TECHNICAL DRAWING APPLICATIONS

(*Three hours*)

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

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

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

The time given at the head of the paper is the time allowed for writing the answers.

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*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 question or parts of questions are given in brackets [ ].

SECTION A (48 Marks)

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

Question 1.

Draw the Front View, Top View, Right Hand Side View and development of the lateral surface of a right hexagonal pyramid whose axis is perpendicular to the horizontal plane (H.P.) and parallel to the vertical plane (V.P.). One side of its base is inclined at 45° to the V.P.   [16]

Use the **THIRD ANGLE METHOD** of projection.

Given: Side of the base = 30mm

      Length of the axis = 75mm.

Question 2.

Refer to **Figure 1** given below.   [16]

Copy the given template.

(Insert any 6 dimensions.)

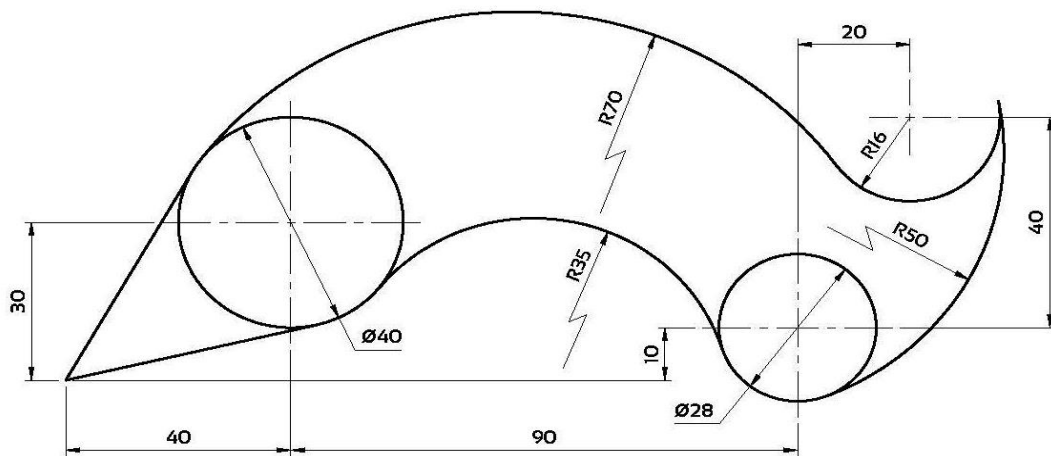

Figure 1

Question 3.

Given: R. F. = 1: 500.   [16]

Construct a **PLAIN SCALE** to measure the length upto 60 metres.

Taking the measurements from the scale constructed, draw a neat scale diagram of a jogging track shown in the **Figure 2** given below.
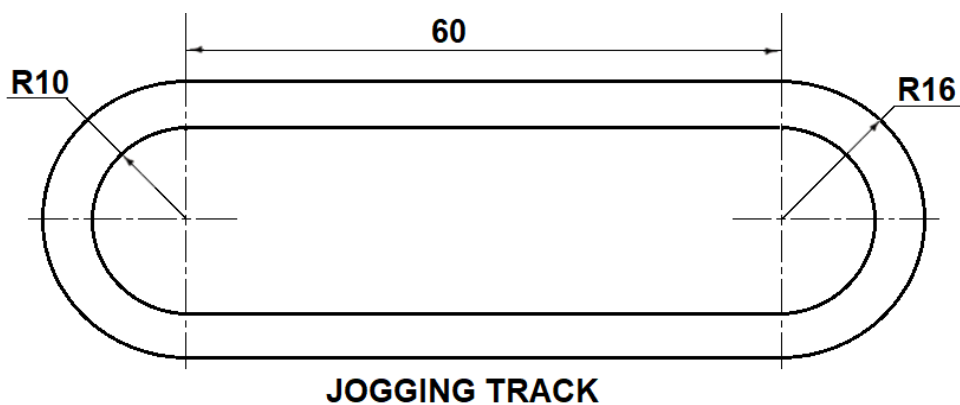
Show the data and the working neatly.

Figure 2

Question 4.

(a) Construct a Parabola by **TANGENT METHOD**.   [10]

Given: - Base =140 mm and Length of axis = 85 mm.

(b) Draw a transverse common tangent to two circles of radii 50 mm and 35 mm   [6]

with their centres 115 mm apart.

