Roll No. | | | | | | | | | | | | **Total No. of Pages : 07**

Total No. of Questions : 09

B.Tech. (AE) (Sem.–3rd)

MACHINE DRAWING

Subject Code : BTAE-306 (2011 Batch)

Paper ID : [A1156]

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.**

SECTION-A

l. Write briefly :

a. What do you mean by the term caulking?

b. Acme thread is combination of ..... and ..... type of thread.

c. Name any two ways of locking the nuts on bolts.

d. What is the use of Union pipe joint in a piping circuit?

e. Draw the symbols for the following welded joints along with the illustrations.

i) Single V-Butt Weld

ii) Square Weld

f. Name any two types of pipe joints.

g. What material is preferred for brasses in Plummer Block and why?

h. Name two parts rotating parts in an IC engine.

i. What is the function of steam stop valve?

j. Which type of thread is used in Screw jack applications and why?

SECTION-B

2. Draw free hand proportionate neat sketches for the following :
   a. Rag Foundation Bolt.
   b. Use of lock nut for locking.
3. Draw Plan of triple riveted lap joint (zigzag type) for connecting two plates of thickness 9 mm. Use appropriate empirical relations and show at least 2 rivet heads along each row of rivets. Use Pan head rivets in the joint.
4. Figure 1 shows details of Gib and cotter Joint for square rods. Assemble the parts and draw the front view of the given assembly.

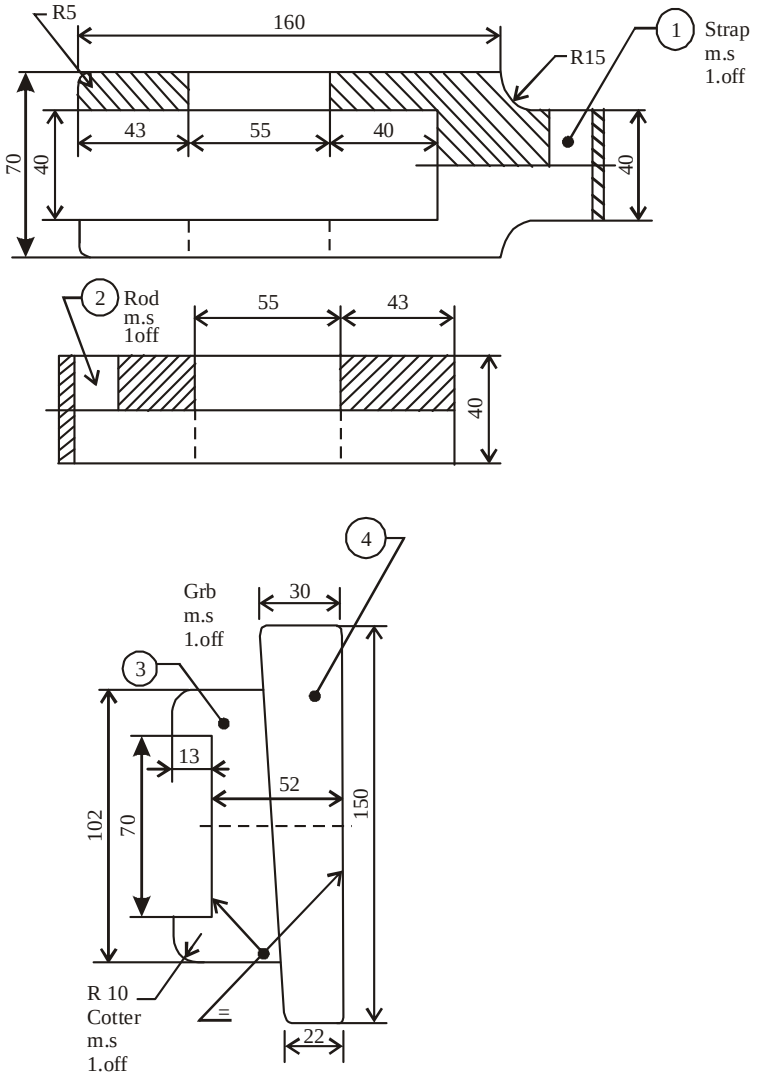


FIGURE 1

5. Figure 2 shows the upper half sectional front view of socket and spigot type pipe joint. Draw the full sectional front view of assembly.

