# GEOMETRICAL AND MECHANICAL DRAWING

*(Maximum Marks: 100)*

*(Time allowed: Three hours)*

*(Candidates are allowed additional 15 minutes for **only** reading the paper. They must NOT start writing during this time.)*

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*The intended marks for questions or parts of questions are given in brackets [ ].*

*A sheet of drawing paper size A2 (594 mm × 420 mm) is provided.*

*All dimensions are in millimetres.*

*Arcs of circles less than 4 mm radius may be drawn freehand.*

*All construction lines must be shown clearly.*

*Accuracy and good draughtsmanship are essential.*

*Write your Unique Identification Number (UID) and Index Number at the bottom right-hand corner of your paper in a title block 120 mm × 50 mm.*

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*Answer **all** Questions*

**Question1**

Draw the three views of the given object ***(Figure 1)*** in correct projection.

**First or Third Angle:**

(a) Front elevation in the direction of the arrow. **[10]**

(b) The end elevation (side view). **[10]**

(c) The plan (top view). **[10]**

(d) Symbol of the method of projection you have chosen. **[5]**

**Question 2**

***Figure 2*** attached, shows the details of components of a foot step bearing which supports a vertical rotating shaft in operating conditions. Assemble the parts as follows:

The bush (part 2) having the collar at the top is fitted in the main body (part 1). The shaft (part 3) rests on a pad (part 4). The pad (part 4) is prevented from rotating by a pin (part 5), inserted half inside the main body (part 1) and half in the pad (part 4).

(a) Draw a full size sectional elevation of the assembled components (along A – B). **[30]**

(b) Draw the plan (top view) of the complete assembly, omitting all the hidden details. **[10]**

(c) Draw the side view of the assembly, omitting all the hidden details. **[15]**

(d) Make a neat parts list for all the components, on the drawing sheet. **[10]**

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**This Paper consists of 3 printed pages and 1 blank page.**



