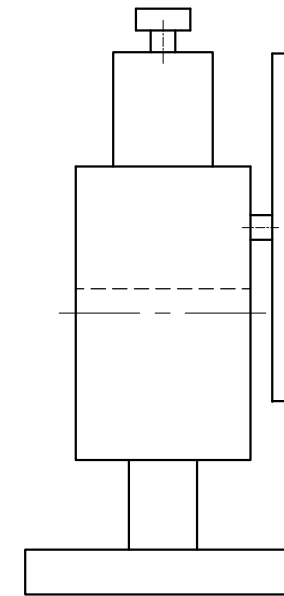
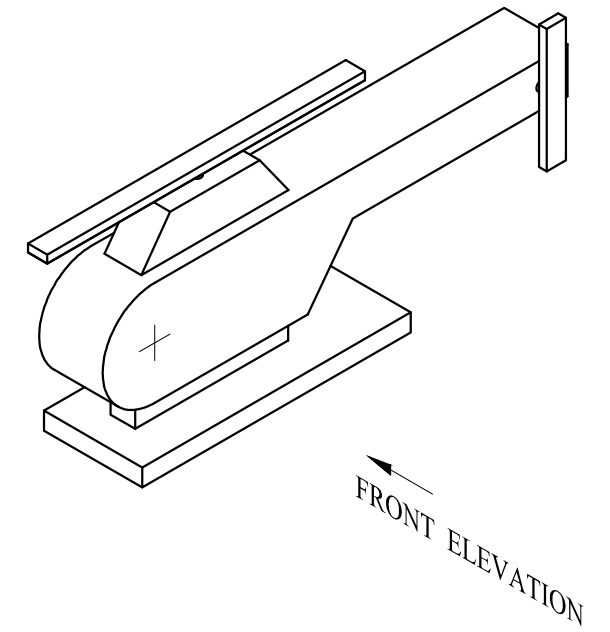


Question 1. A pictorial view and two orthographic views of a toy helicopter are given.

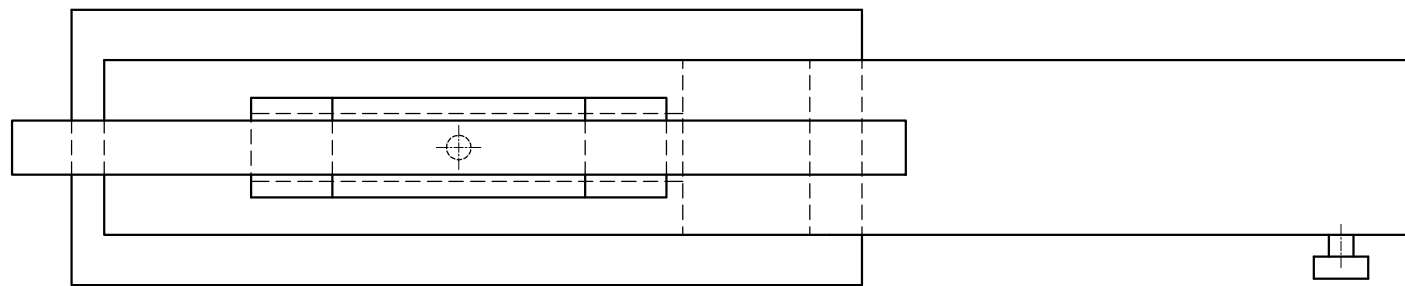
- a) Draw the front elevation in the direction of the arrow.
- b) Label the front view and the correct symbol of projection.

Note: The curved part of the front elevation is already drawn.

14 marks.