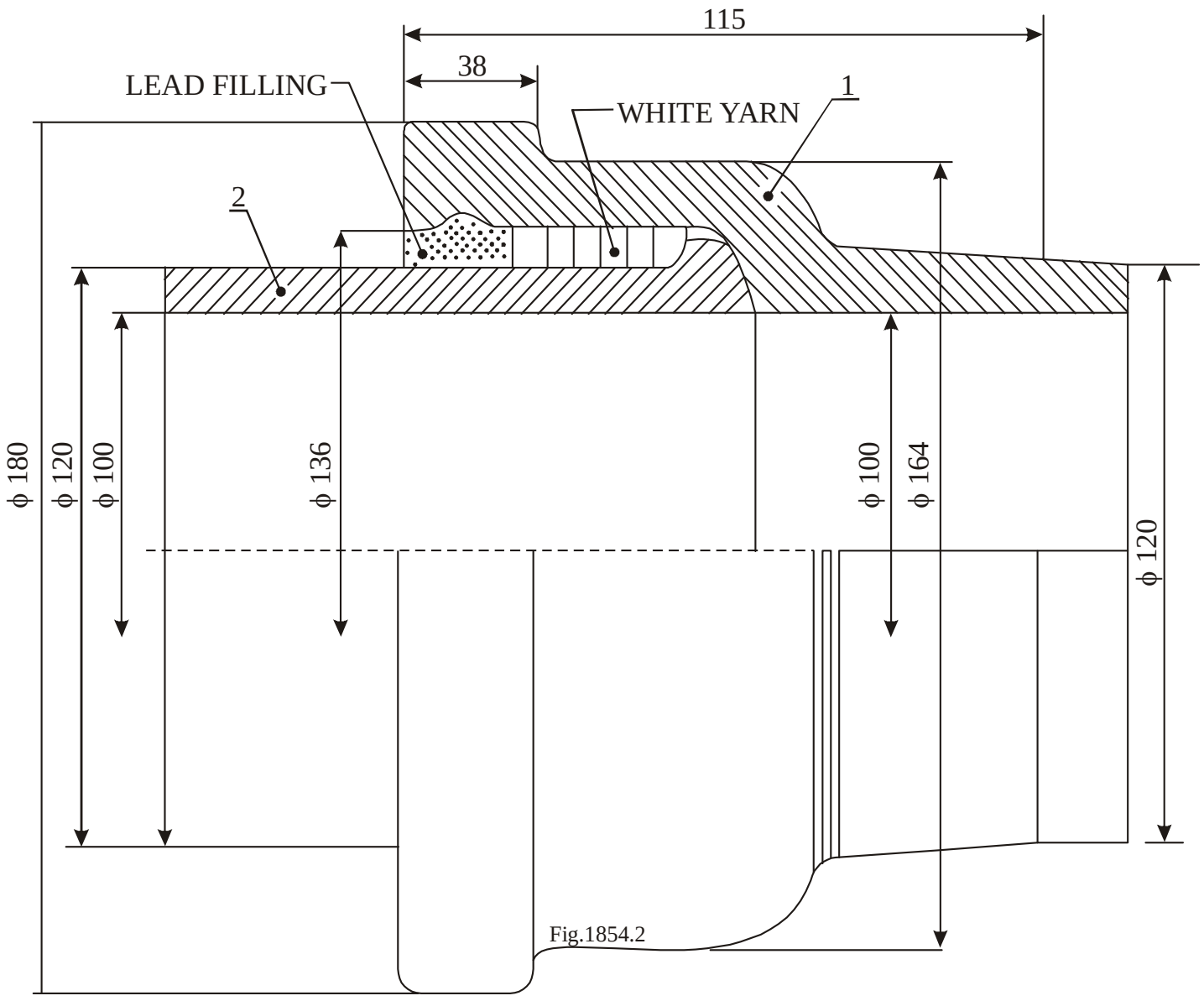


Fig.1854.2

FIGURE 2

6. Figure 3 shows the details of Oldham's Coupling. Assemble the given parts and draw the side view of the assembly looking in the direction of arrow. Assume D = 30 mm.

