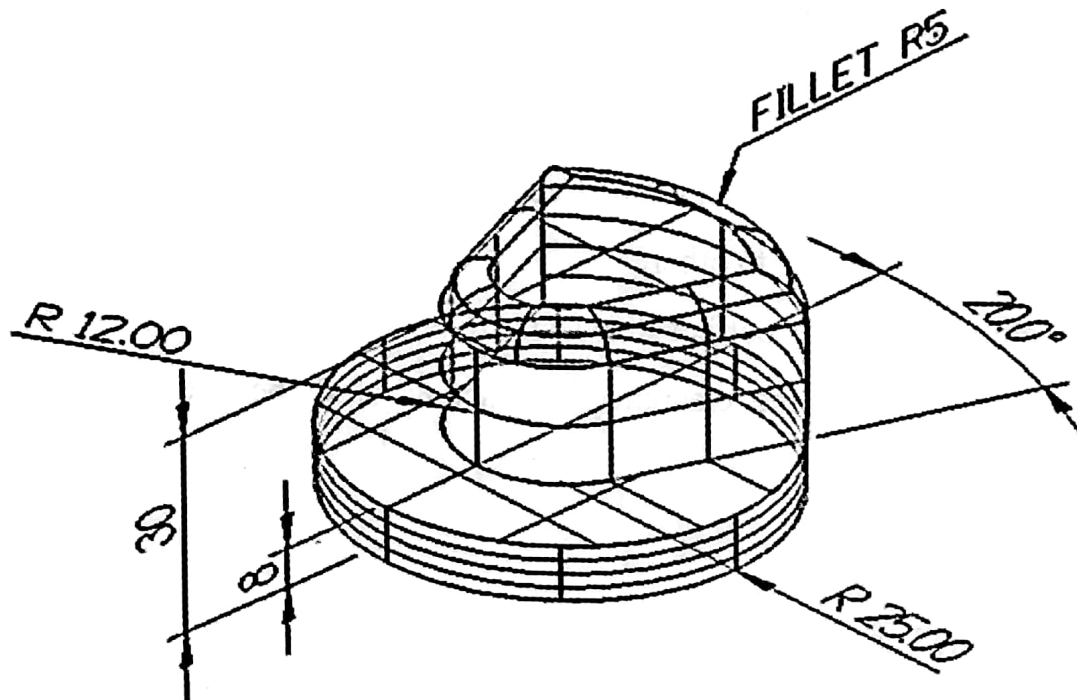


Procedure

- Create the profile over Top Plane by using Sketch.
- Create an arc of R7.5 over Top plane by Defining co-ordinate value (0,112.5,0).

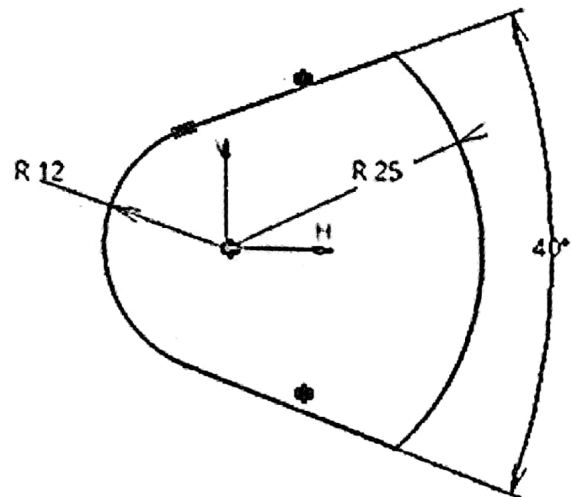
- Then create a surface by sweeping the circle along the profile.
- Offset the front plane 7.5mm in both direction.
- Create a fill surface over the offset plane by projecting the outer edges of sweep surface.
- Mirror the fill surface by selecting front plane.
- Then merge all the fill and sweep surface.
- Offset the front plane 65mm and create an arc of R40.
- Extrude the circle upto 65mm & define draft over the extruded surface with draft angle 10° .
- Mirror the draft surface with reference to front plane.
- Create a circle over Top plane by defining co-ordinate value (43,43,0).
- Extrude the circle 60mm above.
- Merge the draft and sweep surface to eliminate extra surface.
- Again merge the extrude circle with the merged surface to eliminate the same.