END VIEW



PLAN



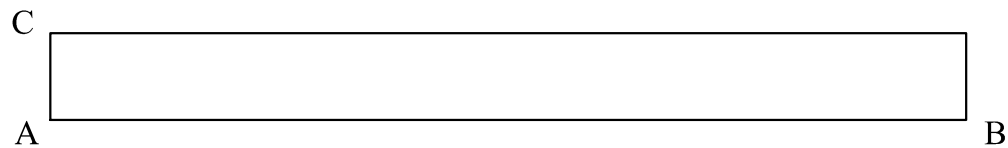
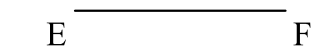
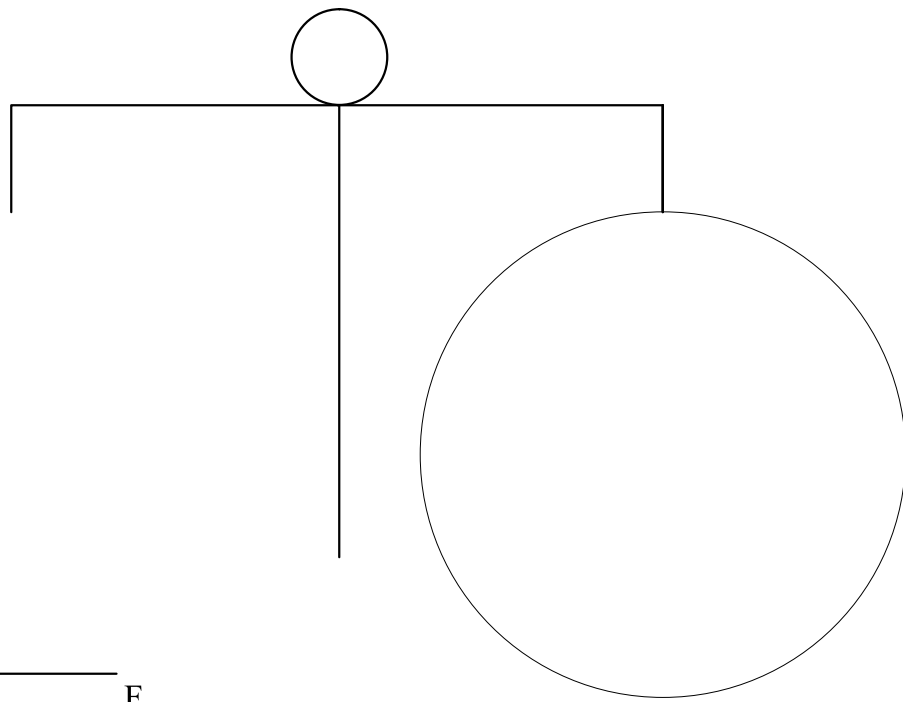
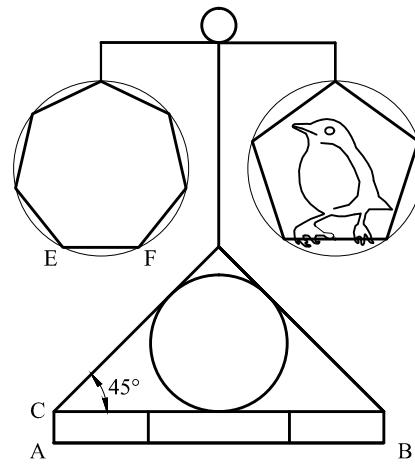
2. The drawing at the side shows a gadget used in bird cages.

Using the given starting lines, make a drawing similar to the one shown by following these instructions:

- Divide line AB in the ratio of 2:3:2 and draw the two lines within the rectangle.
- Construct the angle of  $45^\circ$  at C using the compass and complete the isosceles triangle using the set-square.
- Inscribe a circle in the triangle.
- Construct the regular pentagon in the circle provided.
- Construct the regular heptagon with line EF as the base.

Note: Do not draw the bird.