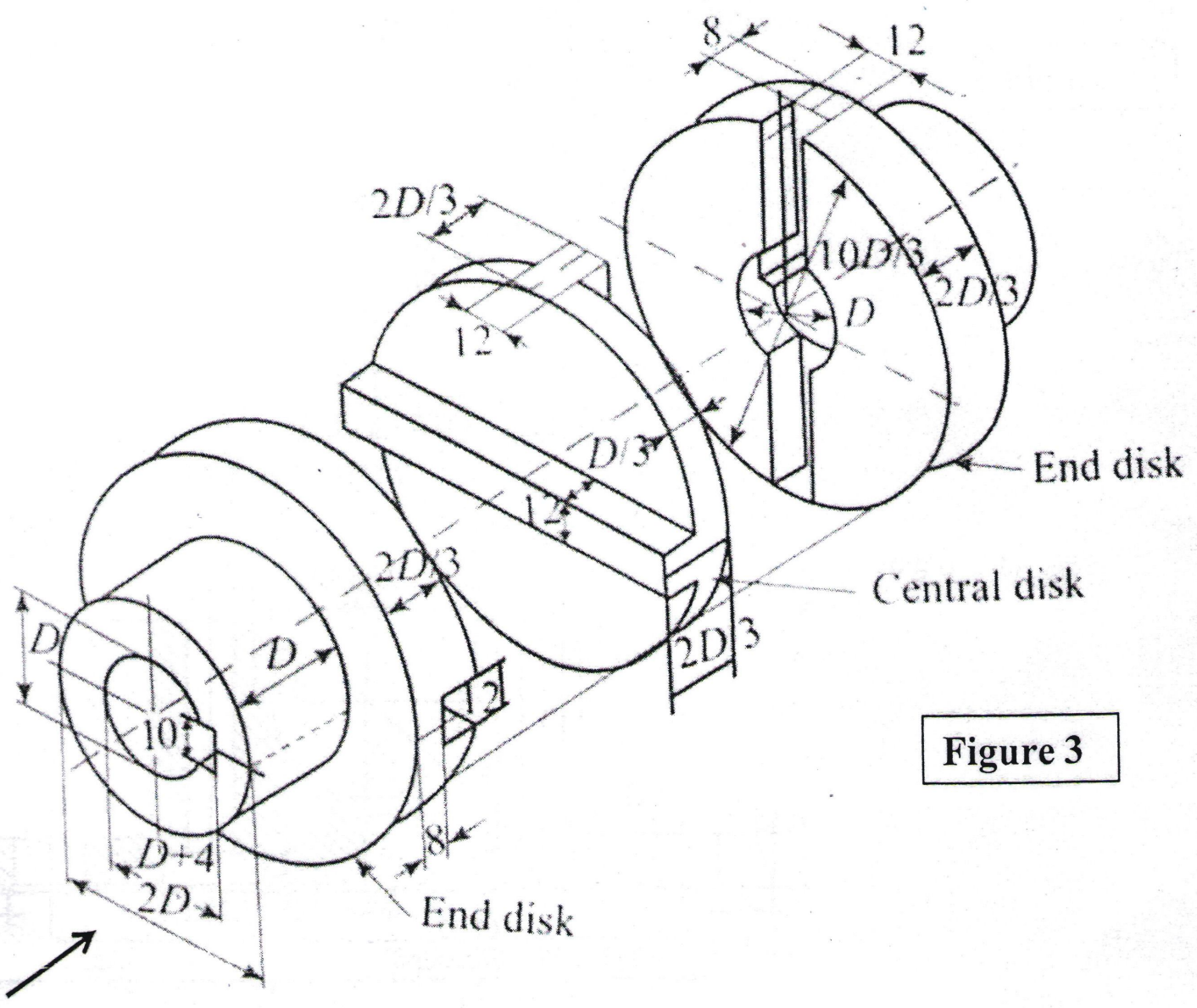


Figure 3

SECTION-C

7. Figure 4 shows the partial details of Plummer Block. Assemble the given components and draw the full sectional front view of assembly.

