

---

## TECHNICAL DRAWING

*(Three hours)*

*Answers to this Paper must be written on the paper provided separately.*

*You will **not** be allowed to write/draw during the first **15** minutes.*

*This time is to be spent in reading the question paper.*

*The time given at the head of this Paper is the time allowed for writing the answers.*

---

*Attempt **five** questions in all.*

*You must attempt **three** questions from **Section A** and **two** questions from **Section B**.*

*The questions must be answered in full scale.*

*All construction lines must be shown.*

*All dimensions are in millimetres unless specified otherwise.*

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

---

### SECTION A (42 Marks)

*Attempt **any three** questions from this Section*

#### Question 1

The distance between two stations A and B is 100 kilometres. Its equivalent distance on the railway map measures only 2.5 cm.

Find the Representative Fraction of the scale.

Draw a diagonal scale to show a single kilometre.

Indicate on the same scale the following distances:

(a) 577 km.

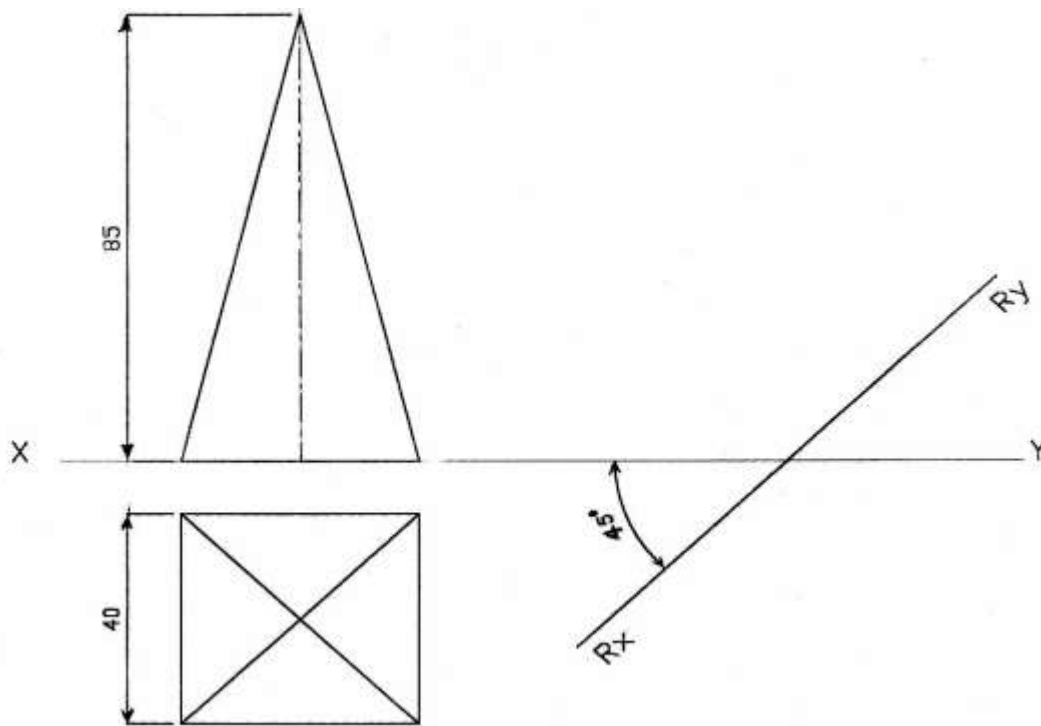
(b) 455 km.