18 marks



3. The figure at the side shows part of a system of pulleys with a belt.

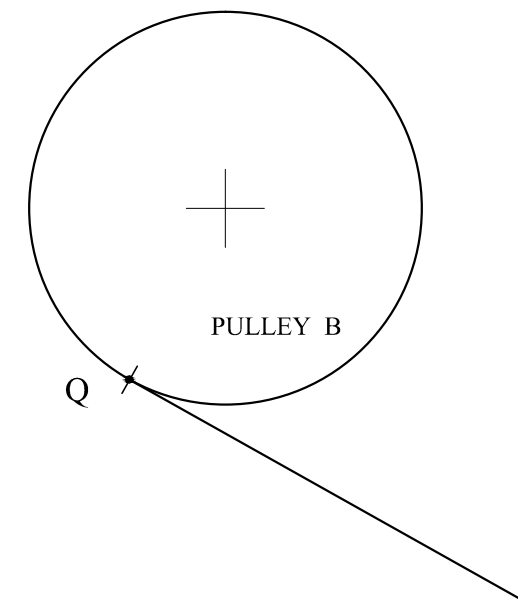
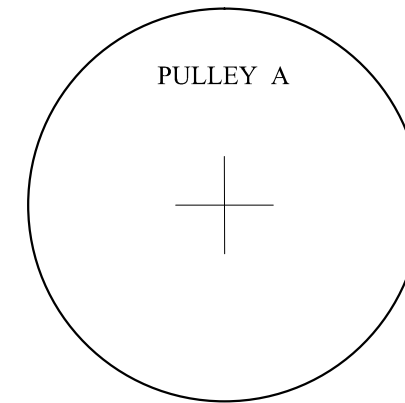
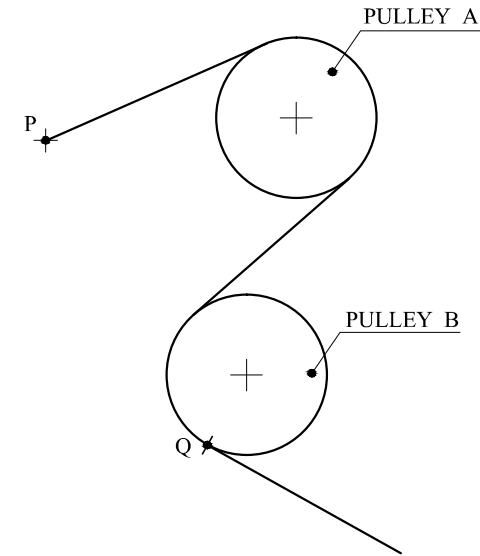
The arrangement consists of three tangents.

Both pulleys have the same diameter. Draw a similar arrangement on pulleys A and B given below using the following instructions:

- Construct a tangent from point P to pulley A.
- Construct a transverse (internal) tangent between pulleys A and B.