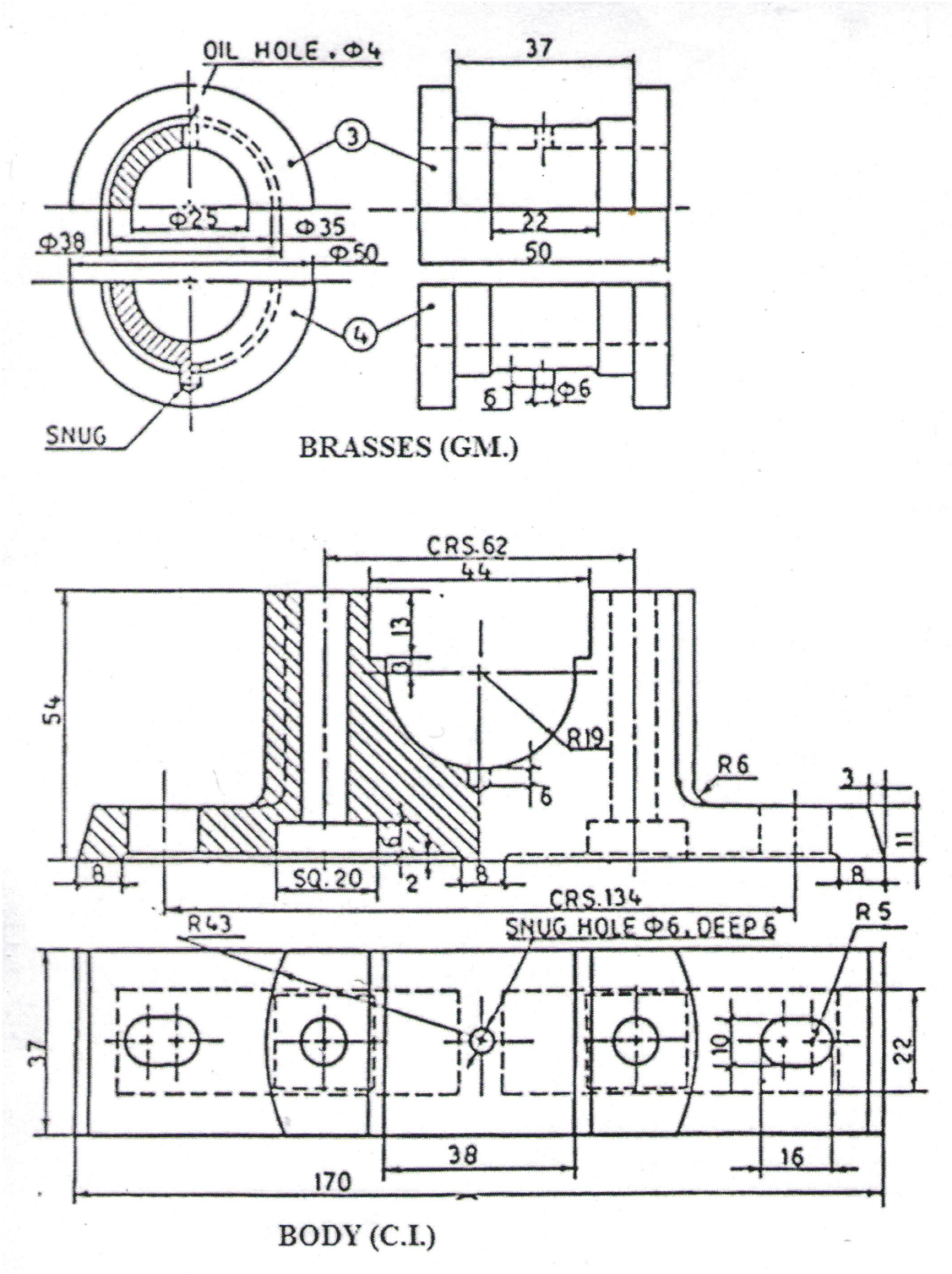
