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Total No. of Pages : 05

Total No. of Questions : 09

B.Tech.(AE) (ANE) (IE) (ME) (All) (Sem.-3)

MACHINE DRAWING

Subject Code : ME-207

Paper ID : [A0804]

Time : 4 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 have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A**1. Write briefly :**

1. What is the advantage of providing bush in a bearing? What is the material of bush?
 2. How the tolerances are specified and indicated on drawings?
 3. Explain with the help of suitable sketches the method of dimensioning :
 - i) Arcs and
 - ii) Angles
 4. What is the specific use of an expansion pipe joint?
 5. What is the use of multi-start threads?
 6. Why brasses are used in connecting rod ends and why are these made of soft metals?
 7. What is blow-off cock and where it is used?
 8. What is the function of a tool post of a lathe machine?
 9. In a simple bushed bearing how the rotation and axial movement of the bush is prevented?
 10. What is the function of tailstock in lathe machine?
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SECTION - B

2. What is the function of a valve? Where a feed check valve is fitted and what are its functions?
3. Discuss the various commands available in Auto-CAD to draw a circle.
4. Sketch any two views of the following locking devices :
 - a) Slotted nut
 - b) Swan nut
5. Discuss the use of following commands available in Auto-CAD :
 - a) Array
 - b) Offset
 - c) Mirror.
6. Draw free hand upper half sectional-front elevation of a protected type flange coupling on proportionate scale.

SECTION - C

7. Draw the sectional top view and front view of the petrol engine connecting rod from the given **figure 1** and part list –

Part List

Part No	Name	Material	Qty
1	Rod	Forged steel	1
2	Cap	Forged steel	1
3	Bearing brass	Gun metal	2
4	Bearing bush	Phosphor bronze	1
5	Bolt	Medium carbon steel	2
6	Nut	Medium carbon steel	2