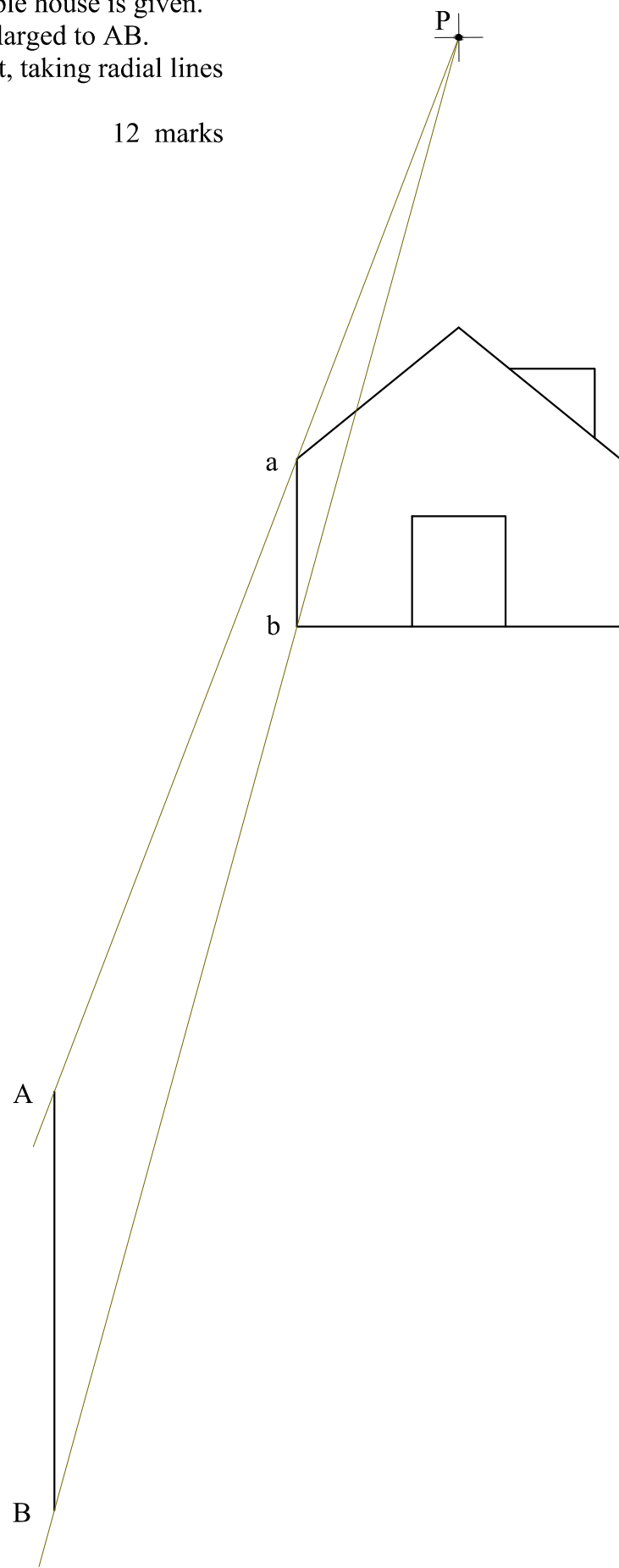
Note: The tangent at Q is already drawn.

12 marks



4. The drawing of a simple house is given. Side  $ab$  of the house is enlarged to  $AB$ . Complete the enlargement, taking radial lines from pole  $P$ .