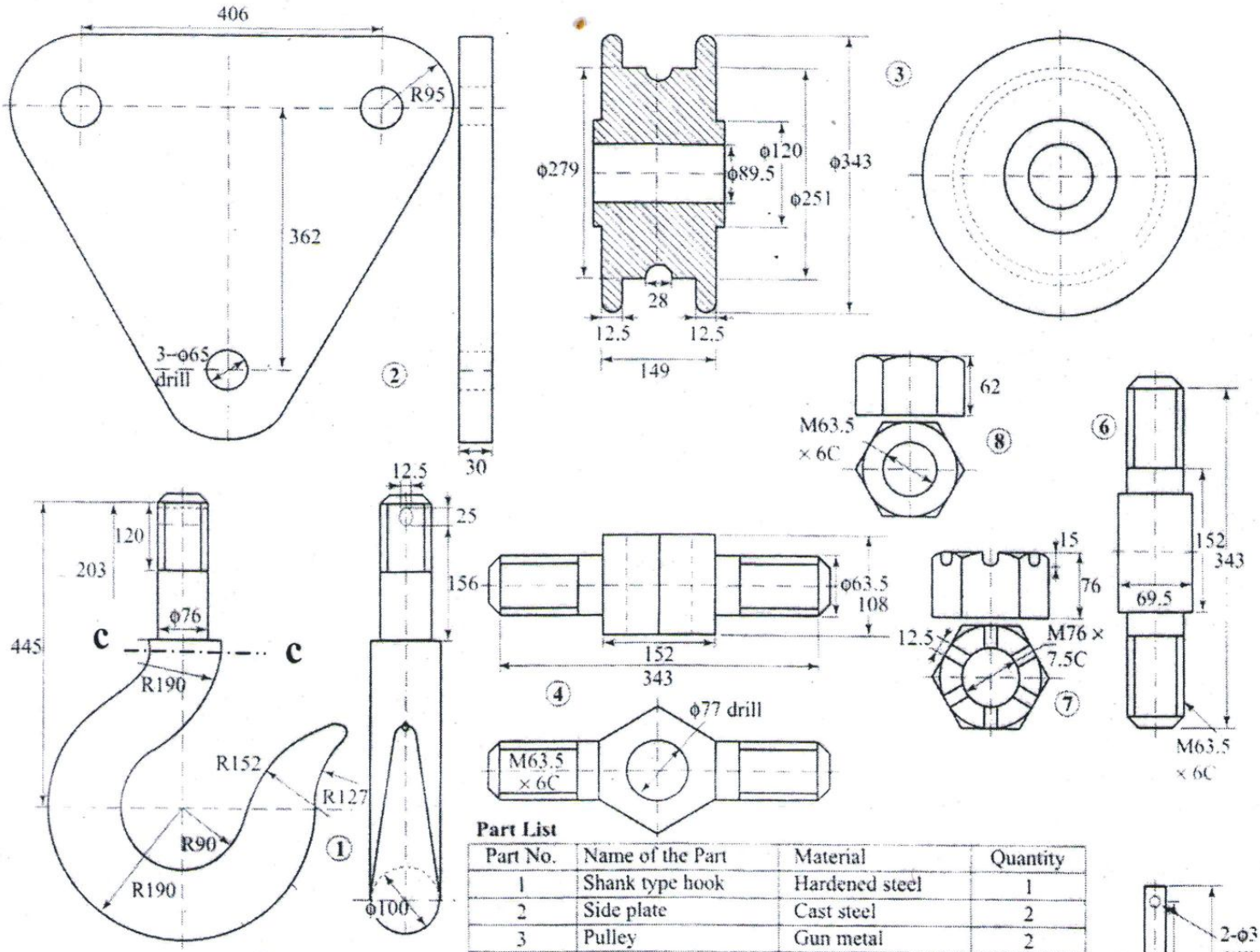