SURFACE MODELLING EXERCISE

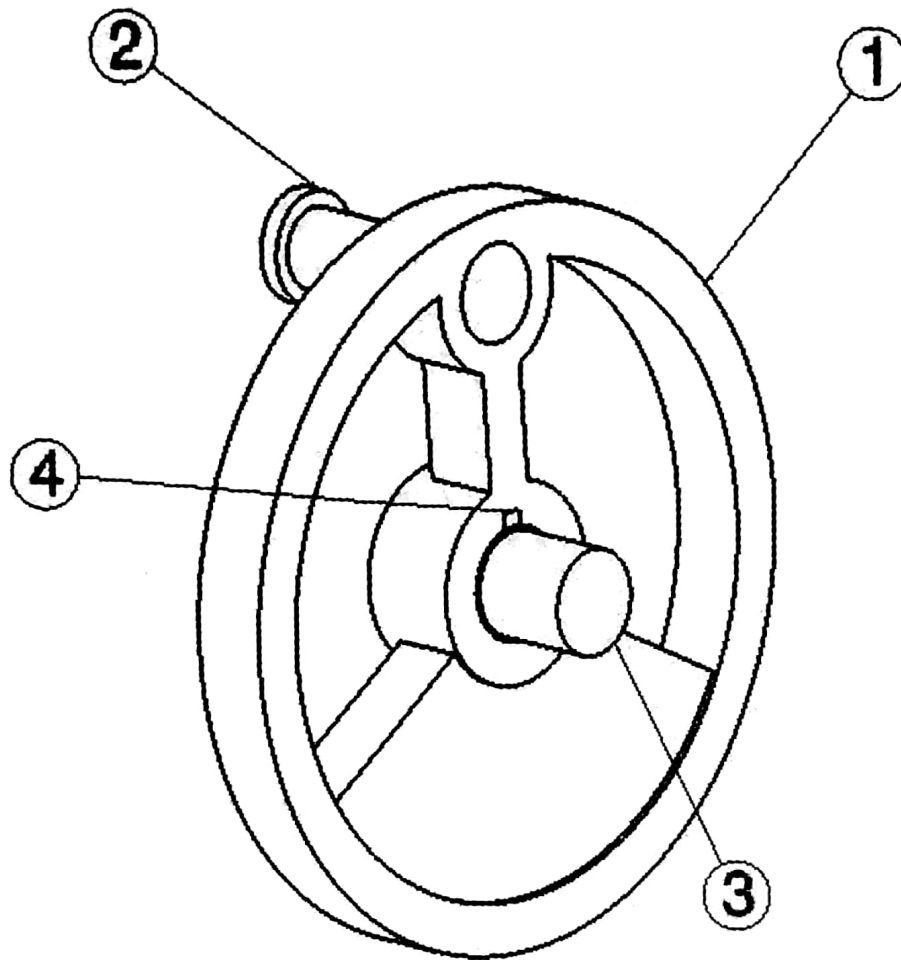


Procedure

- Create a Circle over Top plane of R25.
- Offset Top plane above 8mm.
- Create fill surface over the circle.
- Create the above profile by using Sketch over offset plane.
- Then extrude the above profile upto 22mm.
- Apply fill surface over top portion by offsetting a plane.
- Merge the extruded circle and fill surface.
- Again merge extruded profile and fill surface.
- Finally merge the 2 merged surfaces to eliminate the extra surface.
- Apply round over the edge of R5.



ASSEMBLY EXERCISE



sl no	part	qty
1	Disc	1
2	Crank pin.	1
3	Crank Shaft	1
4	Key	1

Disc Crank

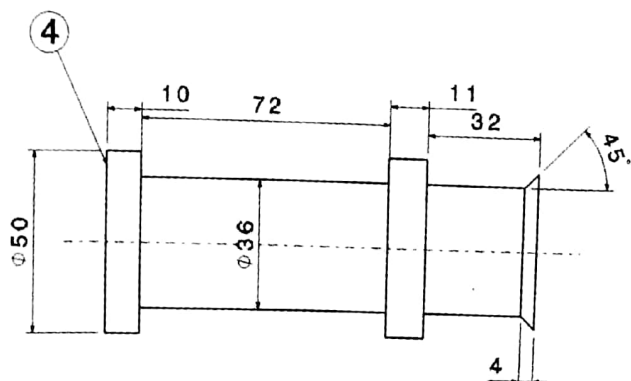
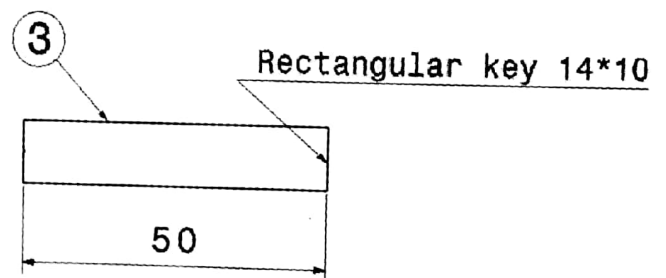


The drawing consists of two views of a pulley:

