



2023

QUESTION PAPER



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TECHNICAL DRAWING APPLICATIONS

Maximum Marks: 100

Time allowed: Three hours

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

*You will **not** be allowed to write 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**.*

Each section should be answered on a separate paper.

All questions must be answered in full scale.

All construction lines must be shown.

All dimensions are in millimeters unless specified otherwise.

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

SECTION A (48 Marks)

*Answer any **three** questions from this section.*

Question 1

- (i) Find the circumference of a circle of radius 32 mm geometrically. [6]

Measure and record the length of the circumference.

- (ii) Construct an Ellipse by ARCS OF CIRCLES METHOD. [10]

Given: - Major Axis = 135 mm and Minor axis = 80 mm.

This paper consists of 6 printed pages.

Question 2

Refer to Figure 1 given below.

[16]

Copy the given template.

(Insert all dimensions.)

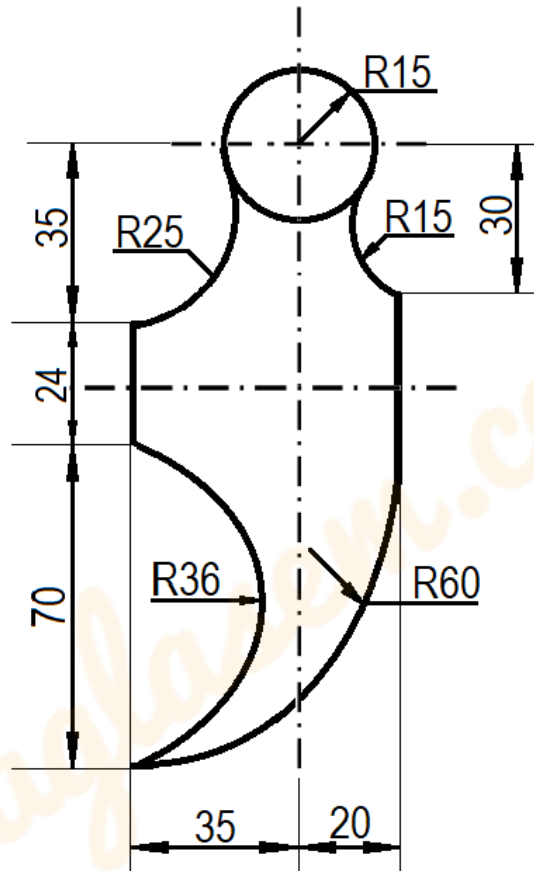


FIGURE 1

Question 3

On a map a line 2 cm long was marked as 5 m. Calculate the R.F.

[16]

Construct a PLAIN SCALE having the same R.F. and long enough to measure 27 metres.

Show the data and the working neatly.

Taking the measurements from the scale constructed, draw a circle of radius 13 m and inscribe in it an equilateral triangle.

Question 4

Draw Front View (F.V.), Top View (T.V.) and Left Hand Side View (L.H.S.V.) of a right square prism whose axis is inclined at 45° to Horizontal Plane (H.P.) and parallel to Vertical Plane (V.P.) One side of the base is inclined at 30° to V.P. Use **FIRST ANGLE METHOD** of projection. [16]

Given: Side of base = 40 mm.

Axis = 75 mm.

Question 5

Refer to Figure 2 given below. It shows the Front View (F.V.) and the Right Hand Side View (R.H.S.V.) of an object in the first angle method of projection. Draw the OBLIQUE VIEW when the receding axis is inclined at 45° to the horizontal. [16]

(Do not insert any dimensions.)