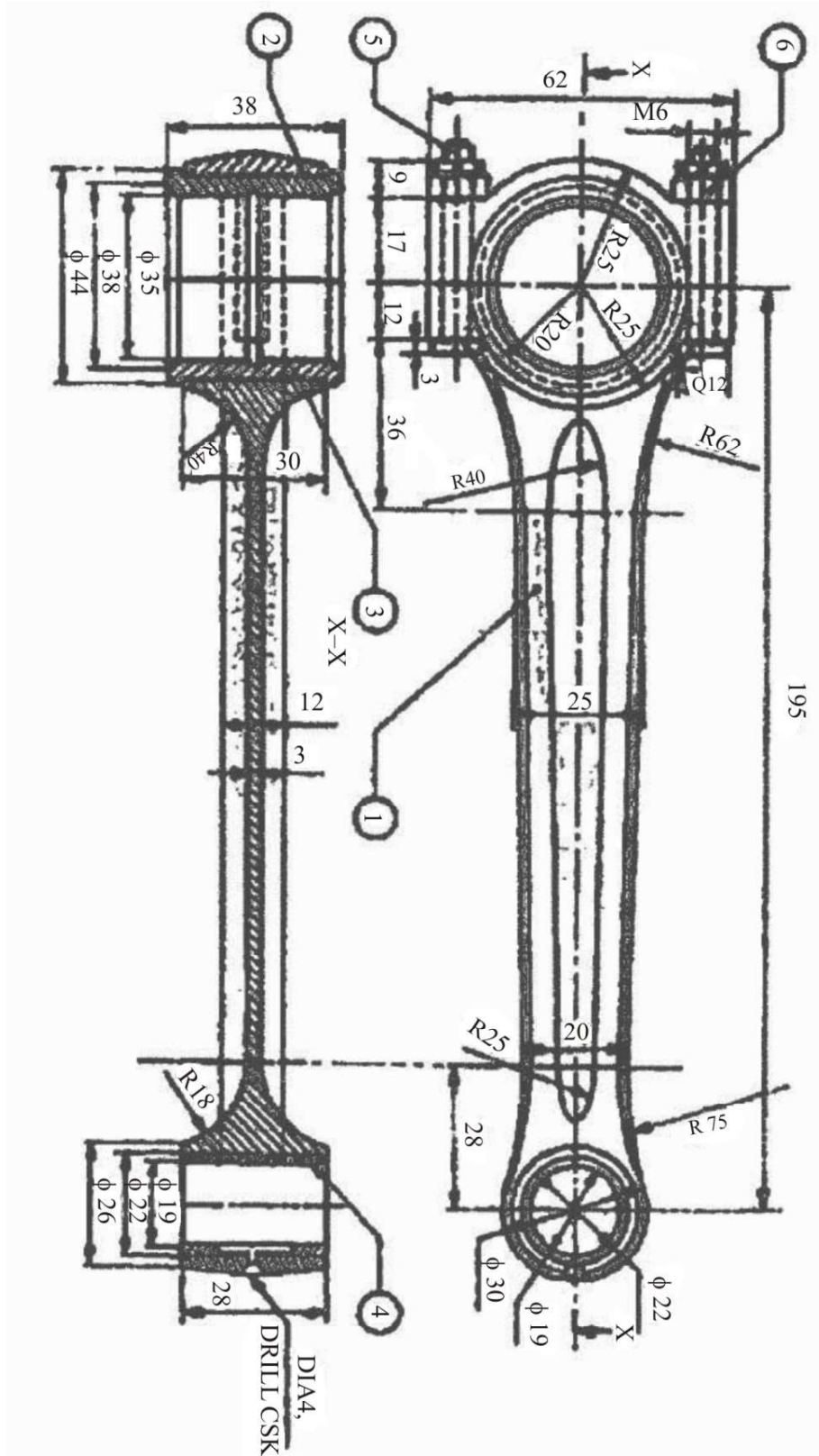


Fig. 1

8. **Figure 2** shows flanges, Keys and shafts to be connected in flanges coupling, assemble and draw elevation and side view in full. Note that nuts and bolts are to be added.

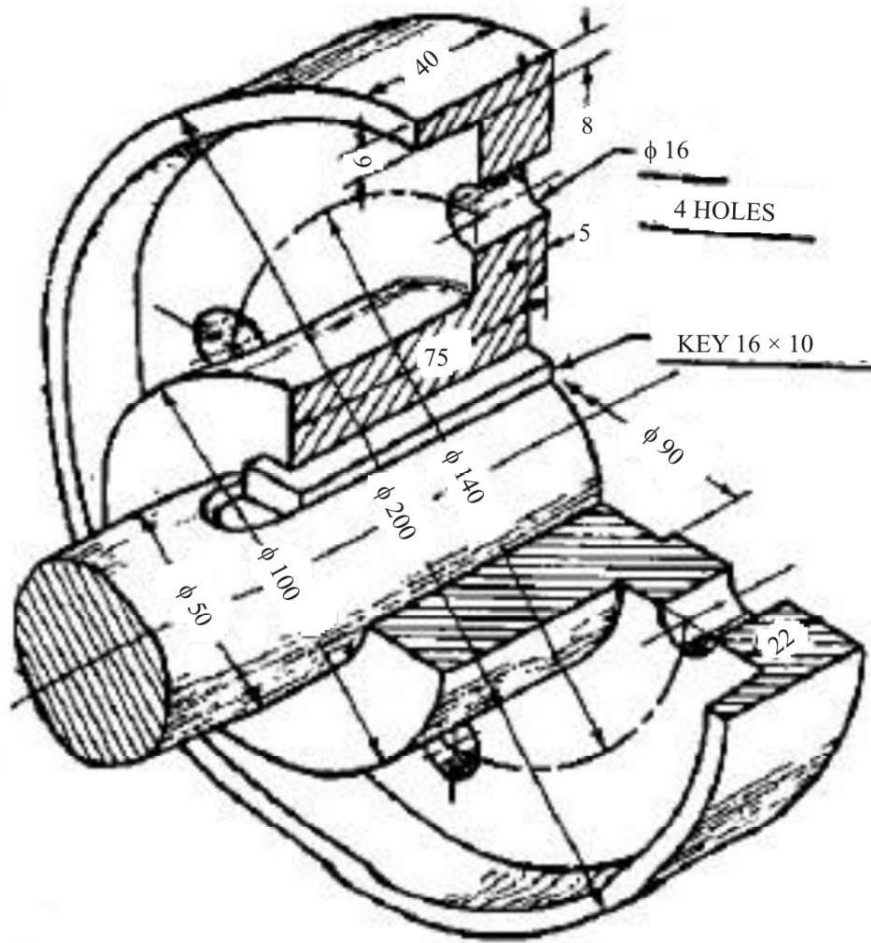


Fig. 2

9. Draw the full sectional Front view and Top view of the screw-jack assembly as shown in Figure.3. Also make Bill of Materials.