Question 5.

Refer to **Figure 3** given below. It shows the Front View (F.V.) and the Left Hand Side   [16]
View (L. 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.
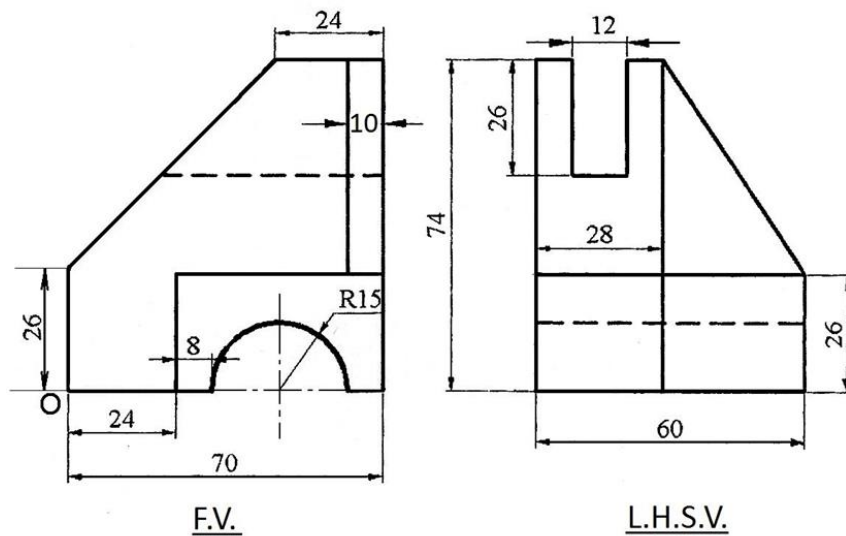(Do not insert any dimensions.)

Figure 3

Question 6.

Refer to **Figure 4** given below. It shows the Front View (F.V.) and the Top View   [26]
(T. V.) of an object in the **FIRST ANGLE METHOD** of projection.
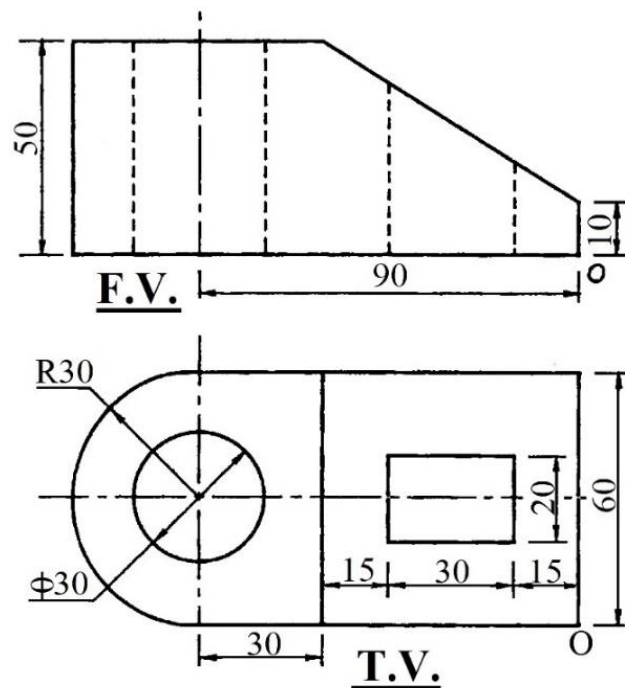
Draw its **ISOMETRIC VIEW**.

[Use scale 1 : 1]

Figure 4

Question 7.

Refer to **Figure 5** given below. It shows the Front View (F.V.) and the Top View [26] (T.V.) of a right square pyramid in FIRST ANGLE METHOD of projection. Its axis is perpendicular to the horizontal plane (H.P.) and parallel to the vertical plane (V.P.). All sides of the base are equally inclined at 45° to the V.P. It is cut by a section plane whose horizontal trace (H.T.) makes an angle of 45º with the X – Y line. Using FIRST ANGLE METHOD of projection draw the:

(a) Sectional Front View

(b) Top View

(c) Sectional L.H.S.V.

