TECHNICAL DRAWING APPLICATIONS

(Three hours)

Answers to this paper must be written 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 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 millimetres 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

Construct a Parabola of 120 mm base and axis of 80 mm by the Tangent method.   [16]

Question 2.

(a)   Construct a parallelogram ABCD having its perimeter = 240 mm.

AB : BC = 5 : 3 and angle BAD = 60°.

On side AD draw an equilateral triangle ADE.   [8]

(b)   Draw the front view, the top view and the left hand side view of a hexagonal right prism when its axis is parallel to the horizontal plane and parallel to the vertical plane. Two sides of the base are parallel to the horizontal plane. Use the THIRD ANGLE method of projection.   [8]

Question 3

Figure 1 given below shows two views of a block in the FIRST ANGLE method of projection. Draw an oblique view of the block if the receding axis is inclined at 45° to the horizontal plane. [16]
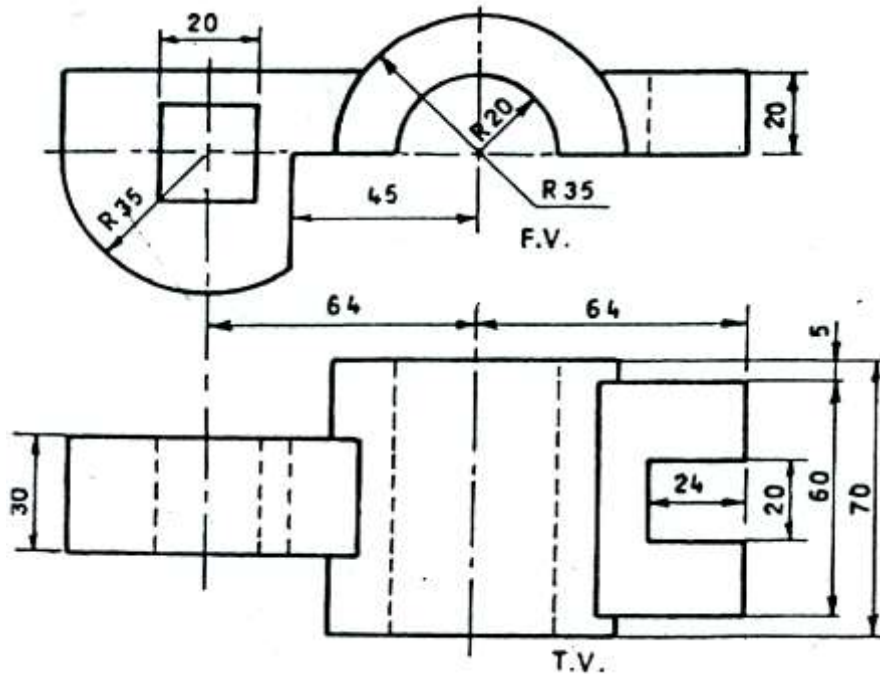

Figure 1

Question 4.

Construct a diagonal scale.

Given : R.F. = 1 : 40, maximum length = 4 m.

Taking the measurements from this scale, construct a regular pentagon ABCDE of side = 2.37 m.

Draw a circle of radius = 1.42 m with the vertex A of the pentagon as its centre.

Draw two tangents to this circle from the vertex C of the pentagon. [16]

Question 5.

