19103

21718

4 Hours / 100 Marks Seat No. | | | | | | | | |

Instructions : (1) All Questions are *compulsory.*
(2) Answer each next main Question on a new page.
(3) Illustrate your answers with neat sketches wherever necessary.
(4) Figures to the right indicate full marks.
(5) Assume suitable data, if necessary.
(6) Use of Non-programmable Electronic Pocket Calculator is permissible.
(7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.
(8) Use drawing sheets only.

Marks

1. Attempt any FIVE of the following : **20**

(a) Answer the following :

(i) Explain use of lengthening bar.

(ii) Explain use of both set squares.

(iii) What are the different types of lines ?

(iv) Explain uses of different grades of pencils.

(b) Write the names of the methods (min four) to construct an ellipse.

(c) Describe a circle passing through three corners of the triangle having 60 mm, 50 mm & 40 mm sides.

(d) Inscribe a regular pentagon in a circle of 30 mm radius and measure the side of pentagon.

(e) Divide an angle of 45º.

(f) Divide a straight line of 108 mm into nine equal parts.

(g) Draw a perpendicular to a line AB of 70 mm from a point which is 40 mm above the line and 50 mm away from end A.

2. Attempt any TWO of the following : **16**

(a) Draw free hand sketches of any four furniture items used in Architect's office. State materials used for furniture and give all dimensions.

(b) Draw projection of an isosceles triangle of 55 mm height and 40 mm base having its base perpendicular to VP and 15 above HP and triangle is inclined to VP. Front view of the triangle looks like an equilateral triangle. Find out the angle of the triangle with VP.

(c) Draw projection of a circle of 60 mm diameter inclined to HP in such a way that in plan the circle looks like an ellipse of minor axis 40 mm. The circle is perpendicular to VP and its centre is 45 mm in front of VP and 35 mm above HP.

3. Attempt any TWO of the following : **16**

(a) Draw surface development of a circular cone of 55 mm height and base radius of 25 mm.

(b) The length of front elevation of line parallel to HP and inclined at 30º to VP is 50 mm. One end of the line is 20 mm above HP and 15 mm in front of VP. Draw projections of line and determine its true length.

(c) A square of 45 mm side is perpendicular to VP and inclined to HP. Its top view is a rectangle of 30 mm × 45 mm. Draw projections and find out the angle of the square with HP. Assume suitable distances of the square from HP & VP.

4. Attempt any TWO of the following : **16**

(a) A cube of 60 mm long edges is resting on ground with its vertical faces equally inclined to VP. One top corner of the cube is cut by a section plane perpendicular to VP and true shape of the section is equilateral triangle of 50 mm side. Draw sectional elevation, sectional plan & true section. Also find out the angle of the section plane with HP.

(b) A pentagonal pyramid of 35 mm base edge and 75 mm long axis is resting on HP with one of its slant edges parallel to VP. It is cut by a section plane perpendicular to VP and passing through the centre of the axis and making angle of 30º with HP. Draw sectional elevation, sectional plan and true section.

(c) Draw projections of a regular hexagon of 30 mm side having one of its sides in the HP and perpendicular to VP. The hexagon is inclined at an angle of 45º with the HP. Assume suitable distance of the hexagon from the VP.

5. Attempt any TWO of the following : **16**

(a) Draw sketches of conventional representation of the following as per IS962 :

(i) Concrete (ii) Brick

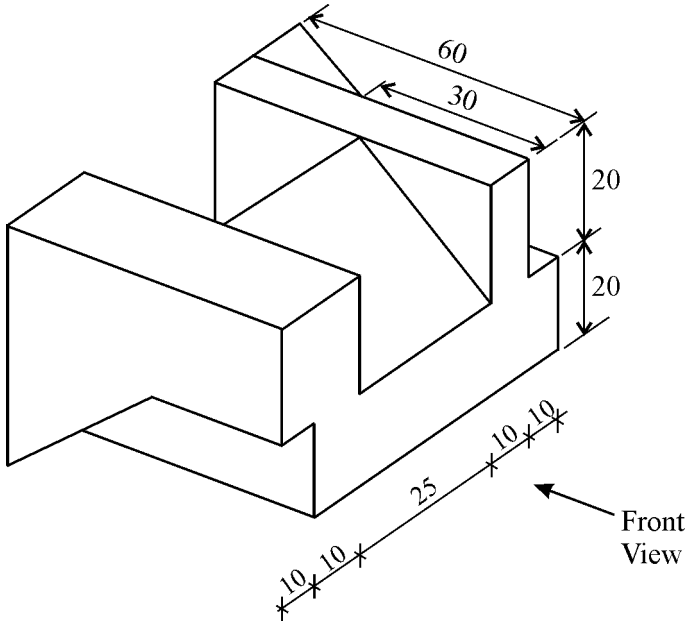
(iii) Single swing door in plan (iv) Revolving door