[14]

**Question 2**

- (a) Describe an equilateral triangle about a circle of 70 mm diameter. [4]
- (b) Draw a regular pentagon of side 55 mm and inscribe in it the same number of equal circles as the sides of the pentagon, each circle touching one side of the pentagon and two of the other circles externally. [5]
- (c) Draw the AUXILIARY TOP VIEW of the square pyramid shown in **Figure 1** given below. The auxiliary plane  $RxRy$  is inclined at  $45^\circ$  to the H.P. [5]

Given: Length of the side = 40 mm  
Height = 85 mm



**Figure 1**

**Question 3**

Draw the front view, the top view and the left hand side view of a hexagonal prism, having its base on the H.P (Horizontal Plane) and one of the edges of the base is inclined at  $60^\circ$  to the V.P (Vertical Plane). Use the FIRST ANGLE method of projection. Also draw the development of the lateral surface of this prism.

Given: Side of the base = 50 mm

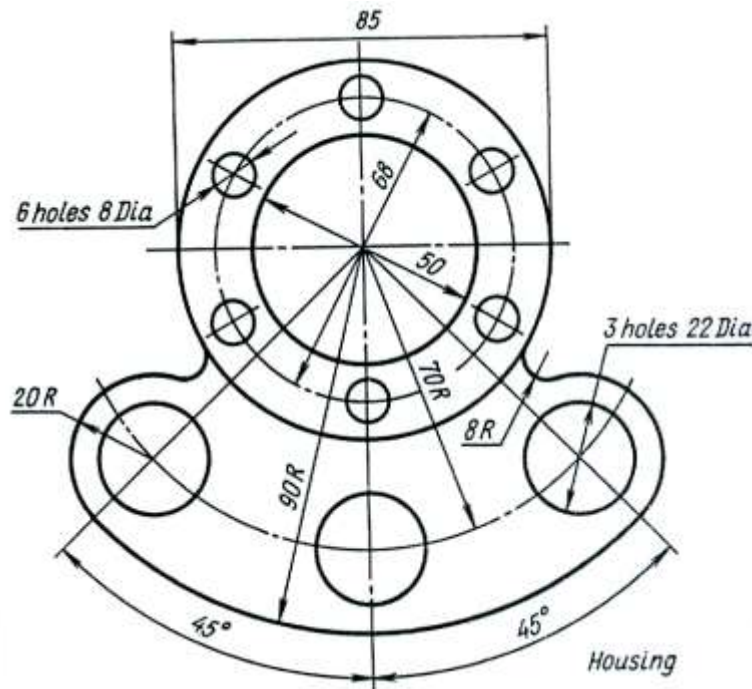
Length of the axis = 75 mm

[14]

**Question 4**

Copy **Figure 2** given below using a scale of 1:1.

[14]