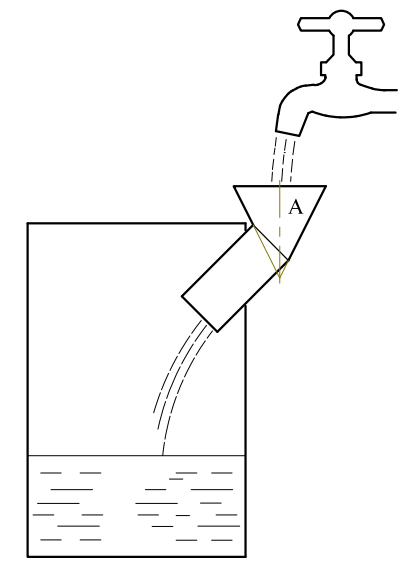
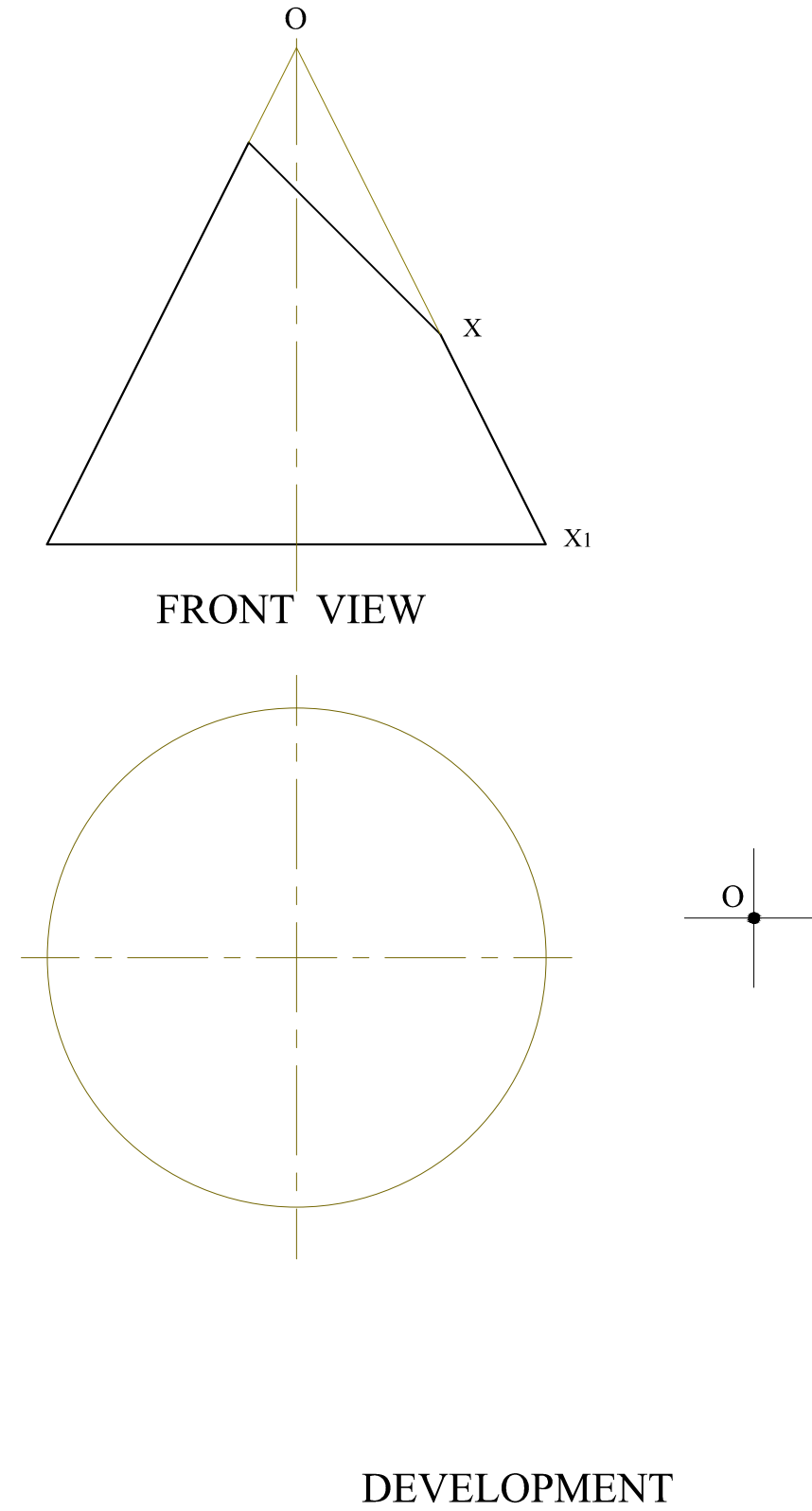
12 marks



5. A funnel used to fill up a tank is made up of thin sheet metal. It consists of a truncated cone  $A$  and a truncated elliptical pipe. The front view of the truncated cone (shown inverted) is given below. Starting from the given point  $O$ , construct the development of the truncated cone.