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*Figure 1 for Question 1*

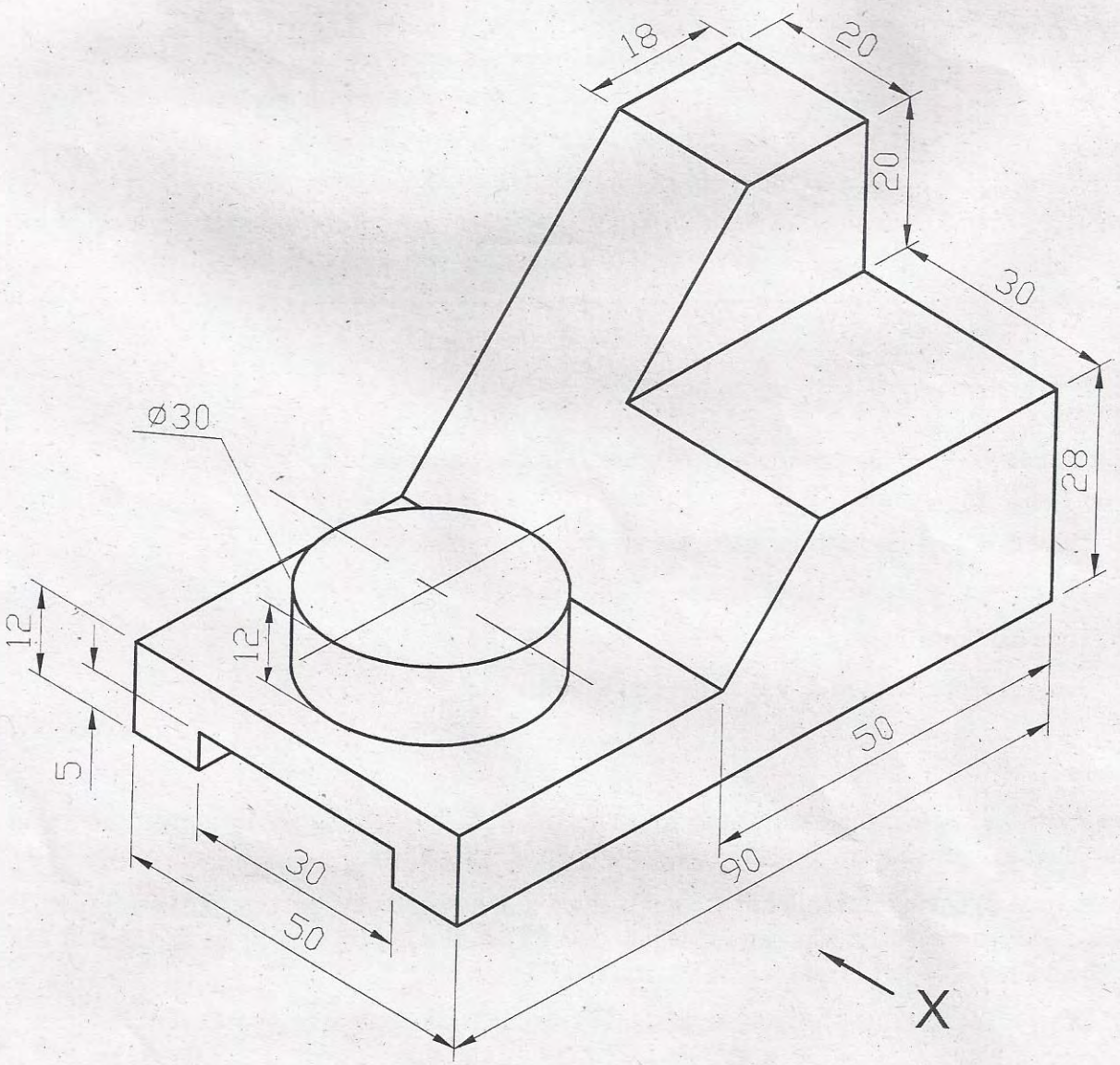
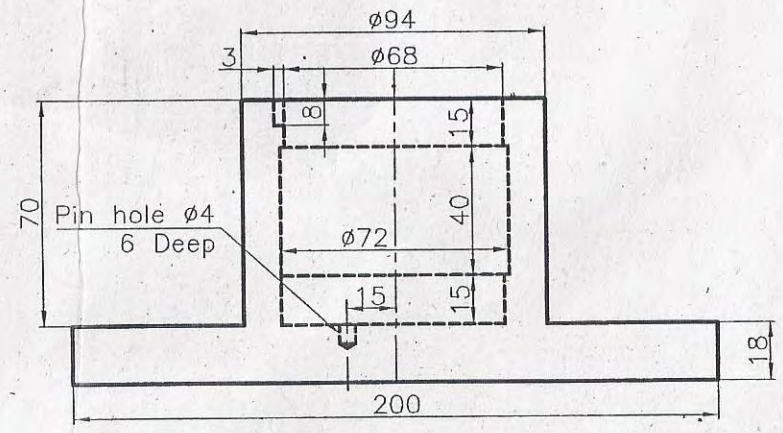
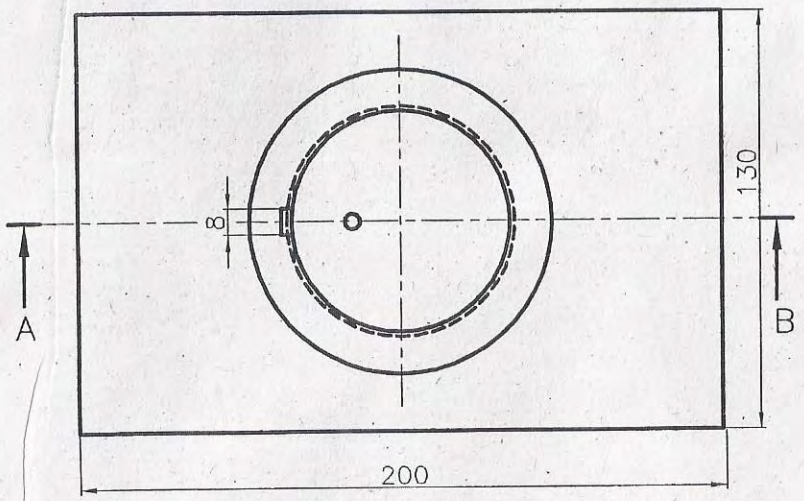
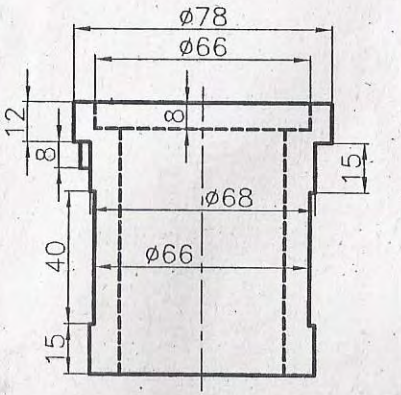


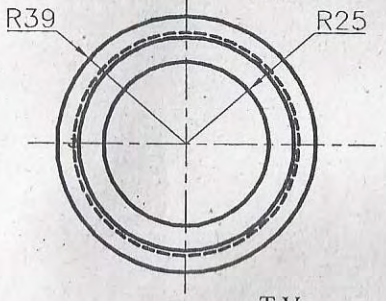
*Figure 2 for Question 2*



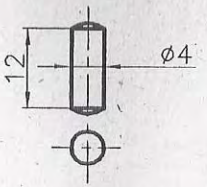




Part 1
Main body

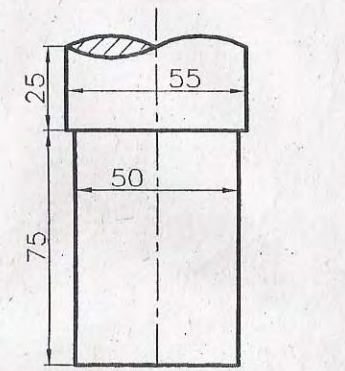


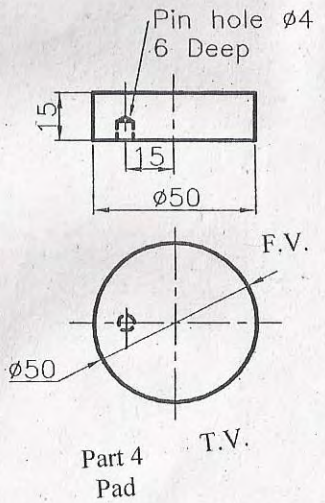

Part 2
Bush




Part 5
Pin




Part 3
Shaft




Part 4
Pad