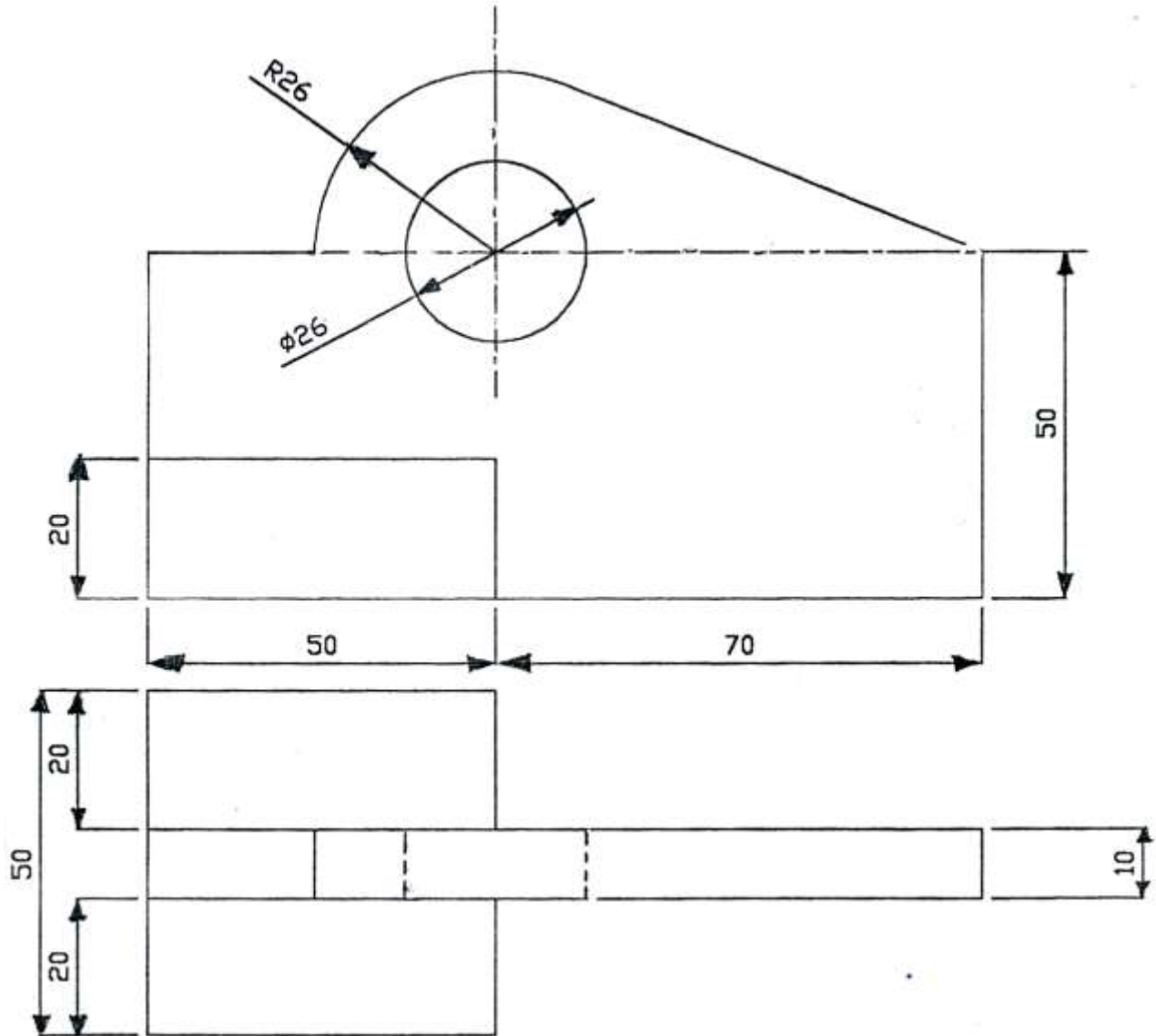
**Figure 2**

**Question 5**

Refer to **Figure 3** given below.

Draw the ISOMETRIC VIEW. (Do not insert any dimensions).

[14]