*Note: Take the joint line along  $XX_1$ .*

12 marks

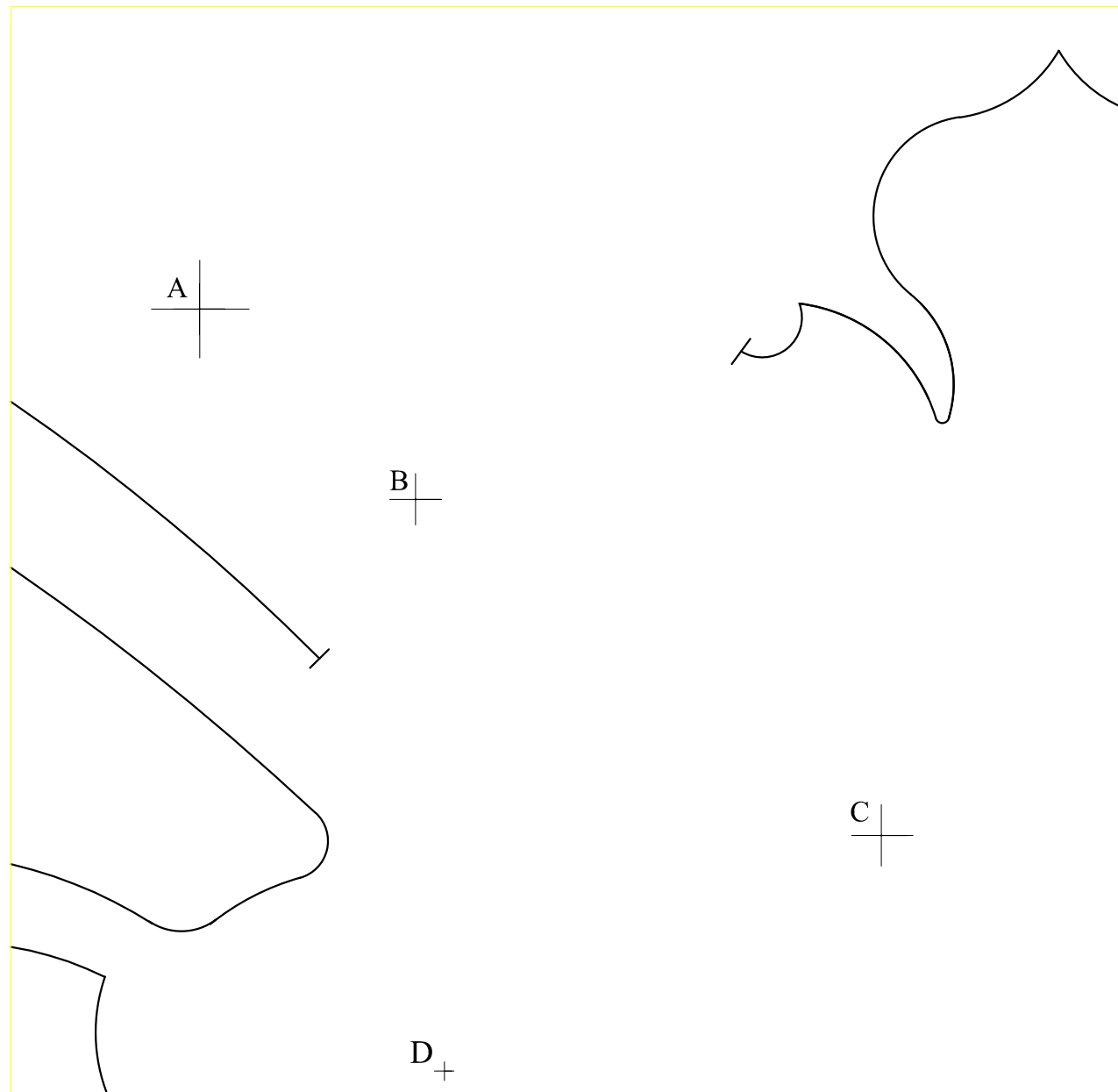
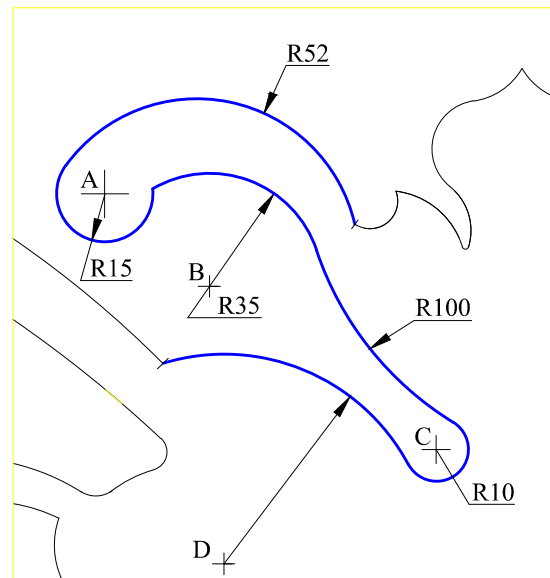
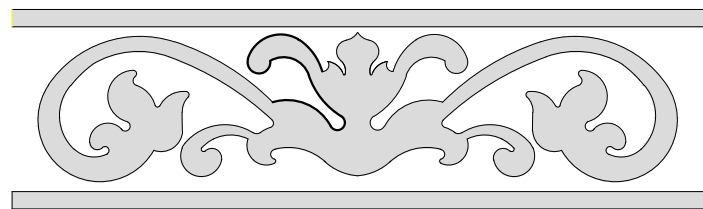