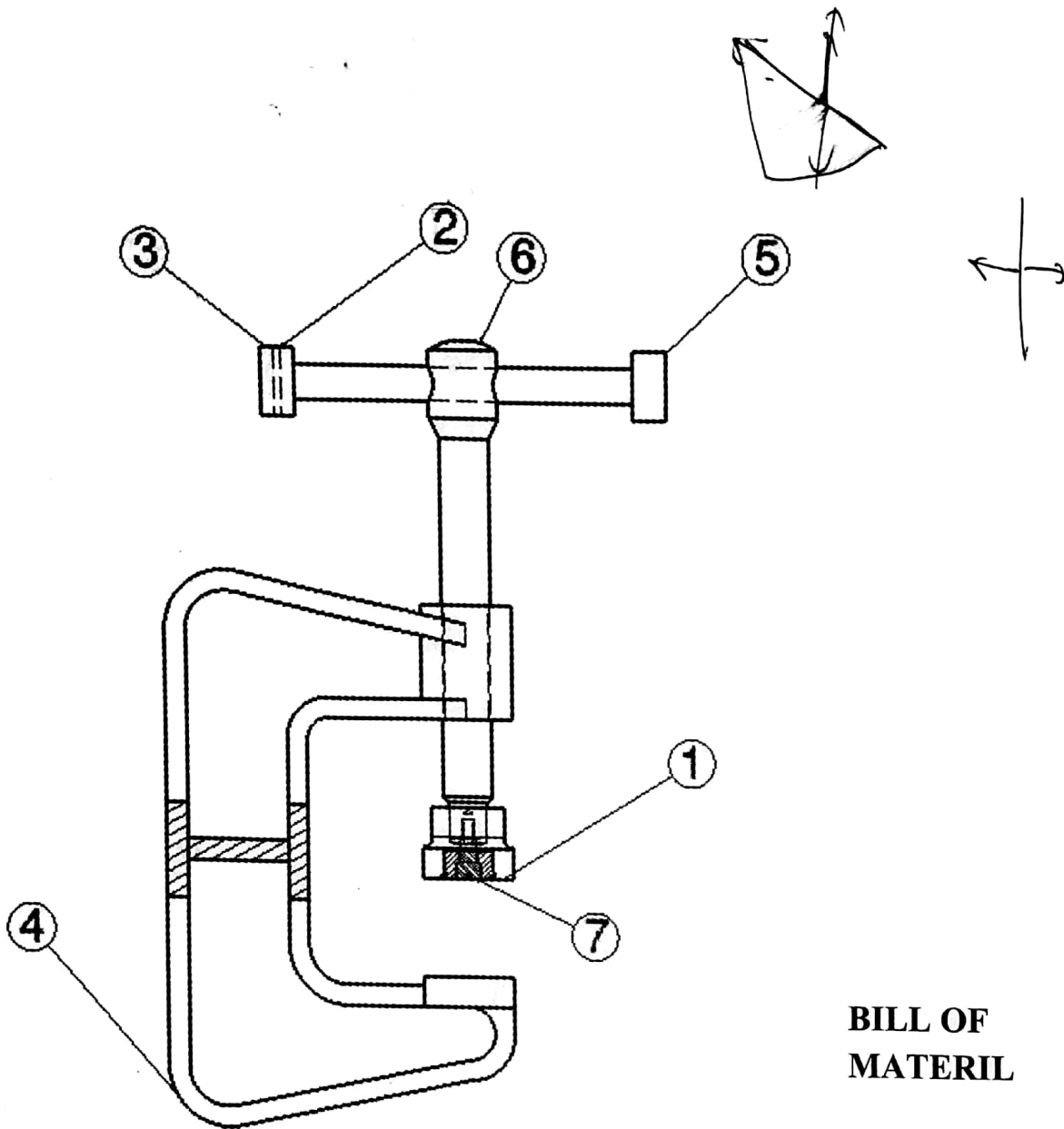
- Side View (Left):** Shows the pulley's profile. The outer diameter is $\phi 50$. The top flange has a thickness of 6 and a width of 38. The central hub has a diameter of $\phi 36$. The bottom flange has a thickness of 24 and a width of 35. The total height is 50. A $45^\circ \times 4$ chamfer is indicated on the top edge of the hub.
- Front View (Right):** Shows the circular face of the pulley. It features a central shaft hole with a key labeled "key 14*10". The outer rim has a radius of $R168$. The central hub has a radius of $R36$. The two flanges have radii of $R46$ and $R26$ respectively.

Front view
Scale: 1:2

Technical drawing of a stepped shaft. The shaft has a total length of 100 and a total diameter of $\phi 52$. It consists of a left section with a diameter of $\phi 52$ and a length of 50, and a right section with a diameter of $\phi 48$. A dimension line labeled '2' indicates the diameter of the right section.



ASSEMBLY EXERCISE



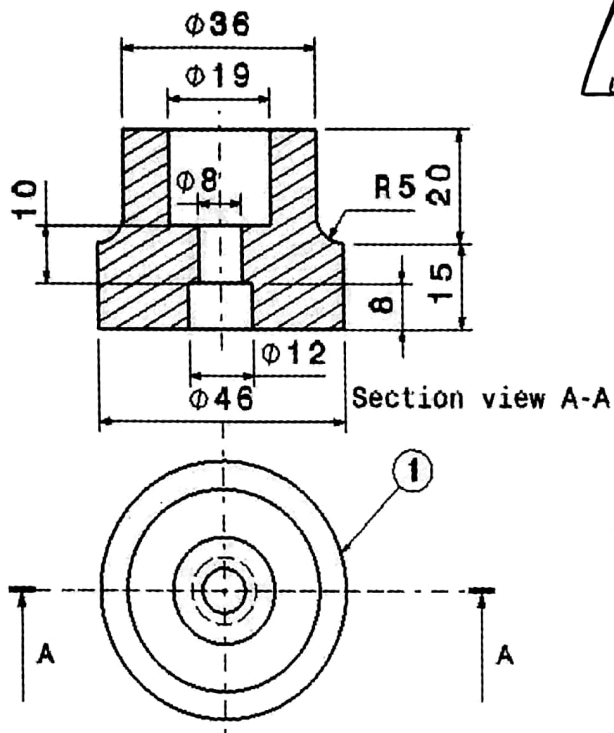
BILL OF MATERIL

SL NO	Part Number	qty	material
1	JAW	1	steel
2	TAPER PIN	1	ms
3	COLLAR	1	ms
4	C FRAME	1	cs
5	HANDLE	1	ms
6	SCREW SPINDLE	1	ms
7	CAP SCREW	1	ms