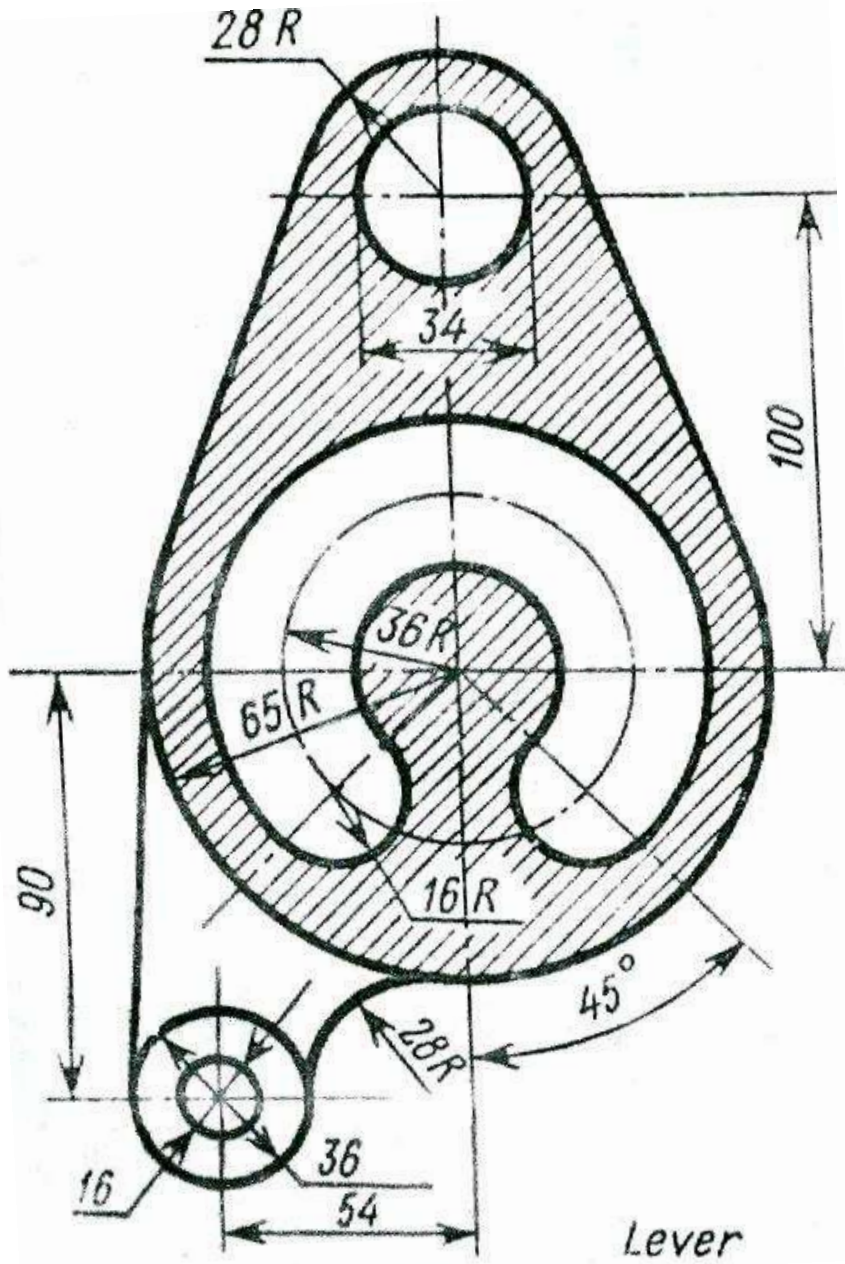**Figure 2** given below shows a LEVER. Copy the figure using a scale 1:1. [16]

Figure 2

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

Question 6.

Figure 3 given below is shown in isometric view. Draw:

(a) the full sectional elevation (section A-A).

(b) the full sectional right hand side view (Section B-B).

(c) the plan.

Use the THIRD ANGLE method of projection.

