

[illegible]

**B.Tech. (AE) (2012 to 2017) (Sem.-3)**  
**MACHINE DRAWING**  
**Subject Code : BTAE-306**  
**M.Code : 54114**

**Max. Marks : 60**

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 have to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

1. What is the difference between a rigid and a flexible coupling?
2. What is the use of a foot step bearing?
3. What is the advantage of Plummer block over a simple bushed bearing?
4. Under what conditions do you use a knuckle joint?
5. Sketch the basic symbols for Single and Double-V butt welds.
6. What are permanent fastenings?
7. What is the difference between allowance and tolerance?
8. Differentiate between the pitch and lead of a screw thread?
9. What is a muff coupling?
10. Explain the aligned system of dimensioning.

11. Draw free hand the sectional front view of a union pipe joint.
12. Draw free hand upper half sectional front view of a protected type flange coupling on proportionate scale.
13. Name the different forms of V- threads and draw the detailed sketch of any one of them.
14. Draw free hand the sectional front view of a single plate friction clutch.

15. Draw the top view and sectional front view of a double riveted chain type butt joint clearly showing all the dimensions. Take the diameter of the rivet as 12 mm.

### SECTION-C

16. Figure below shows the details of a screw jack. Assemble the parts and draw the full sectional front view.

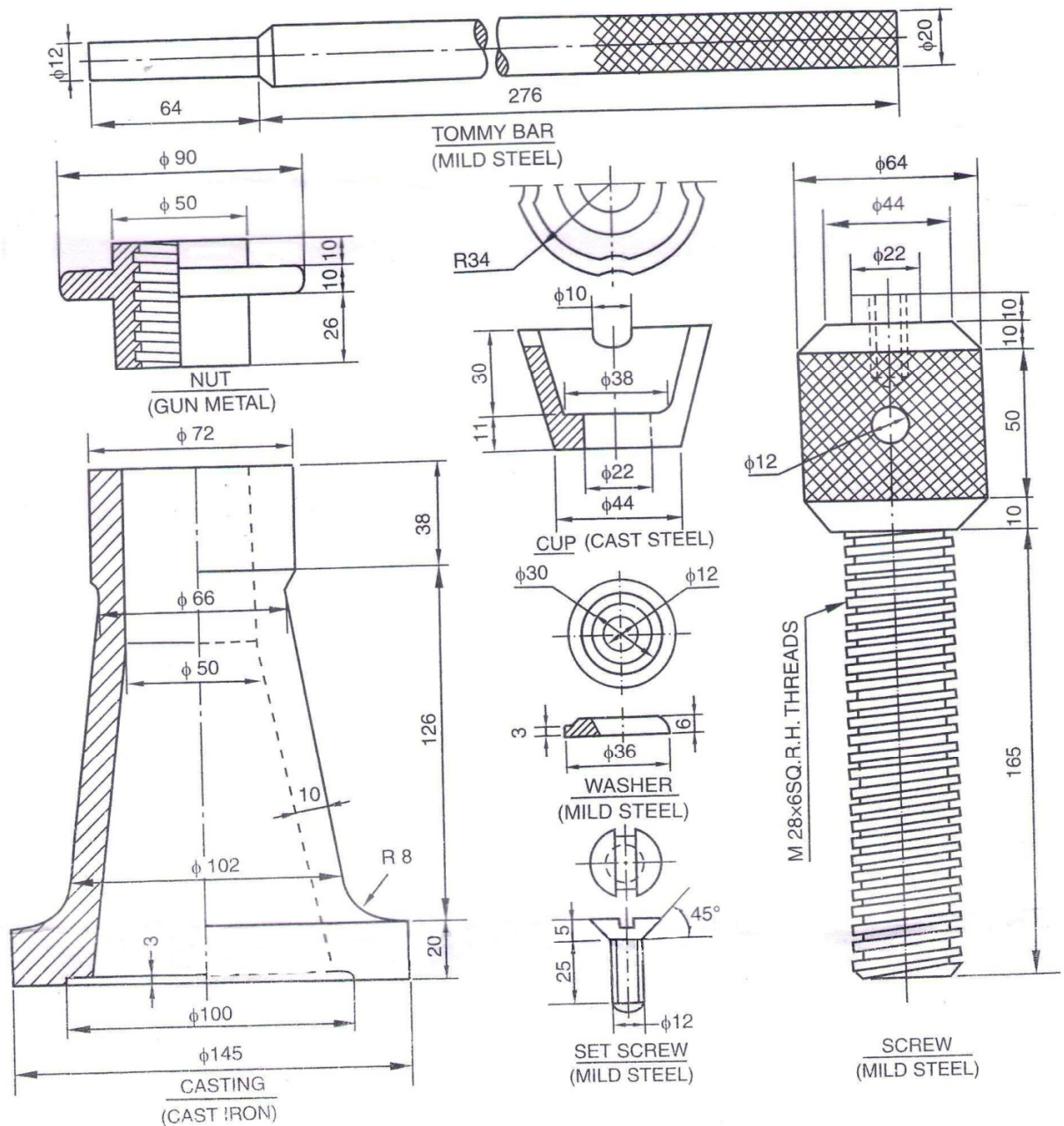


Fig. 1

17. Figure below shows the details of a plunger block. Assemble the parts and draw the full sectional front view.

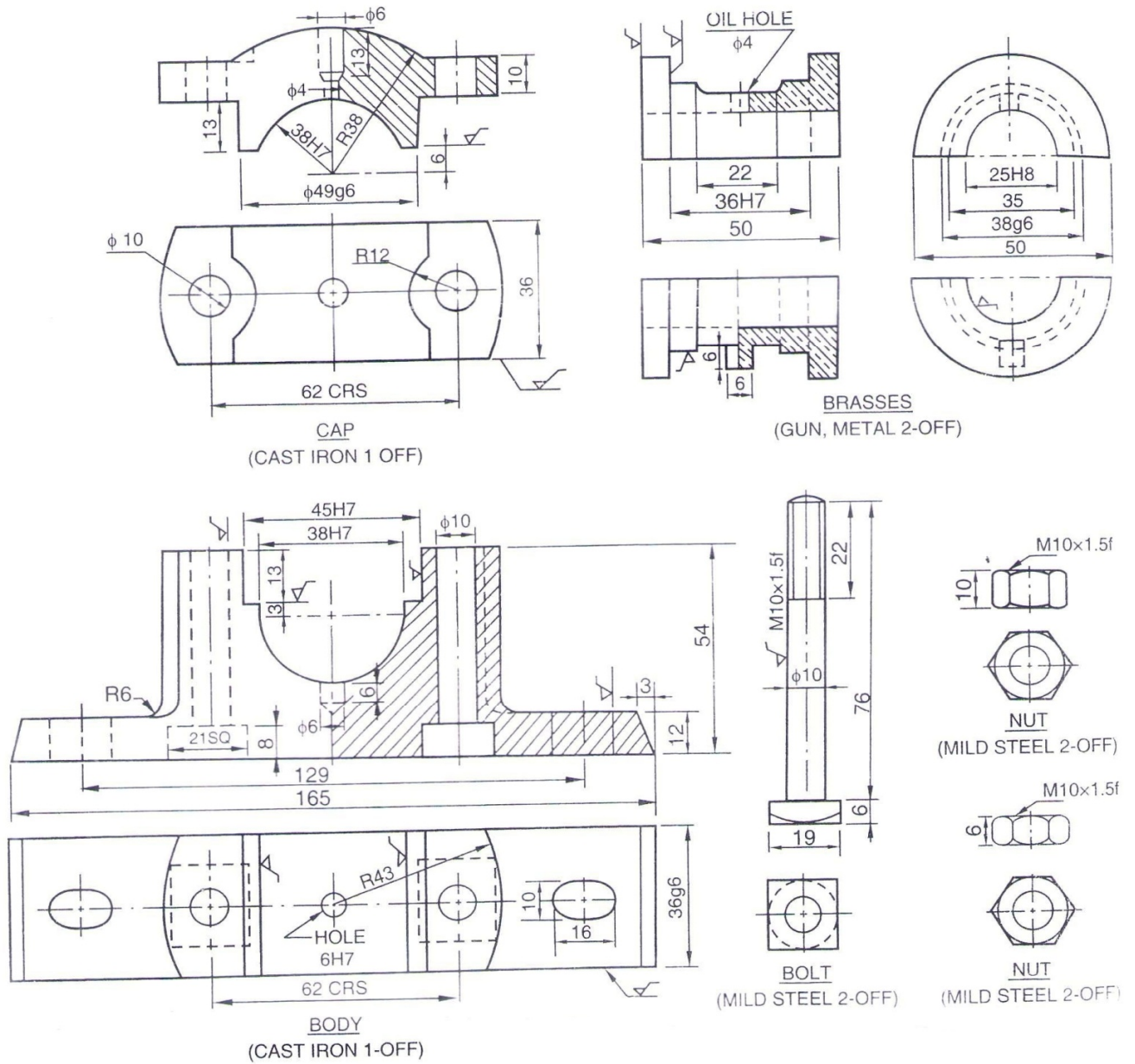


Fig. 2

18. Figure below shows die details of a gib and cotter joint. Assemble the parts and draw the half sectional front view and the top view.

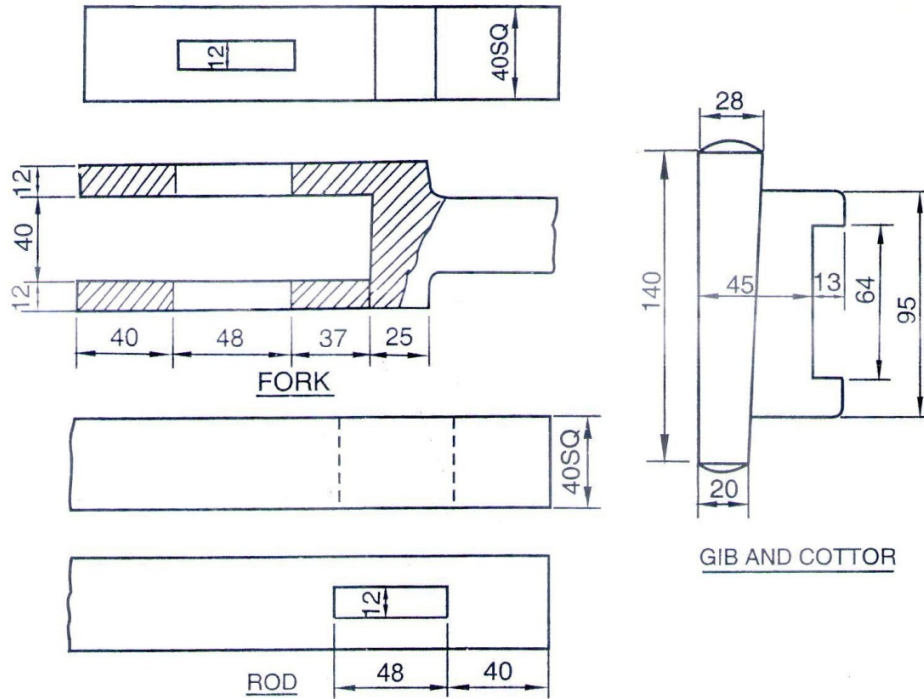


Fig. 3

**NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.**