(d) Development of the lateral surface.
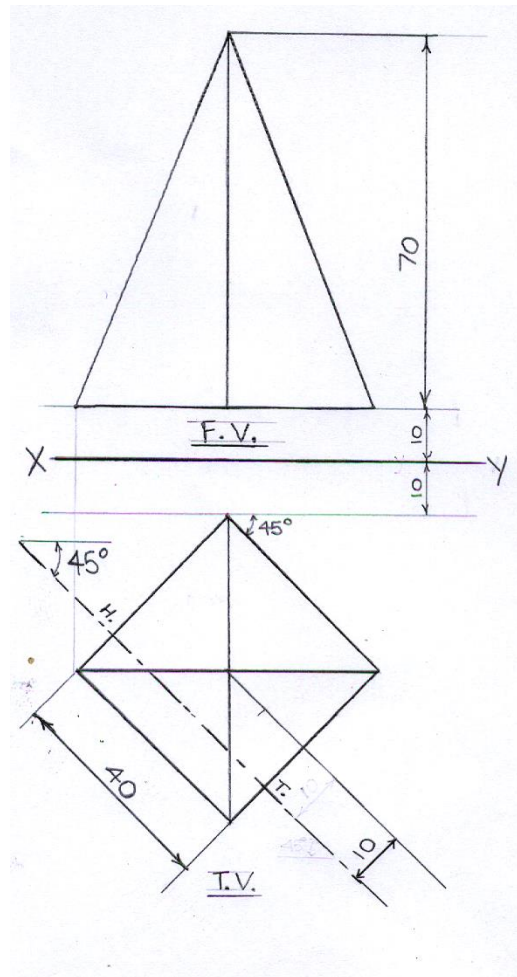
Given: Side of base = 40 mm

Length of axis = 70 mm

Figure 5

Question 8.

Refer to **Figure 6** given below. [26]

Using the **FIRST ANGLE METHOD** of projection, draw the:

(a) Half Sectional Front View [Section along A–B-C]

(b) Top View
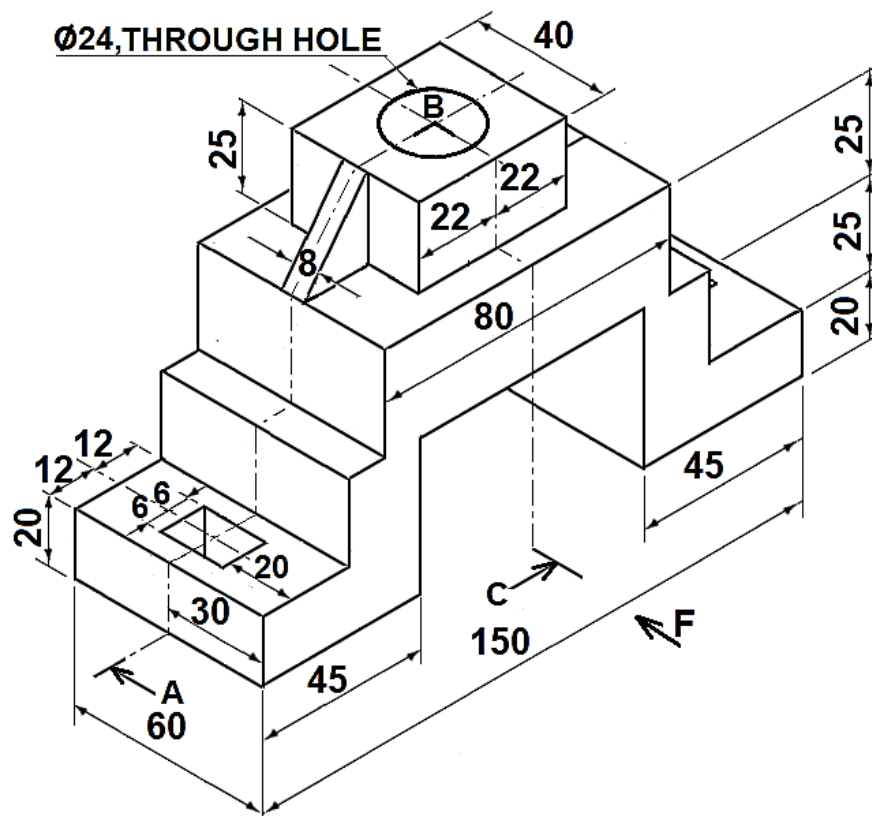
(c) Left Hand Side View.

(Insert any 6 dimensions.)

Figure 6