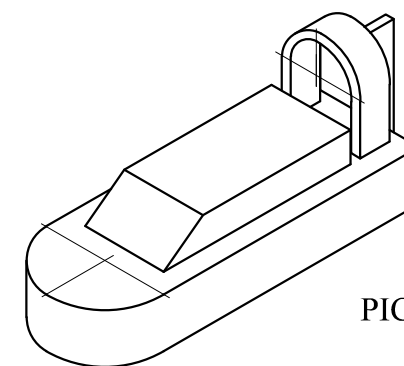


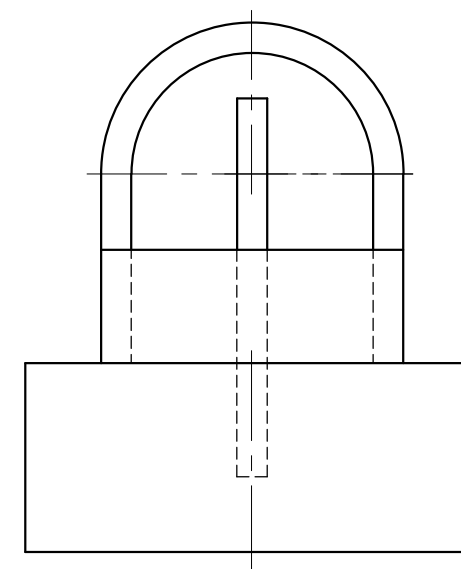
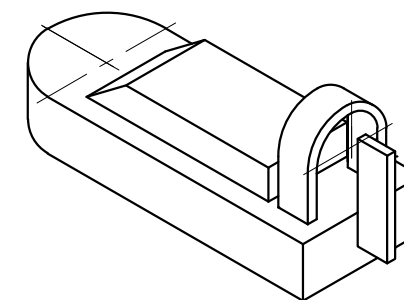
Question 1. Two pictorial views and two orthographic views of a model of a hovercraft (without the rear propellor) are given. The model is made out of solid wood.

- By projecting lines from the end view and the front view, draw the plan of the model. Include hidden details.
- Label the end view and plan in neat block letters.
- Draw the symbol of projection used.
- Lightly shade one of the pictorial views to represent the hovercraft as being made of wood.

