Roll No. ..... Total No. of Pages : 5

Total No. of Questions : 9

B.Tech (IE/AE/ANE/ME) (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.**
2. **Attempt any FOUR questions from SECTION-B.**
3. **Attempt any THREE questions from SECTION-C.**

SECTION-A (10 × 2 = 20 Marks)

1. (a) Name two head forms of rivets.

   (b) What is pitch ?

   (c) What are the functions of connecting rod in IC engines?

   (d) Mention various types of bearings.

   (e) Sketch the convention of a round section.

   (f) The root angles in BIS metric thread and BSW threads are respectively _____and _____.

   (g) What is lead ?

   (h) Draw the symbol of third angle projections.

   (i) Draw the free hand sketch of hexagonal bolt.

   (j) What is the specific use of an expansion pipe joint?.

SECTION-B (4 × 5 = 20 Marks)

2. Draw by a conventional method a right handed square thread. Take outside diameter = 64 mm, threaded length = 72 mm and pitch = 12 mm.

3. Two steel plates, each 12 mm thick are jointed by a single riveted lap joint. Draw two views to full size. Show 4 rivets and section line in plan.

4. Discuss the use of following commands available in Auto-CAD :

   (a) Array (b) Offset, and (c) Mirror.

5. Draw free hand upper half sectional-front elevation of a protected type flange coupling on proportionate scale.

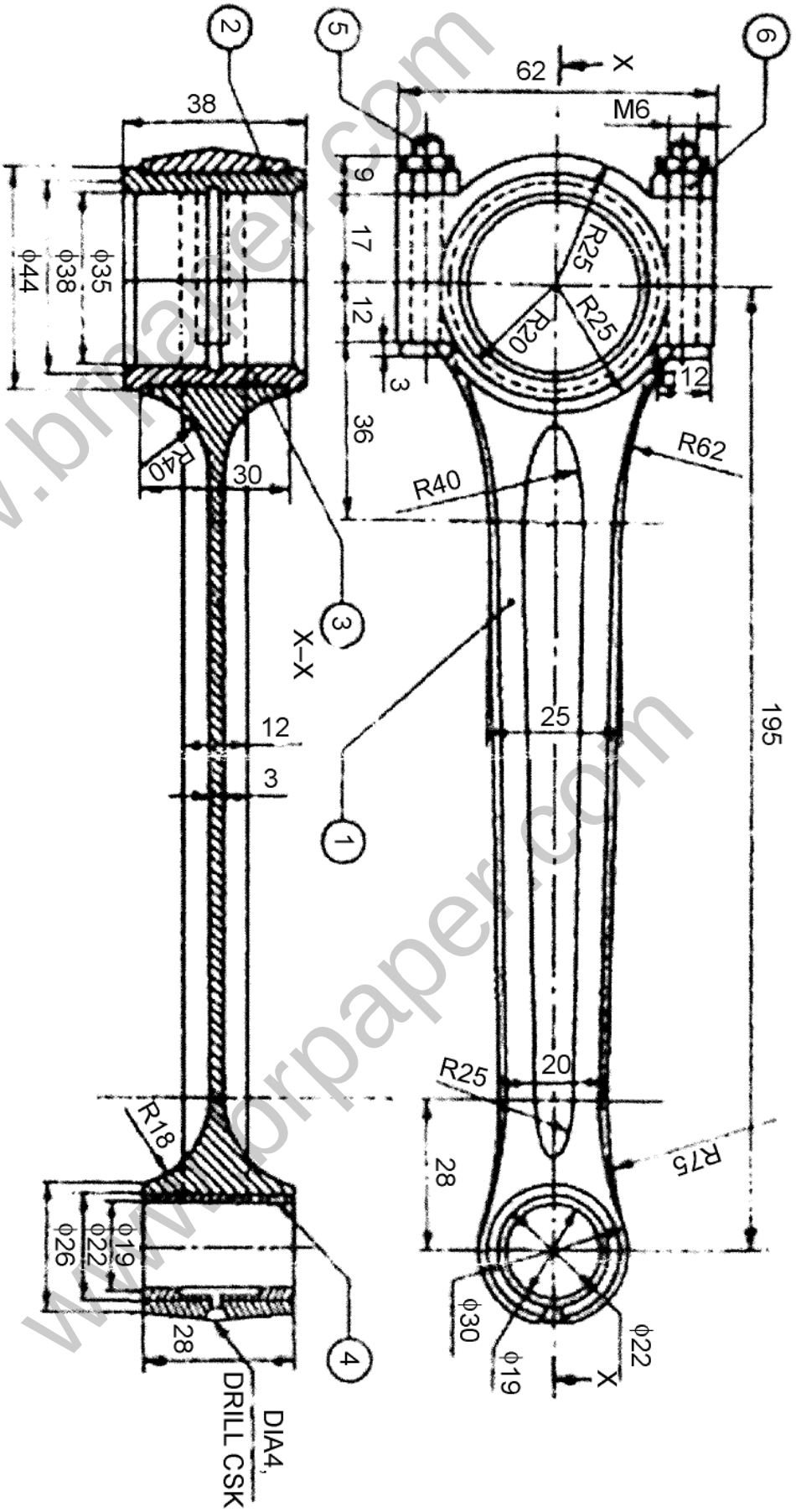
6. Represent two views of hexagonal nut and square nut with proportions and dia of bolt as 30mm.