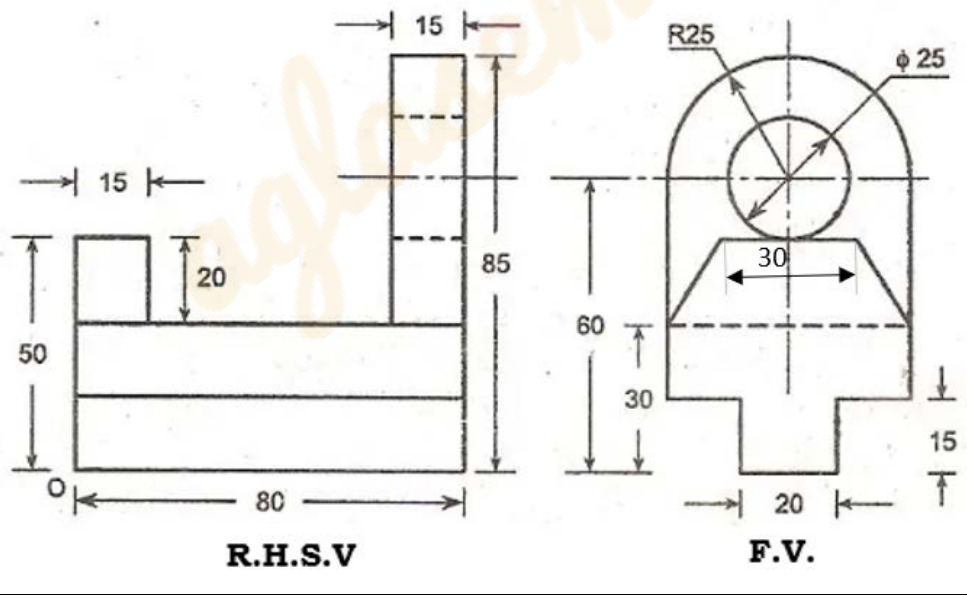


FIGURE 2

SECTION B (52 Marks)

Answer any **two** questions from this section.

Question 6

Refer to Figure 3 given below. It shows the Front View (F.V.) and the Top View (T.V.) of an object in the first angle method of projection. [26]

Draw its ISOMETRIC VIEW.

(Do not insert any dimensions.)

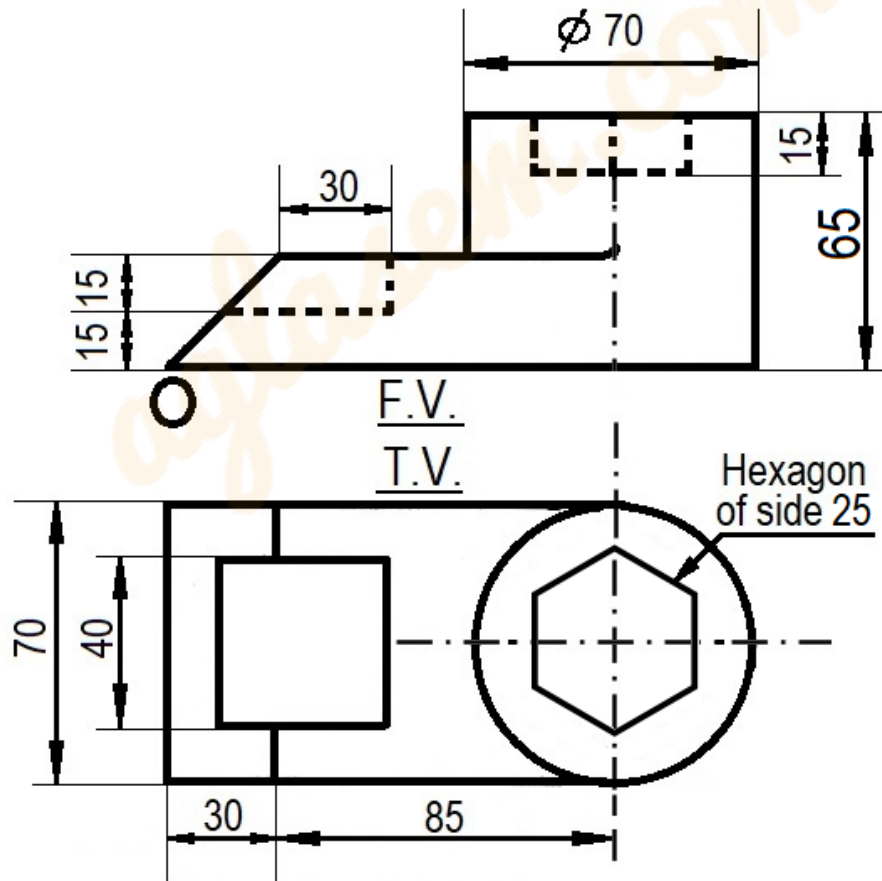


FIGURE 3

Question 7

Refer to Figure 4 given below. It shows the Front View (F.V.) and the Top View (T.V.) of a right circular Cylinder in the first angle method of projection. Its axis is perpendicular to the horizontal plane and parallel to the vertical plane. The Vertical Trace (V.T.) of the cutting plane is shown in the figure. [26]

Using the FIRST ANGLE METHOD of projections, draw the:

- (i) Front View
- (ii) Sectional Top View
- (iii) Development of the lateral surface of the part P.
- (iv) True shape of the section.