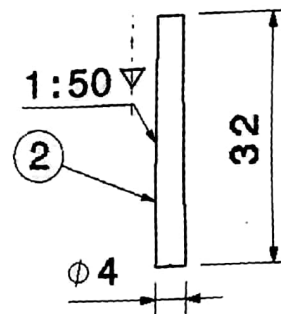
C-CLAMP ASSEMBLY

C CLAMP

ASSEMBLY EXERCISE



$$\frac{D-d}{L} = \frac{1}{50}$$



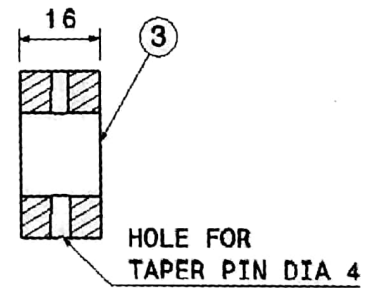
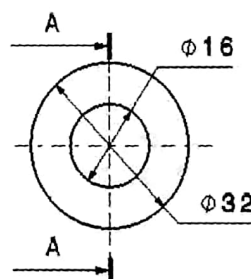
$$\frac{4-d}{32} = \frac{1}{50}$$

$$50(4-d) = 32$$

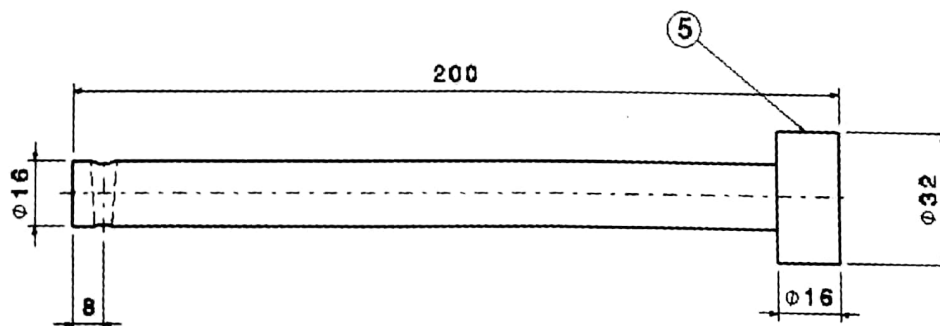
$$200 - 50d = 32$$

$$168 = 50d$$

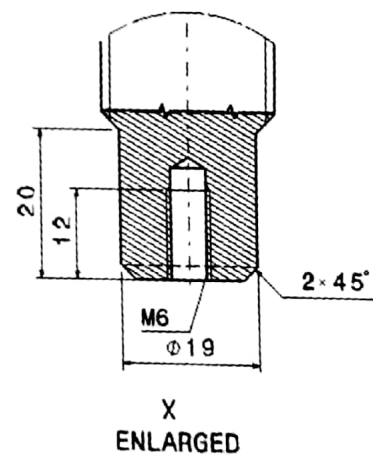
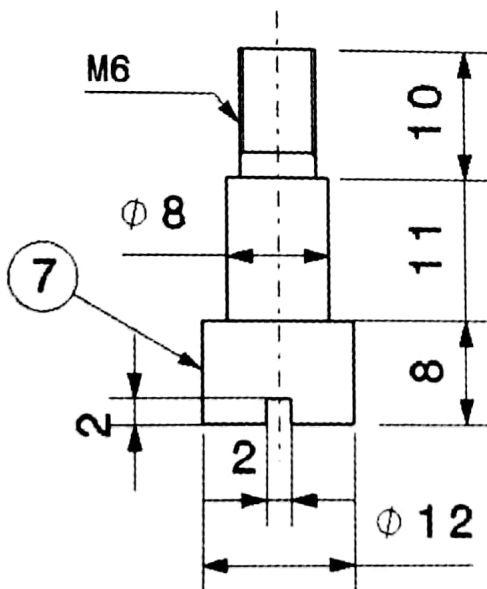
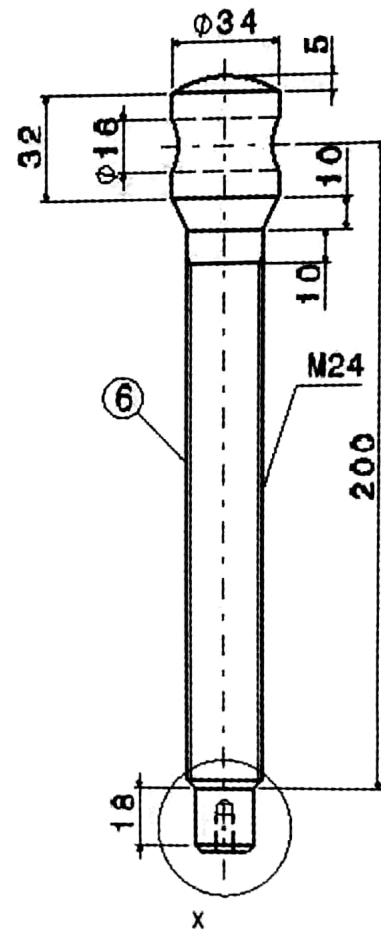
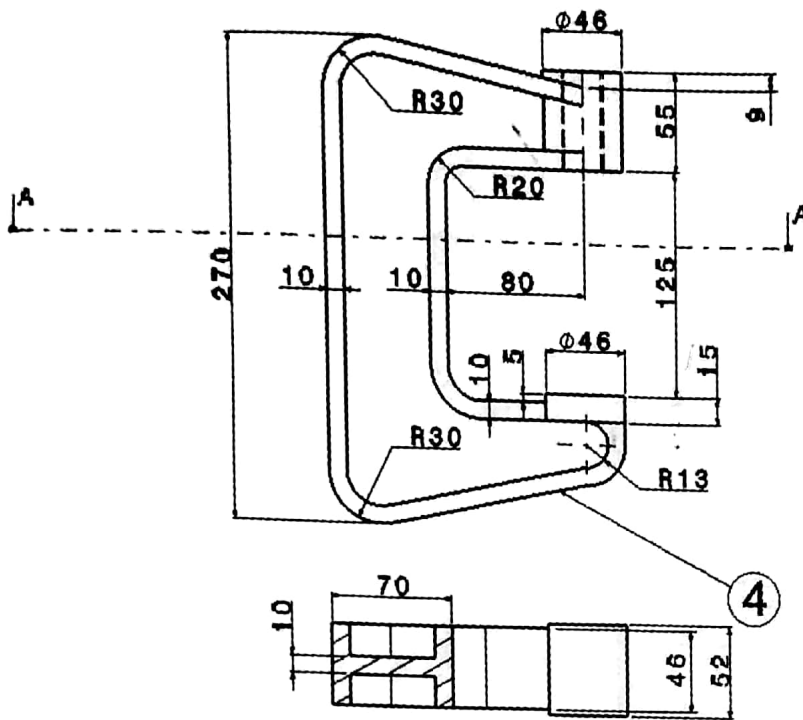
$$d = \frac{168}{50} = 3.36$$