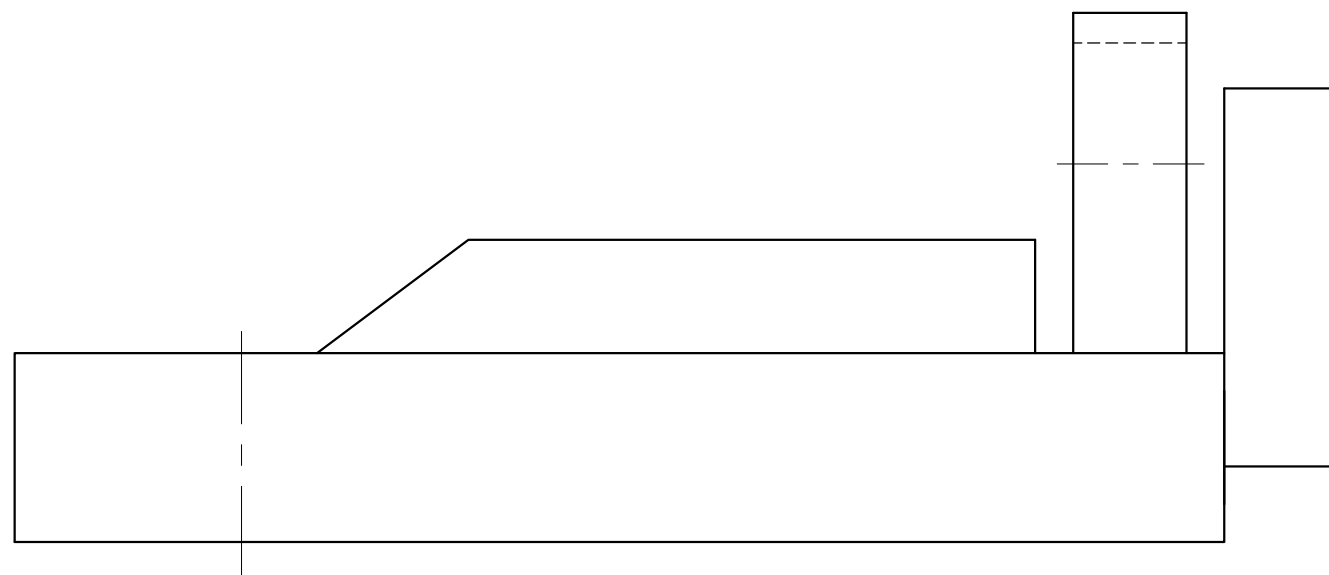
20 marks



PICTORIAL VIEWS



SYMBOL OF PROJECTION



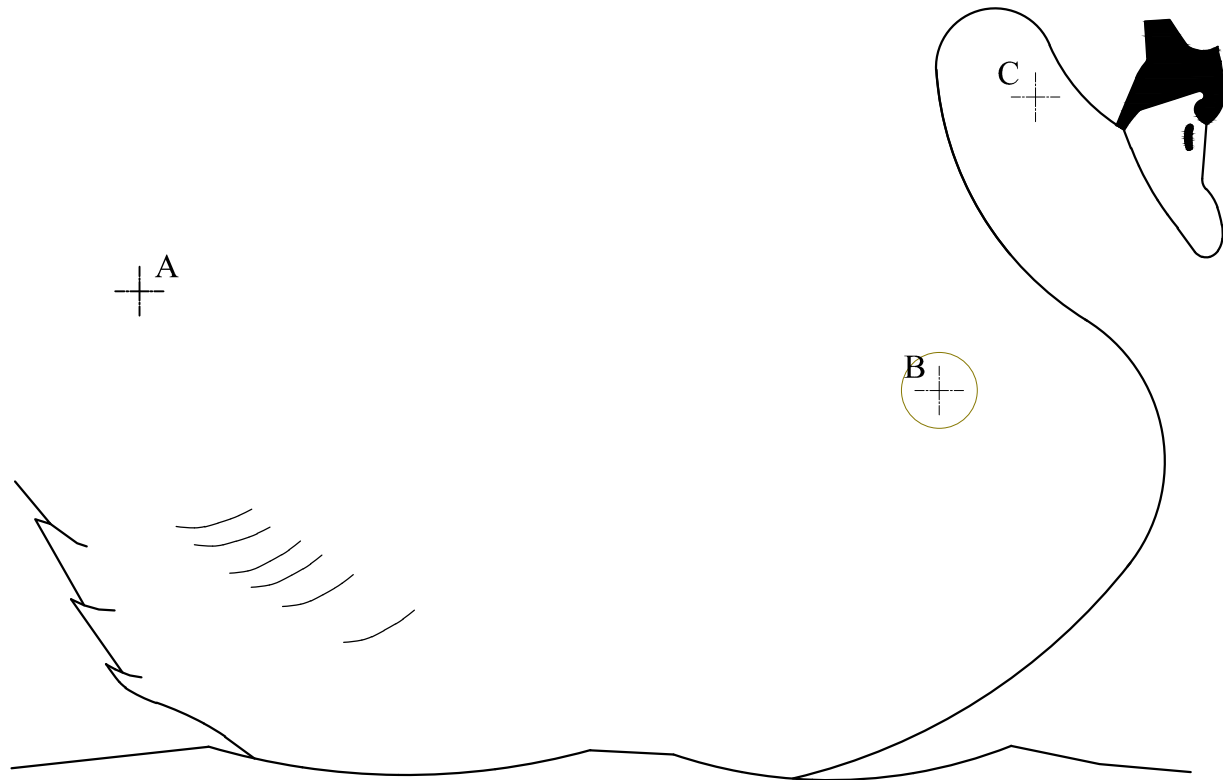
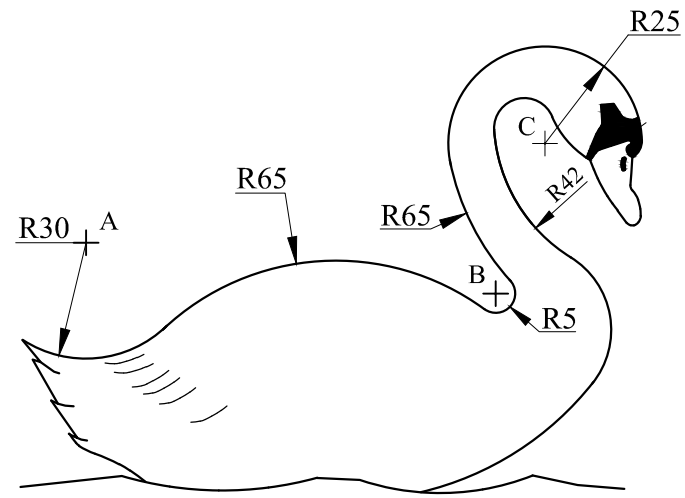
FRONT VIEW



Question 2. The drawing of a dimensioned swan is given.

- a) Complete the drawing started below to the given dimensions, showing clearly the construction for obtaining the centre of the arcs.
- b) Show three points of tangency.