(b) Figure No. 1 below shows pictorial view of an object.

Draw to full scale :

(i) Front view in the direction shown in the figure

(ii) Top view



All Dimensions are in mm.

Fig. No. 1

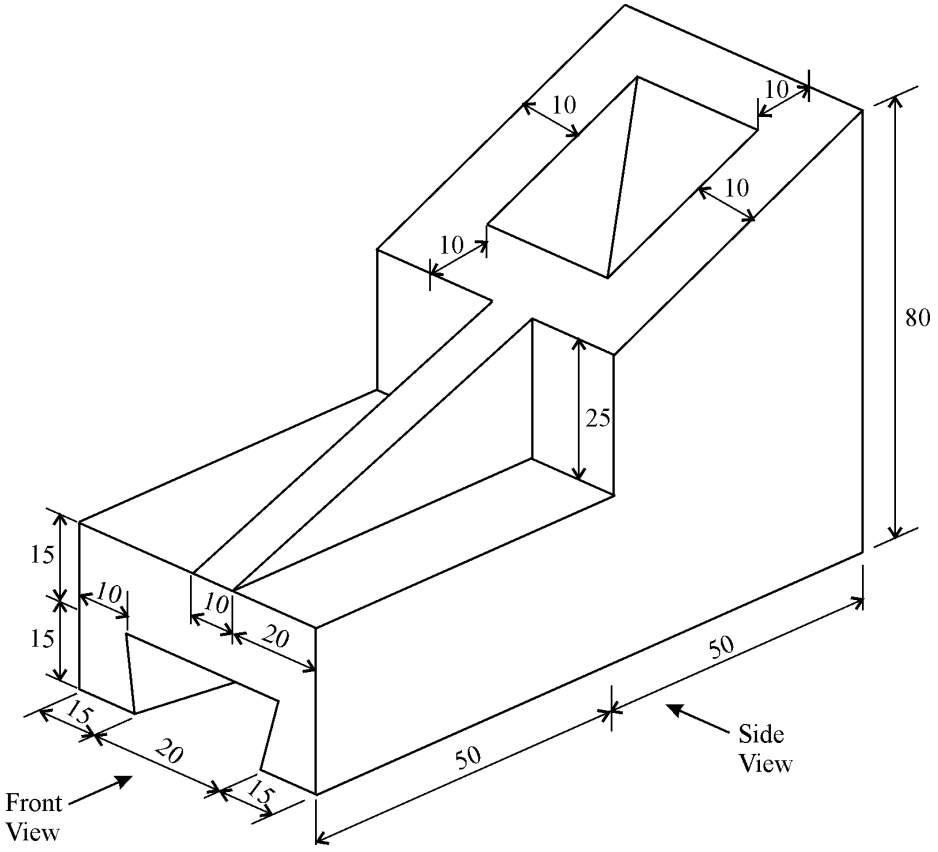
(c) (i) Write the steps in the construction of a plain scale.

(ii) Construct a scale of 1 : 4 to show centimetres and long enough to measure up to 6 decimetres.

6. Attempt any TWO of the following : **16**

(a) Draw orthographic projection of office table (wooden) of 1500 × 900 × 750 mm overall size. Assume suitable dimensions of supporting members and use suitable scale.

(b) Figure No. 2 below shows pictorial view of an object. Draw front view & side view in the direction as shown in the figure.



All Dimensions are in mm.

Fig. No. 2

(c) A square pyramid of 50 mm height and 30 mm base edge is placed on HP with its faces equally inclined to VP. It is cut by a sectional plane perpendicular to VP passing through centre of the axis of pyramid and making 30º angle with HP. Top portion of the pyramid containing apex is removed. Draw surface development of the bottom portion.