SECTION-C **(2 × 10 = 20 Marks)**

7. Draw the sectional top view and front view of the petrol engine connecting rod from the given figure1. 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

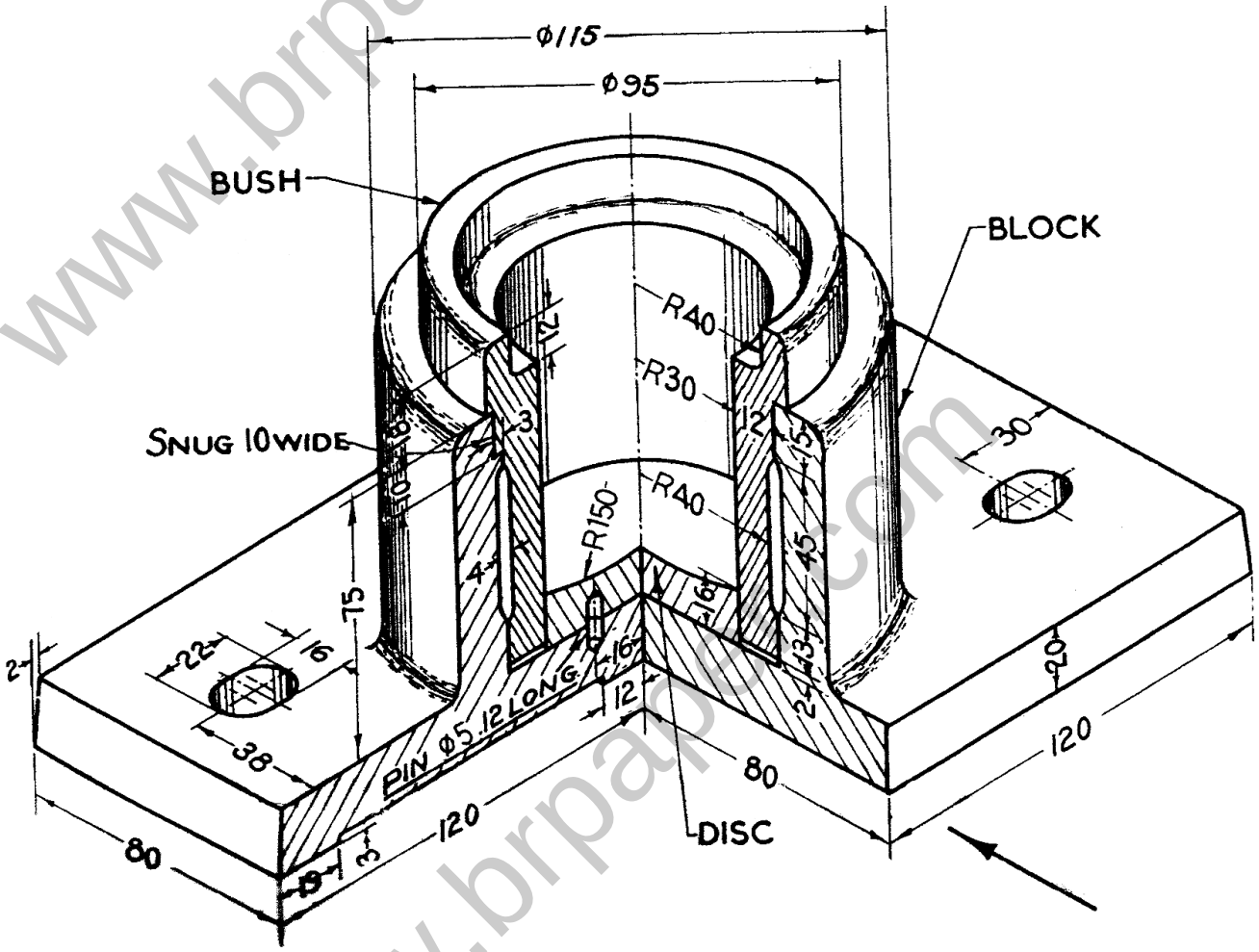


[A-12] 1481/1482/1483/1484

8. Figure below shows the pictorial view of a FOOT STEP BEARING. Draw to a conventional scale the following :

   (a) Full sectional front view.

   (b) Top View



9. Figure below shows flanges, keys and shafts to be connected in a flange coupling, Assemble and draw elevation and side view in full. Note that nuts and bolts are to be added.