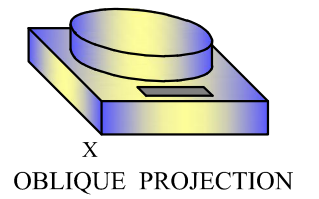
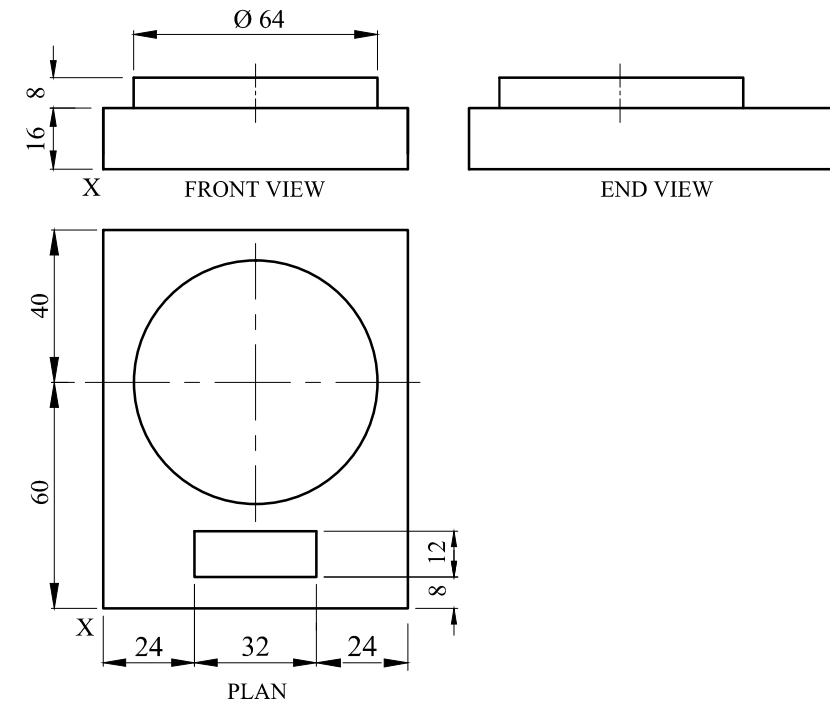
16 marks



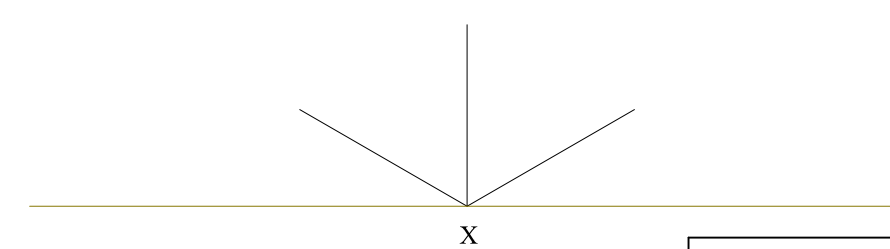
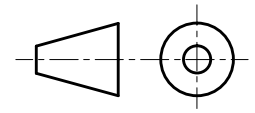
Question 3. Three orthographic views and an oblique projection of an electronic kitchen scale are given.

- a) Draw an isometric projection of the scale, putting X as the lowest point of your drawing.
- b) Shade the rectangular part where the weight is displayed as if being made of dark coloured glass.

16 marks

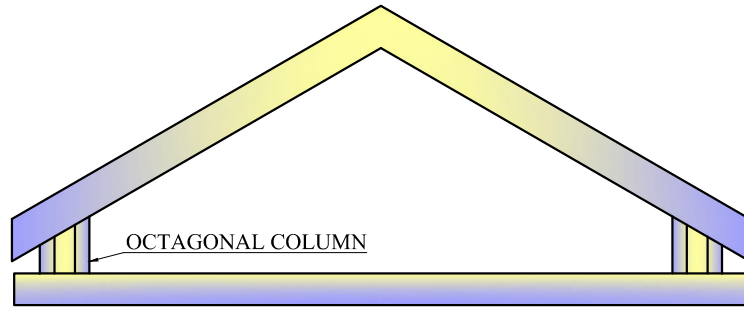


OBLIQUE PROJECTION

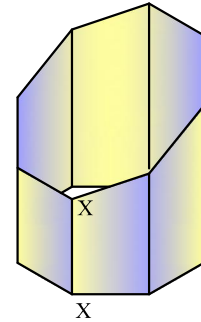


Question 4. The slanting ceiling of a model building shown below in front elevation is supported by a number of octagonal columns.
 Each column is to be covered by a thin sheet of aluminium, forming a truncated octagonal prism.
 A pictorial view, a front view and a plan of one of these truncated prisms are given.
 Using the necessary construction, and on the given start lines, draw the development of the prism.
 Note: Place the joint line along *XX*.