**Figure 3**

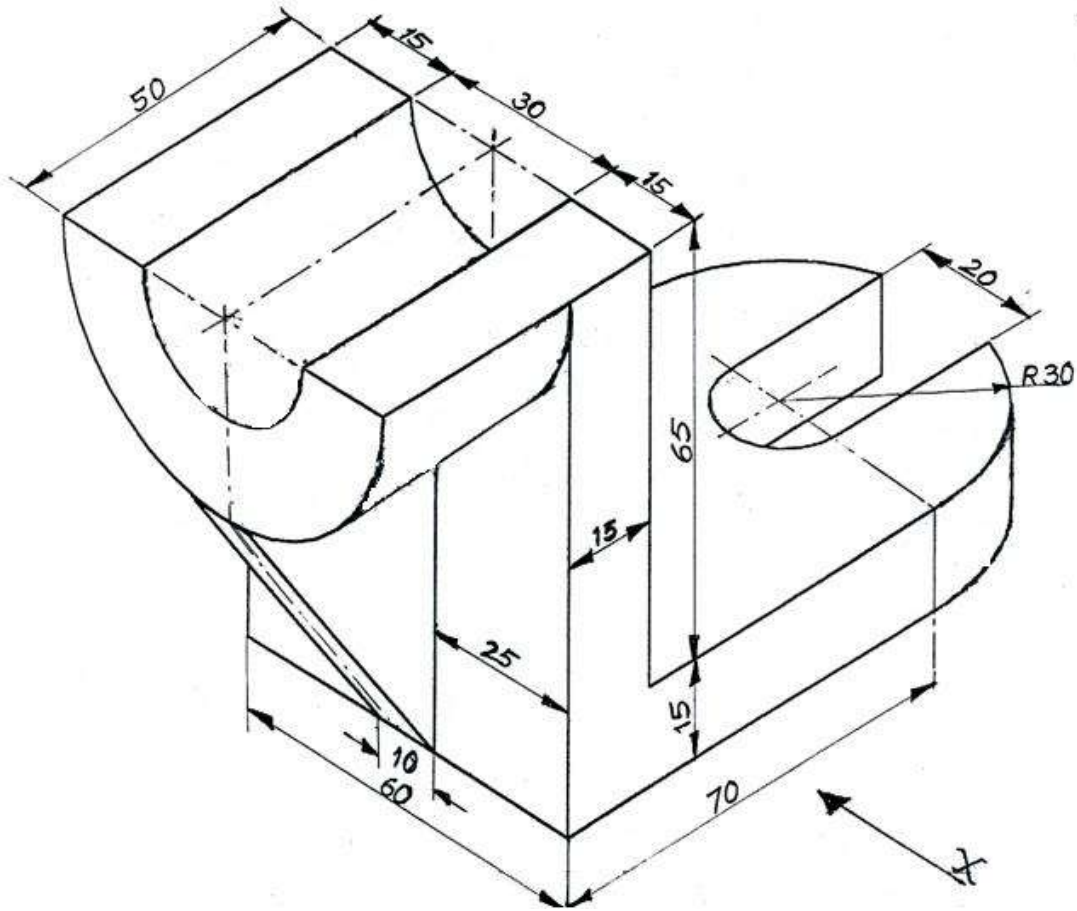
**SECTION B (38 Marks)**

*Attempt any two questions from this Section*

**Question 6**

The isometric view of an object is shown in **Figure 4** given below. Draw the following views in full scale using the THIRD ANGLE method of projection.

- (a) The sectional front view. [Section A –A] [7]
- (b) The side view from the left. [6]
- (c) The top view. [6]

