Roll No. | | | | | | | | | | | | **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?

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

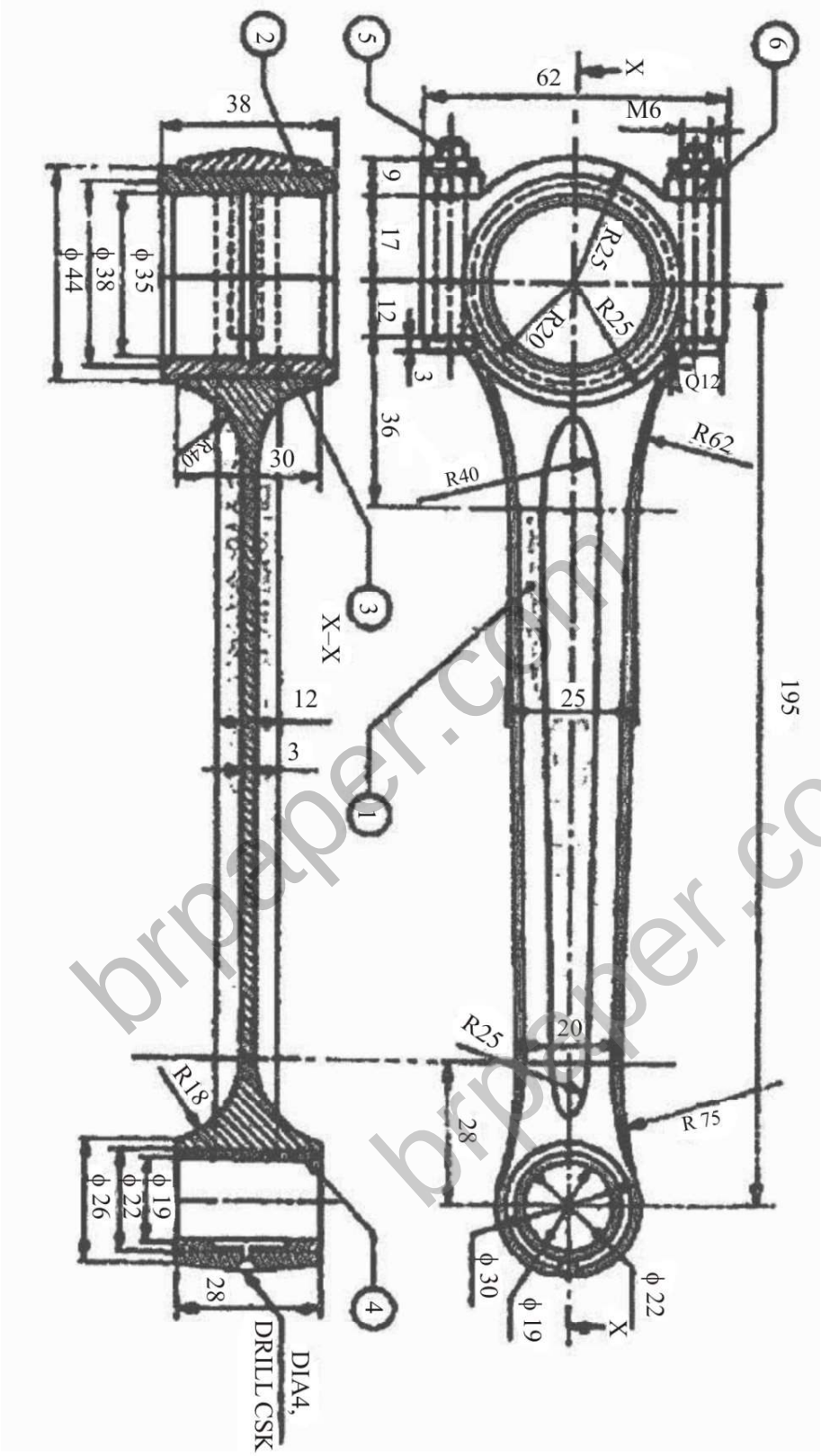

Fig. 1

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.