6. The design shown below is part of the marble floor of the Cathedral at Mdina. An enlarged dimensioned part of the design is also given at the side.

Complete the missing part of a similar design shown at the bottom to the given dimensions, showing the construction for obtaining the centre of the arcs. Show two points of tangency.

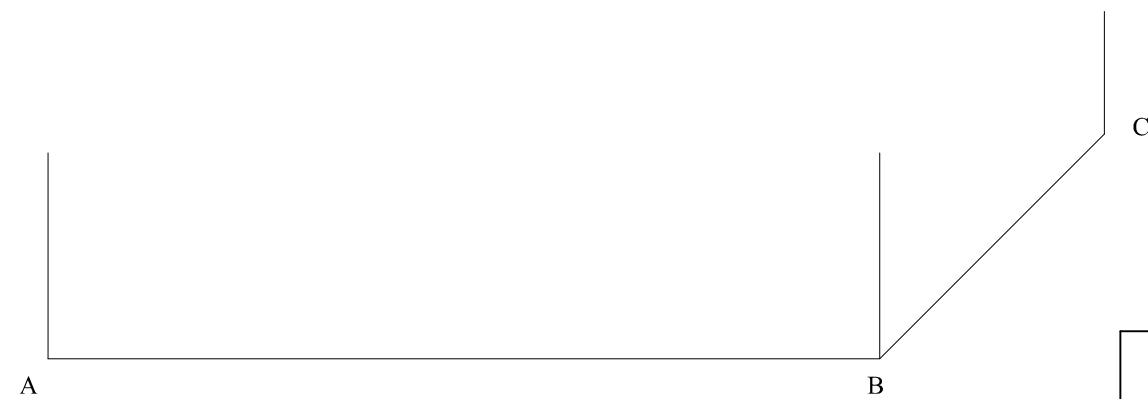
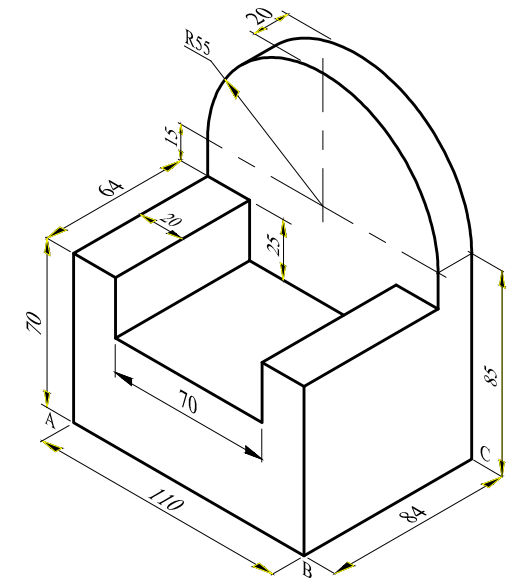
*Note: It is advisable to start by drawing the arcs with centres A, B, C and D.*

16 marks



7. An isometric projection of an arm-chair is drawn. On the start-lines shown below and using the given dimensions, draw a cabinet oblique projection of the arm-chair putting AB on the forefront.

16 marks



Sheet 4 of 4