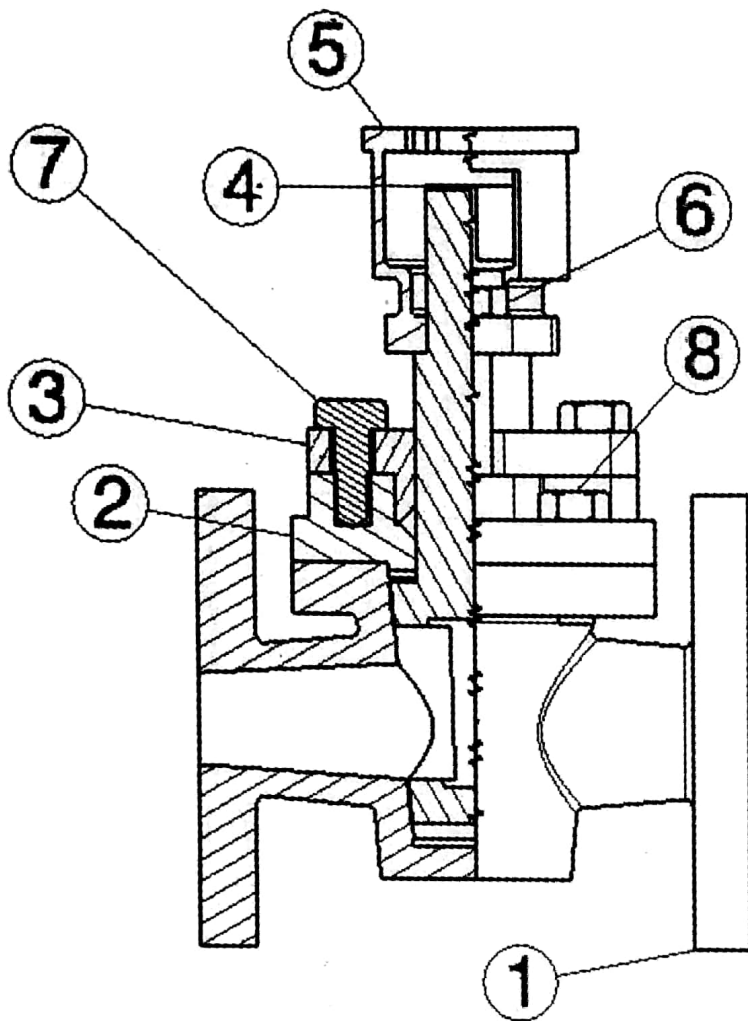
Section view A-A



ASSEMBLY EXERCISE



ASSEMBLY EXERCISE

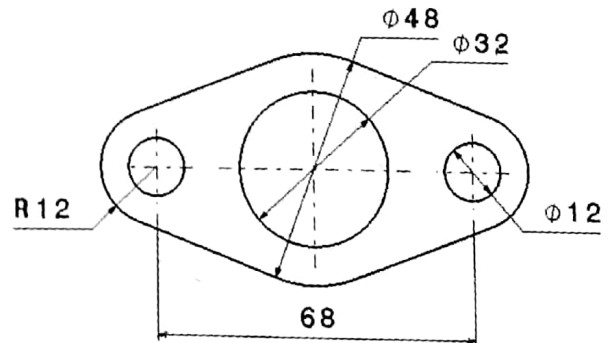
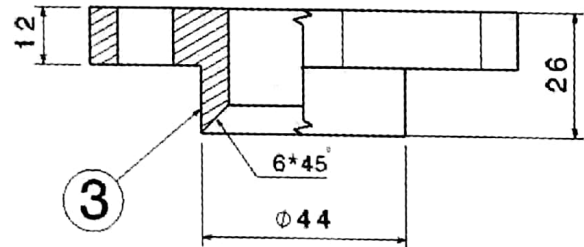
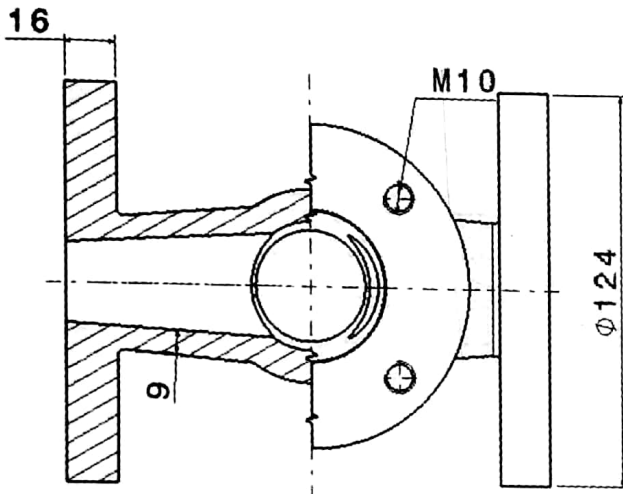
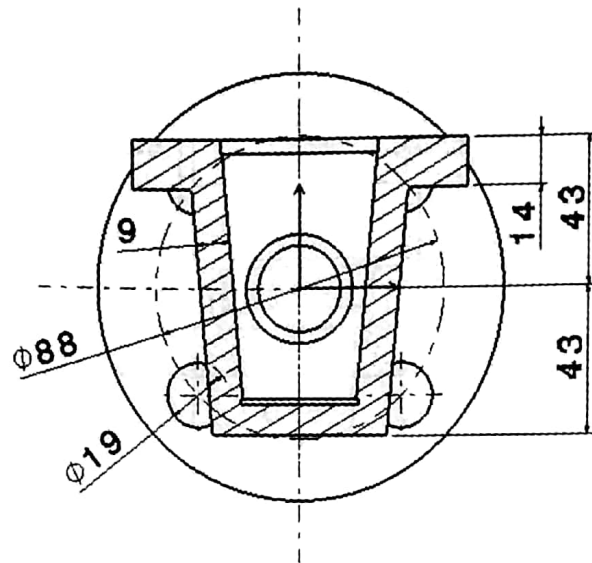