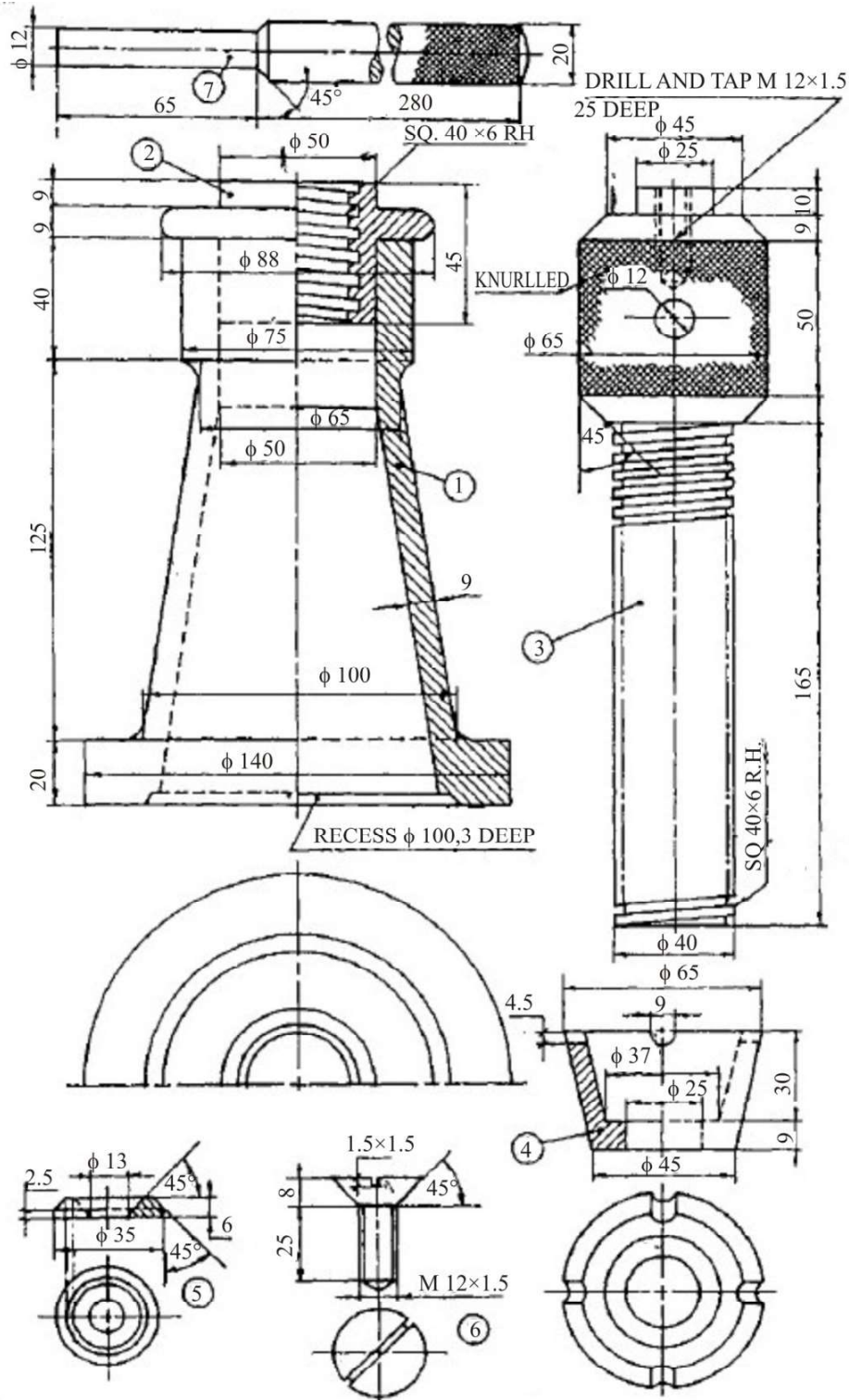


Fig. 3 Detail drawing of a screw Jack