Given: Diameter of the base = 60 mm

Length of axis = 80 mm.

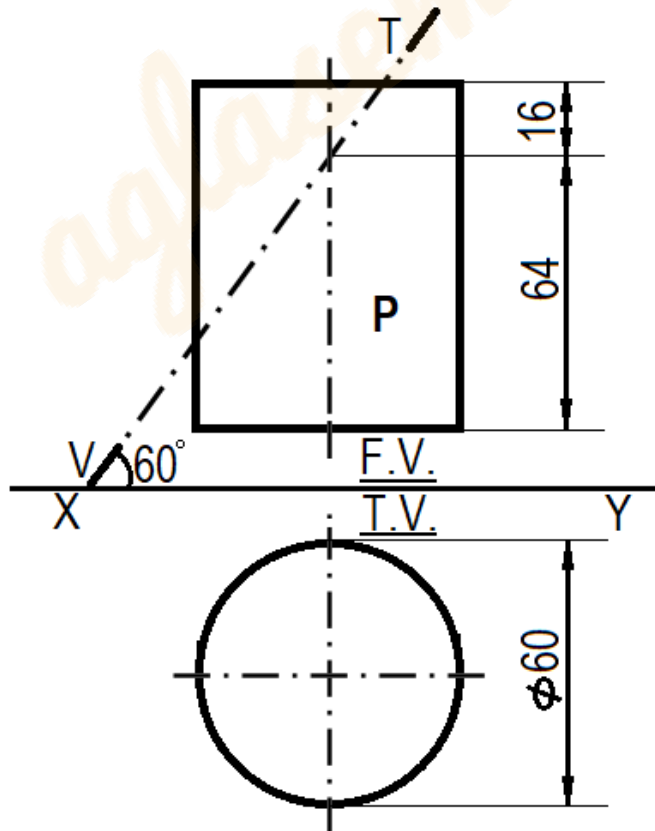


FIGURE 4

Question 8

Refer to Figure 5 given below.

[26]

Using the FIRST ANGLE METHOD of projection, draw the:

(i) Sectional Front View [Sectioned along A–A]

(ii) Top View

(Insert any 6 dimensions.)

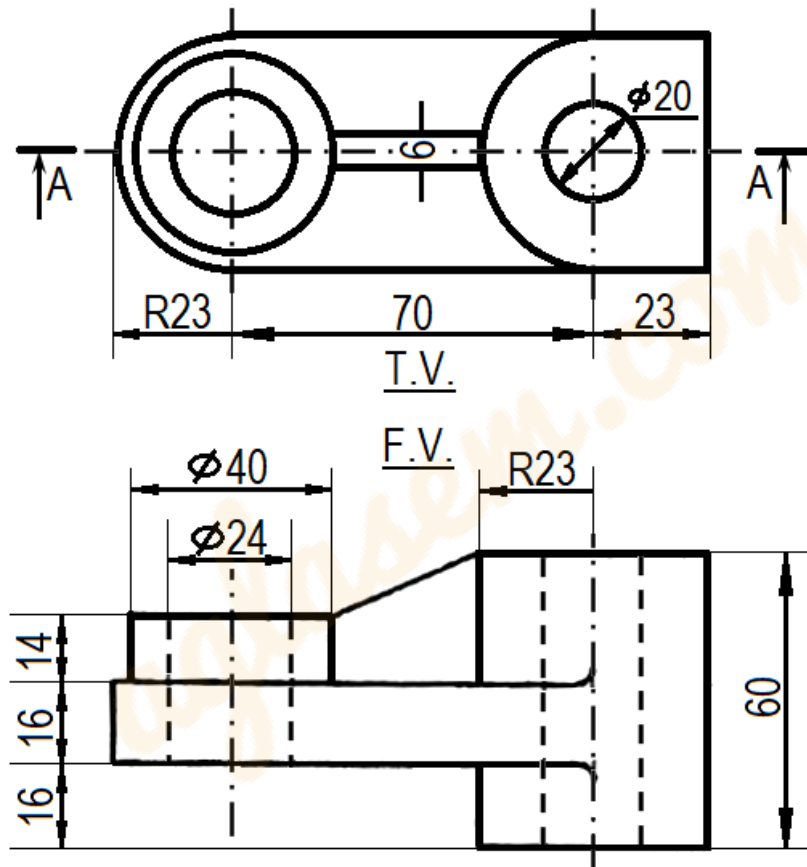


FIGURE 5