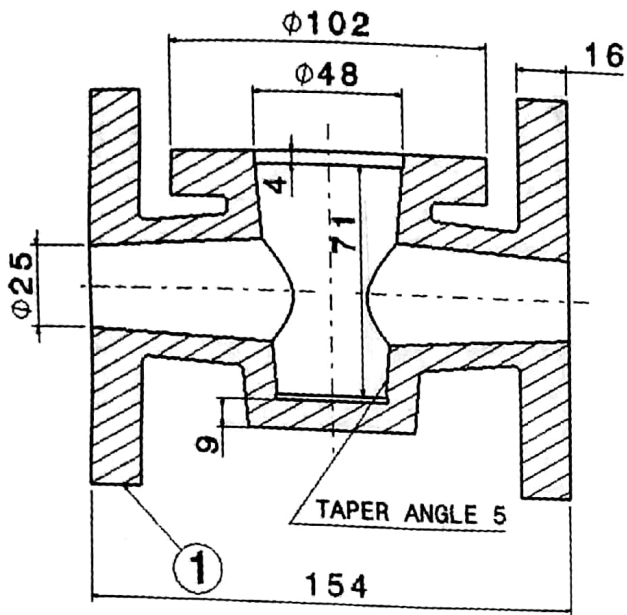


BLOW-OFF COCK ASSEMBLY

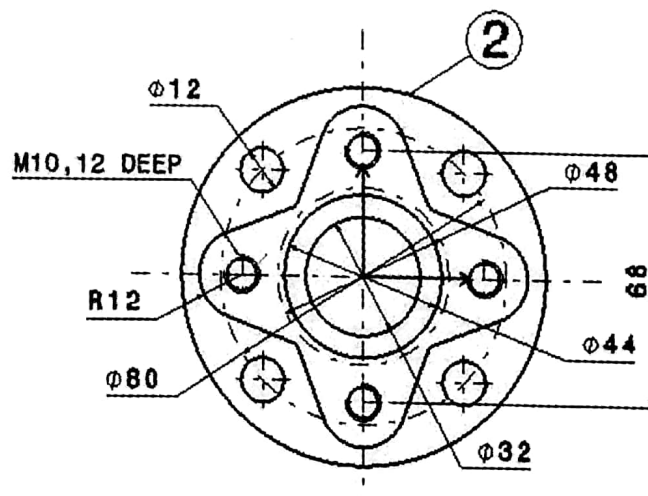
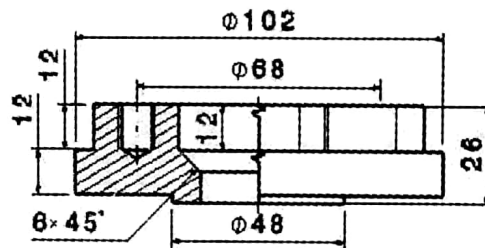
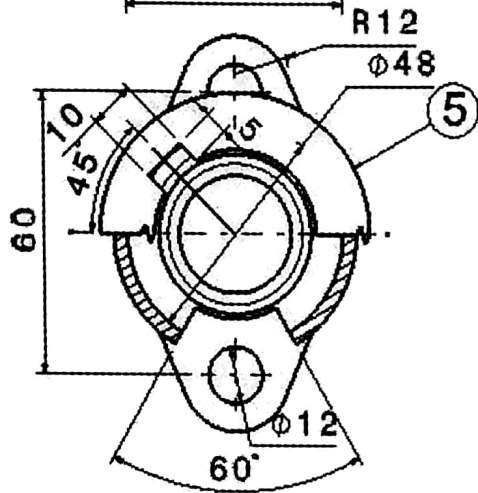
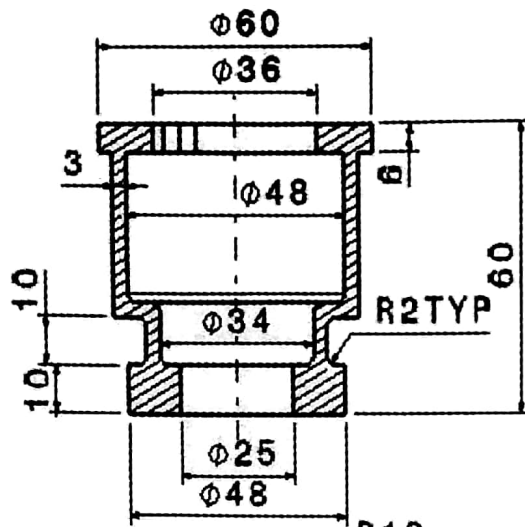
Bill of Material: BLOW-OFF COCK