FIGURE 4

8. Figure 5 shows the details of Crane Hook. Assemble the given components and draw the front view of assembly. Hook details up to section marked as c-c may be shown in the assembly.



Part List

Part No.	Name of the Part	Material	Quantity
1	Shank type hook	Hardened steel	1
2	Side plate	Cast steel	2
3	Pulley	Gun metal	2
4	Hook trunion	Cast steel	1
5	Nut lock pin	Mild steel	1
6	Pulley pin	Mild steel	2
7	Hexagonal sloted nut	Mild steel	1
8	Hexagonal nut	Mild steel	6

Figure 5

9. Figure 6 shows the partial details of 50 mm steam stop valve. Assemble the given components and draw the full sectional front view of assembly.

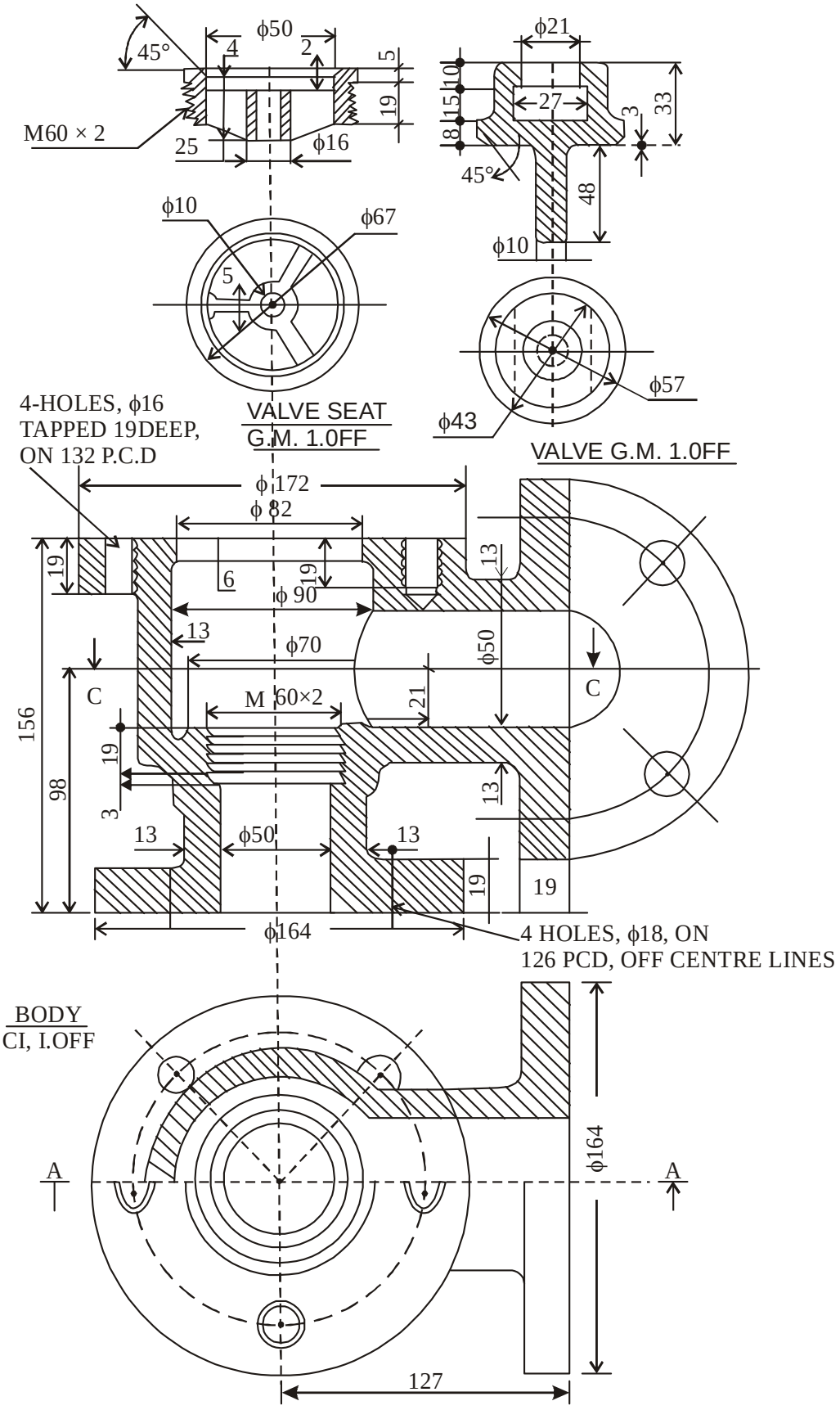


FIGURE 6