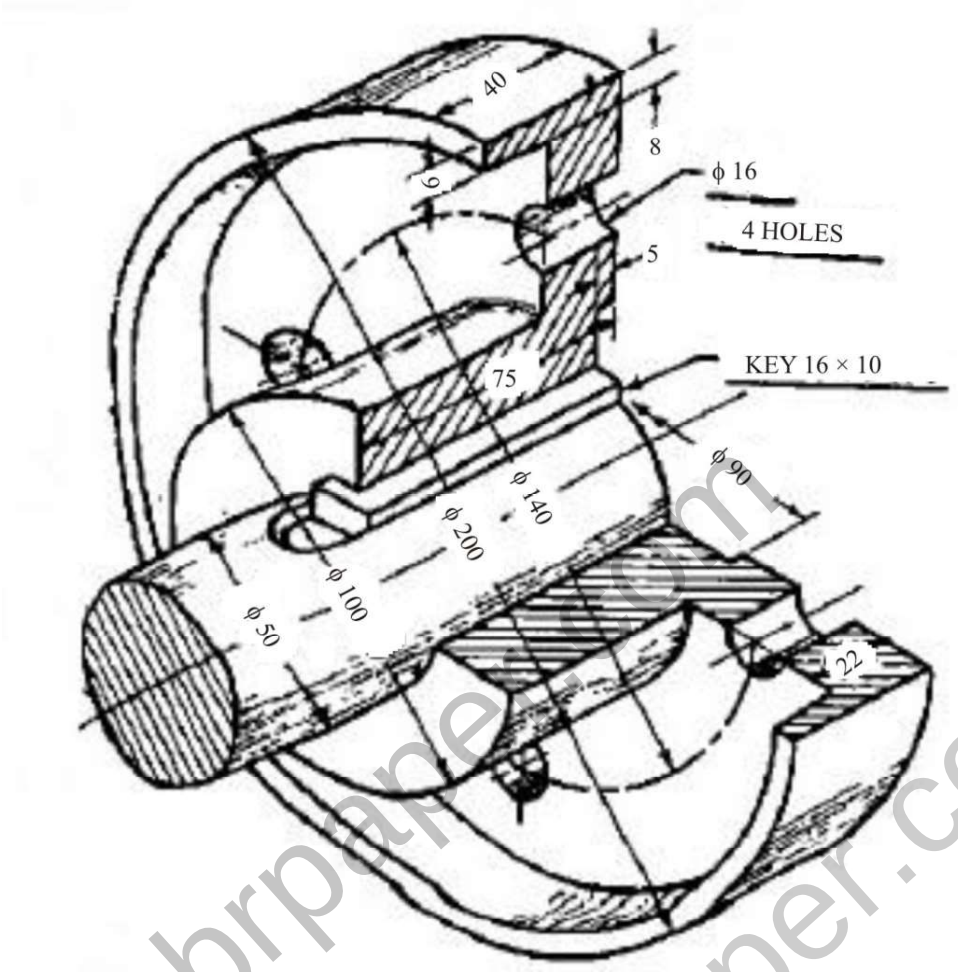

Fig. 2

9. Draw the full sectional Front view and Top view of the screw-jack assembly as shown in **Figure.3**. Also make 8ill of Materials.

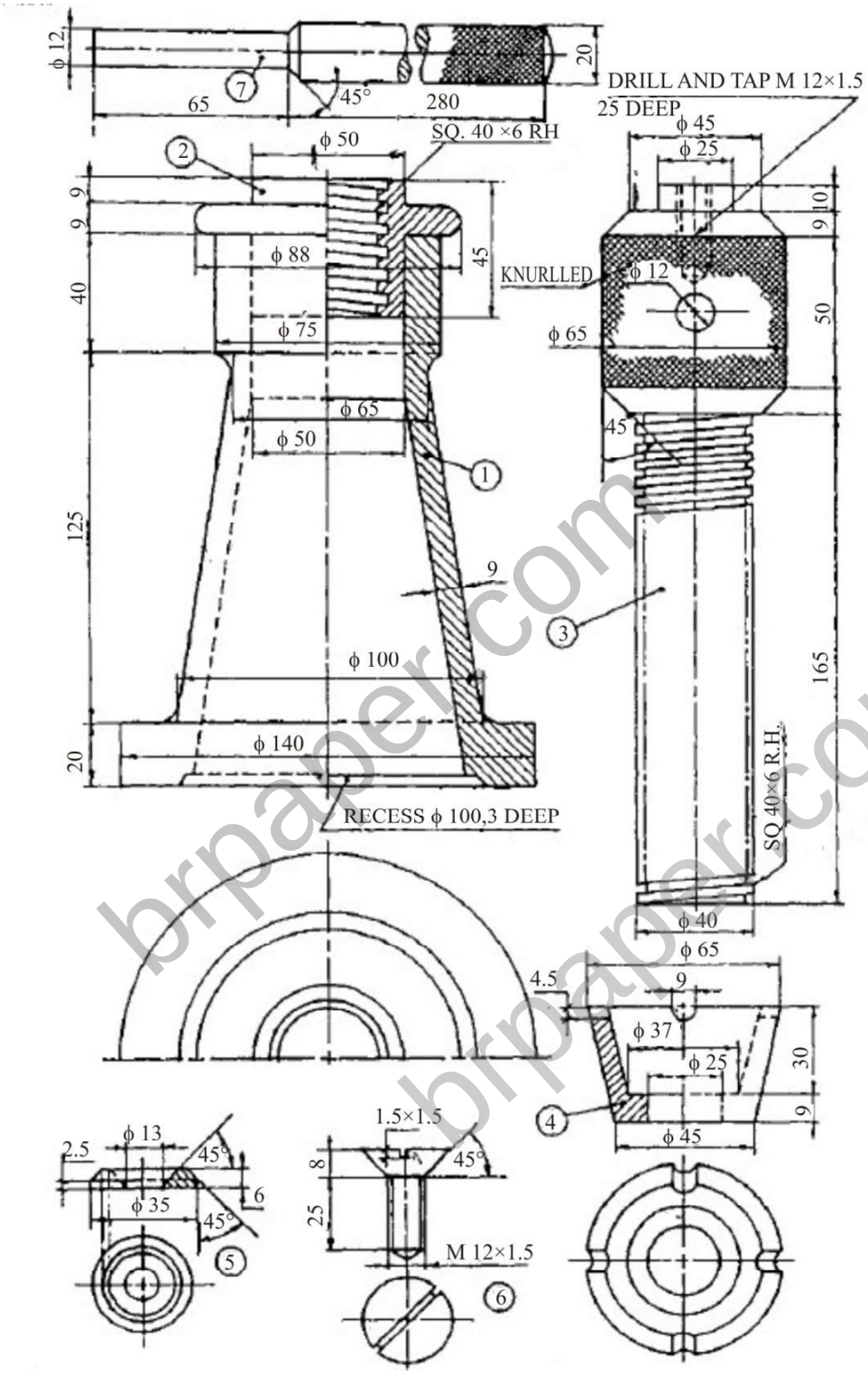

Fig. 3 Detail drawing of a screw Jack