Quantity	Part Number	MAT	QTY
1	BODY	G.M.	1
2	COVER	G.M.	1
3	GLAND	G.M.	1
4	PLUG	G.M.	1
5	GUARD	G.M.	1
6	STUD (GUARD)	C-30	2
7	STUD (GLAND)	C-30	2
8	STUD (COVER)	C-30	4

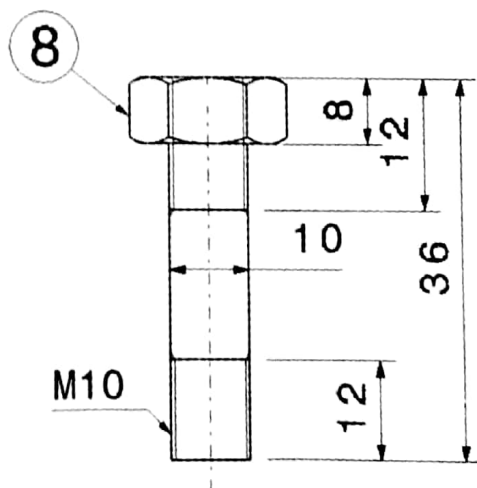
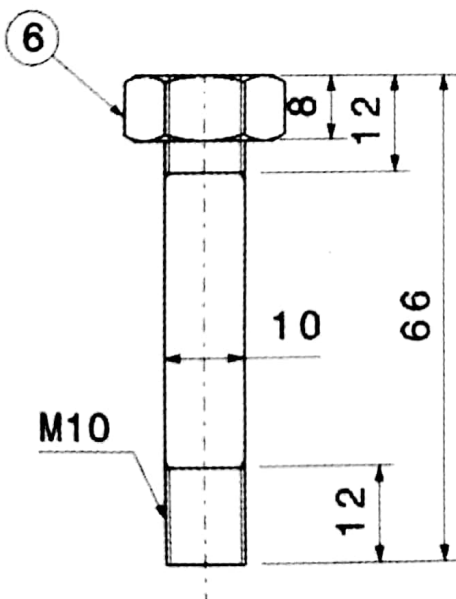
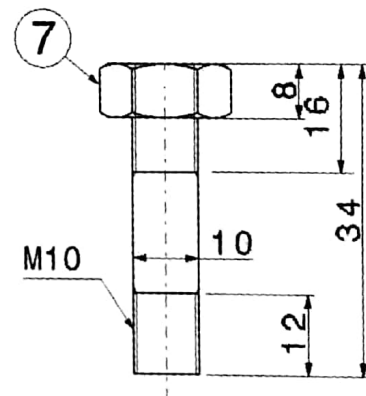
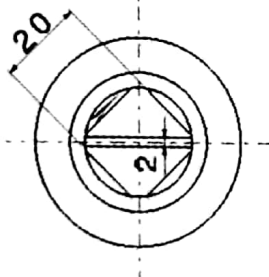
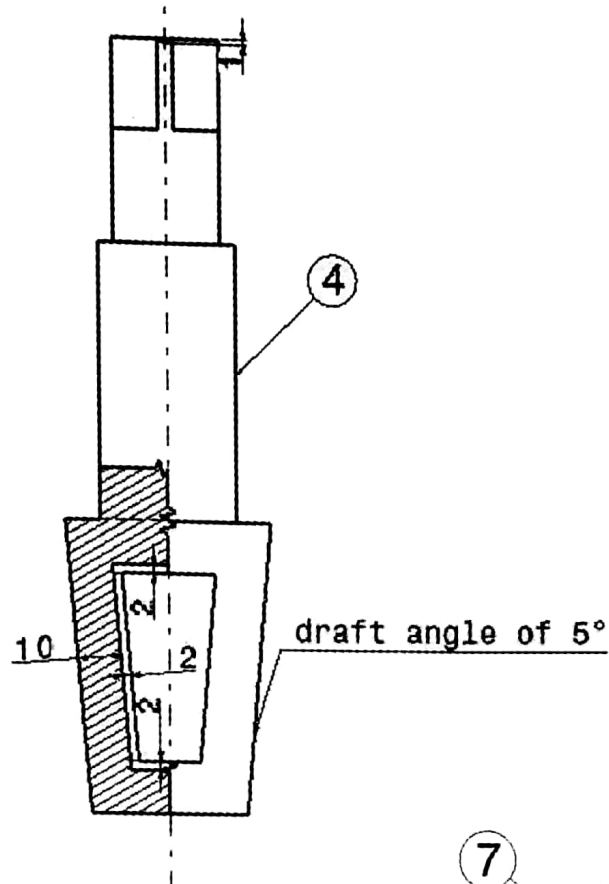
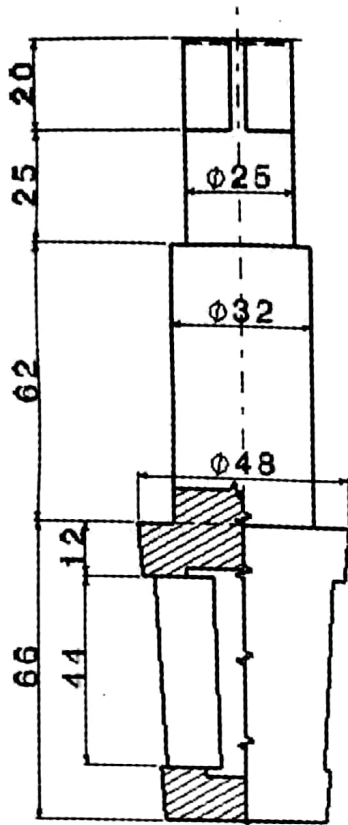
ASSEMBLY EXERCISE