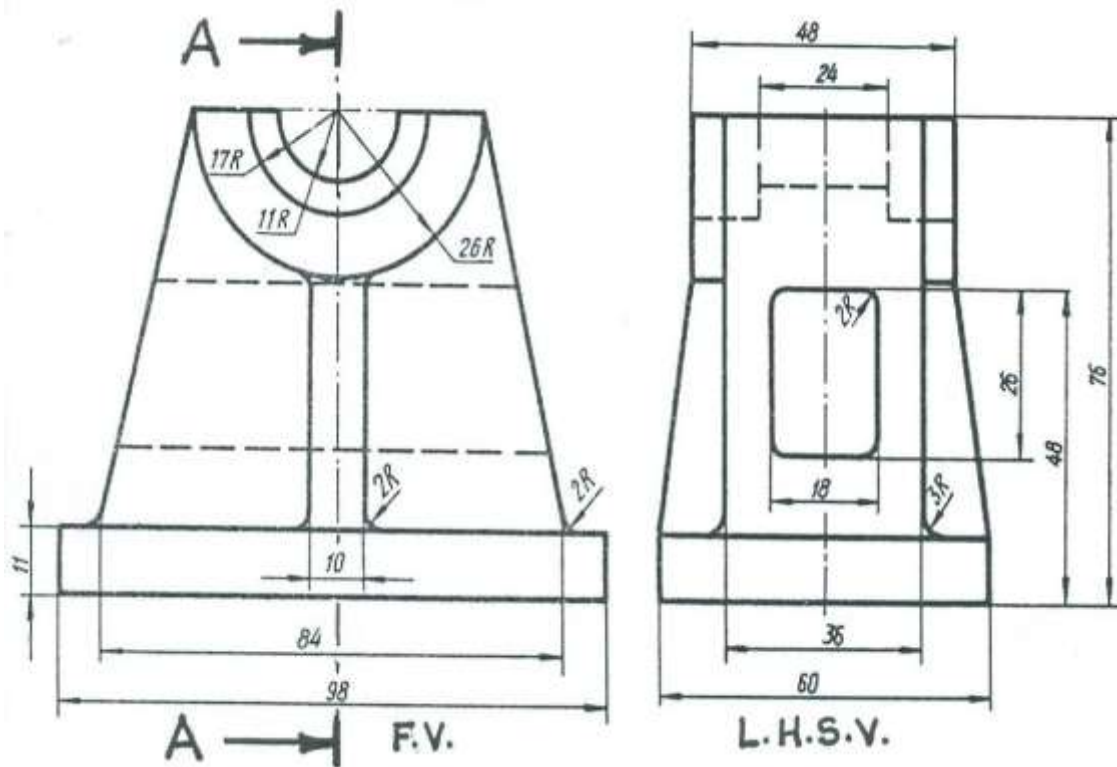


**Figure 4**

### Question 7

The **Figure 5** given below shows two views of a model. Draw:

- (a) The front view. [5]
- (b) The top view. [7]
- (c) The sectional side view from the left [Section A-A]. Use the FIRST ANGLE method of projection. [7]



**Figure 5.**

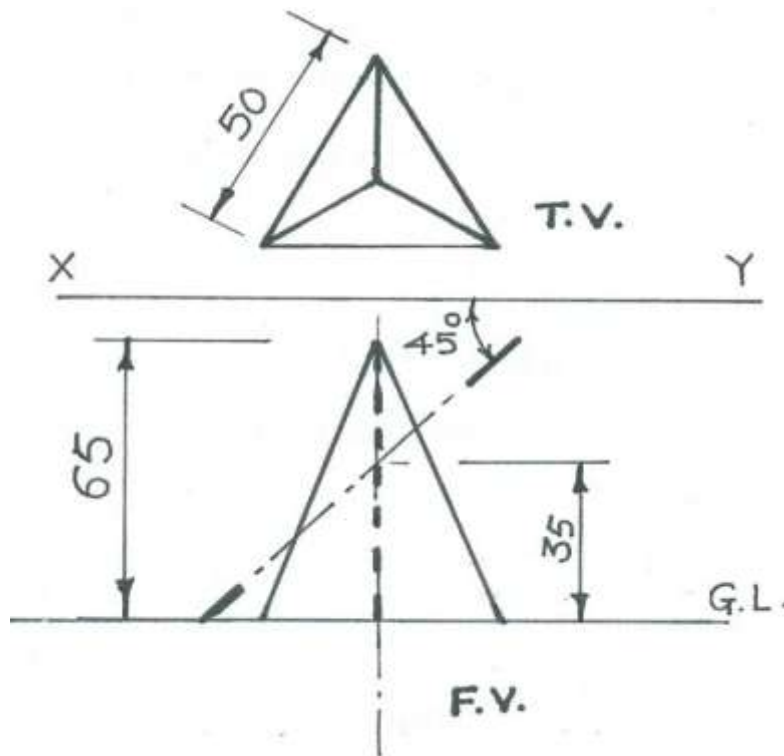
---

**Question 8**

In **Figure 6** given below a triangular pyramid of height 65 mm and base of side 50 mm is resting on its base on the ground with one of its base sides parallel to the V.P. It is cut by a sectional plane inclined at  $45^\circ$  to the H.P. and passes 35 mm above the base along the axis.

Draw:

- (a) A sectional top view. [6]
- (b) The true shape of the section. [6]
- (c) The development of lateral surface. [7]



**Figure 6.**