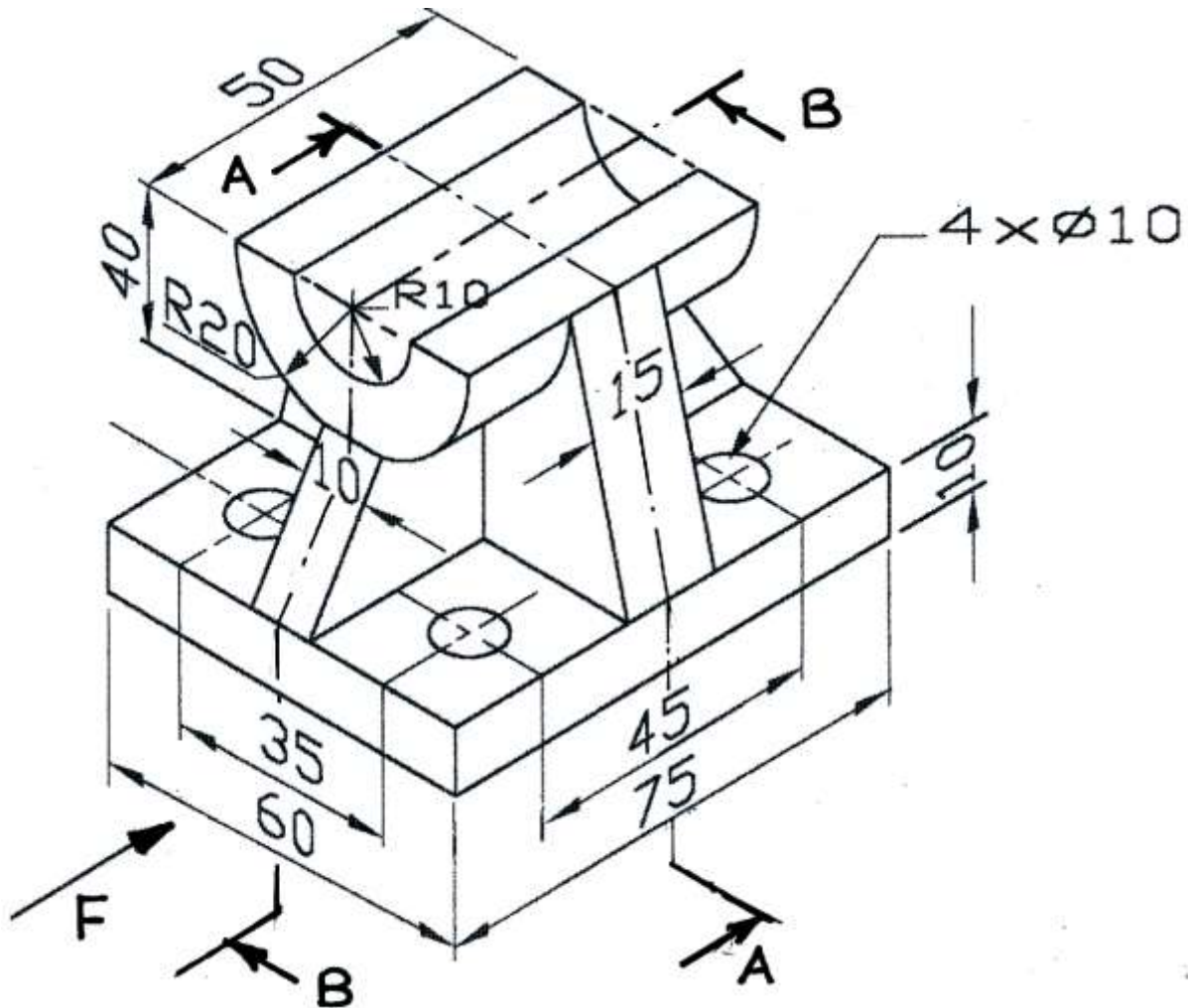Insert any six dimensions.   [26]

Figure 3

Question 7.