ASSEMBLY EXERCISE



ASSEMBLY EXERCISE



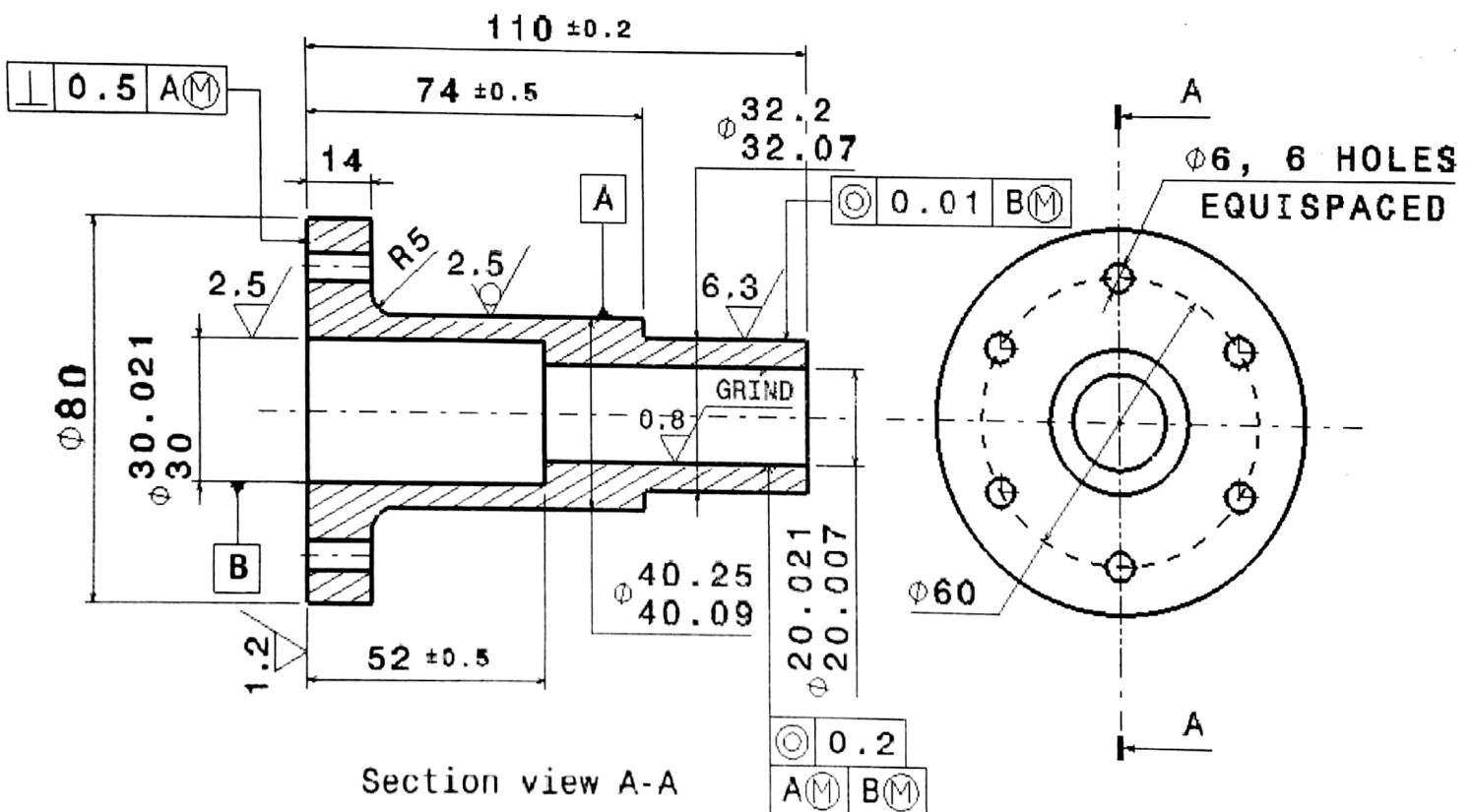
DRAFTING EXERCISE

Drafting

- Preparation of complete design sheet to fulfil the requirement of engineer.

Drafting Procedure

- Maintain clarity by giving more symbols, less descriptive letters & minimize unnecessary dimensions.
- Use multiple sheets for defining views if one sheet is not sufficient.
- Create more sectional views, detail views & broken out views for complicated features.
- Don't display all hidden lines in views. Repeated hidden lines should be avoided.
- Follow the rules of dimension & maintain proper drawing standard.



DRAFTING EXERCISE