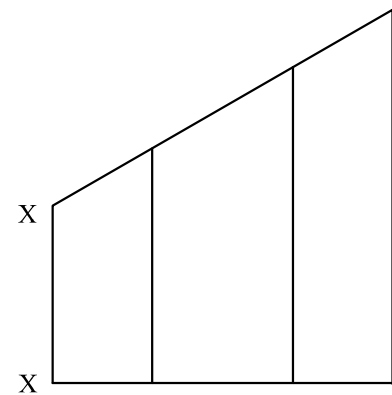
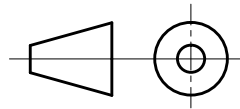
14 marks



MODEL BUILDING



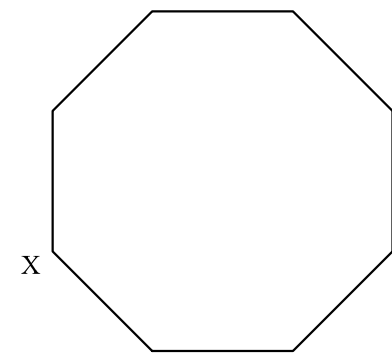
TRUNCATED PRISM



FRONT VIEW



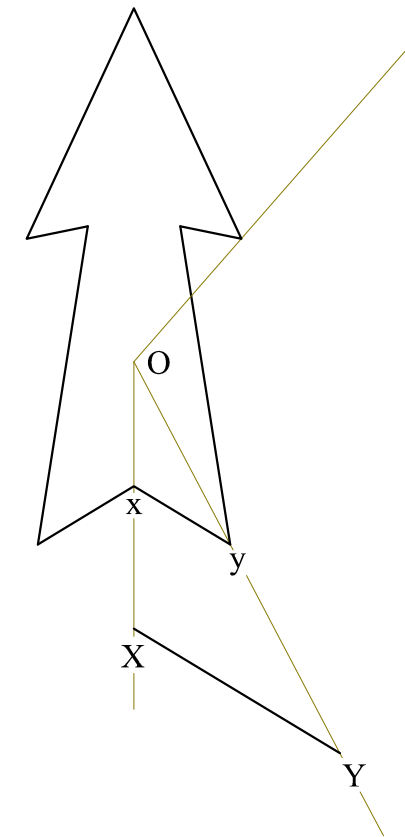
DEVELOPMENT



PLAN

Question 5. The drawing given below shows the outline of an arrow.
 Enlarge proportionally the size of the drawing by geometrical means
 such that line *xy* is enlarged to line *XY*.

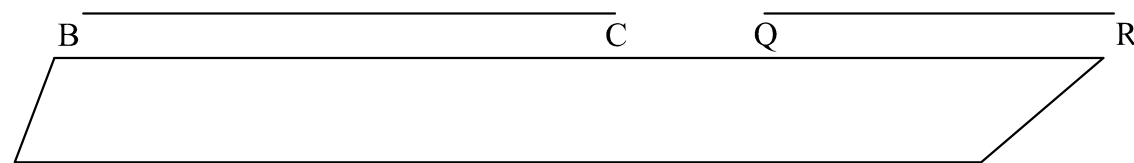
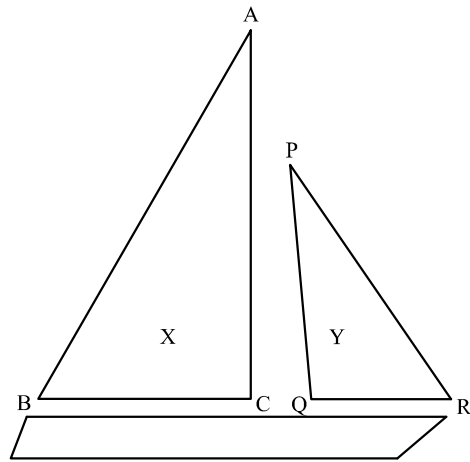
12 marks



Question 6. Complete the sailing boat shown at the bottom using the following instructions:

- a) Sail X: Construct a triangle ABC on base BC where angle B is 60° and angle C is 90° . Both angles must be constructed using the compass.
- b) Sail Y: Construct a triangle PQR on base QR where angle Q is 95° and PR is 95mm. Use your protractor where required.

12 marks



Question 6. The flower shown below is based on a regular pentagon.

Complete a similar flower started at the bottom by:

- a) constructing a regular pentagon on base AB,
 - b) drawing the arcs by placing the compass at the corners of the pentagon.
- Colour your flower using coloured pencil.

10 marks