Copy the isometric view of a cast iron block as shown in **Figure 4** given below. Do not insert any dimensions. [26]
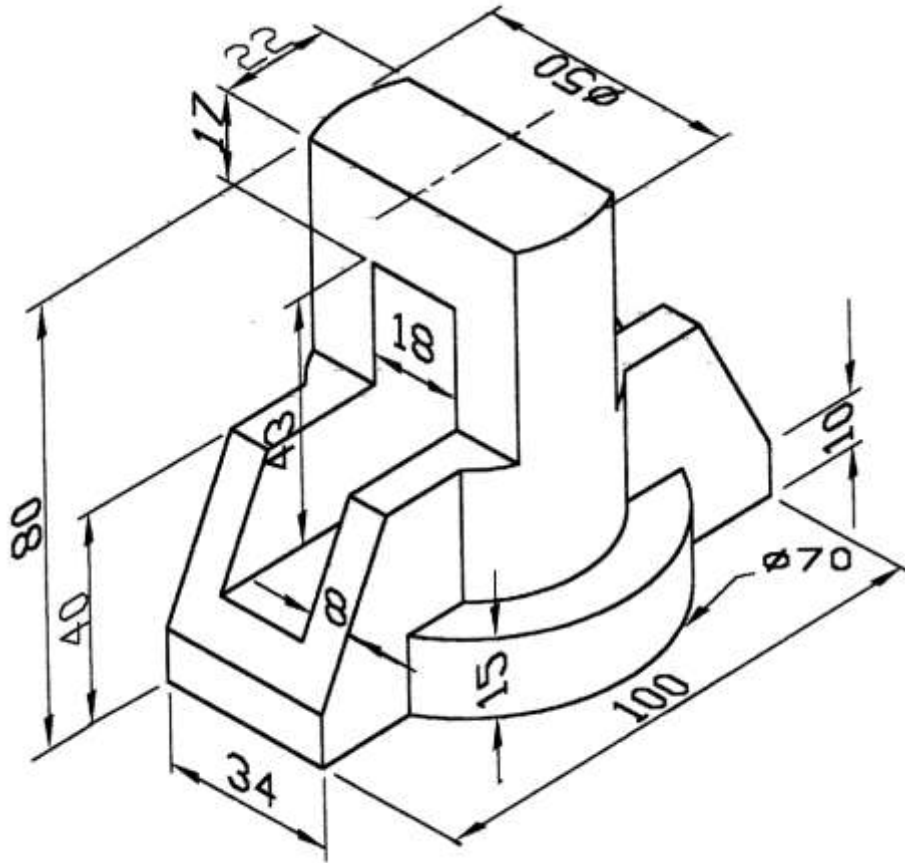

Figure 4

Question 8.

Figure 5 given below shows two views of a square prism which is resting on the H.P. The sides of the base are equally inclined to the V.P. It is cut by a plane, inclined at 60° to the H.P. and perpendicular to the V.P. The vertical trace (V.T.) of the section plane is shown in the figure. Draw the

(a)   front view.

(b)   sectional top view.

(c)   auxiliary top view of the part P of the prism on an auxiliary plane parallel to the section plane.
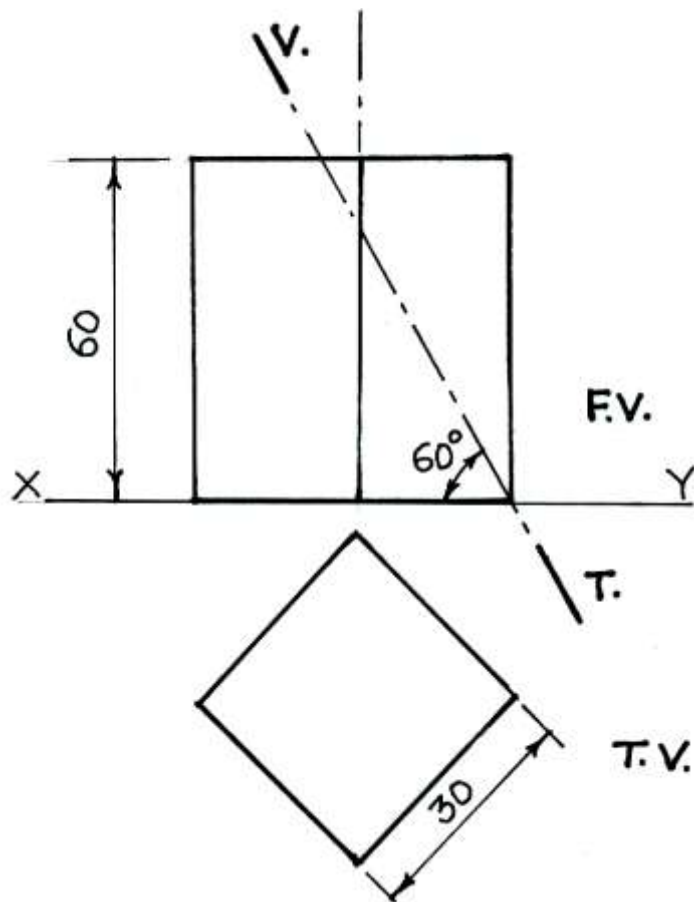
Use the FIRST ANGLE method of projection.   [26]

Figure 5