Engineering Drawing

MAY,2017

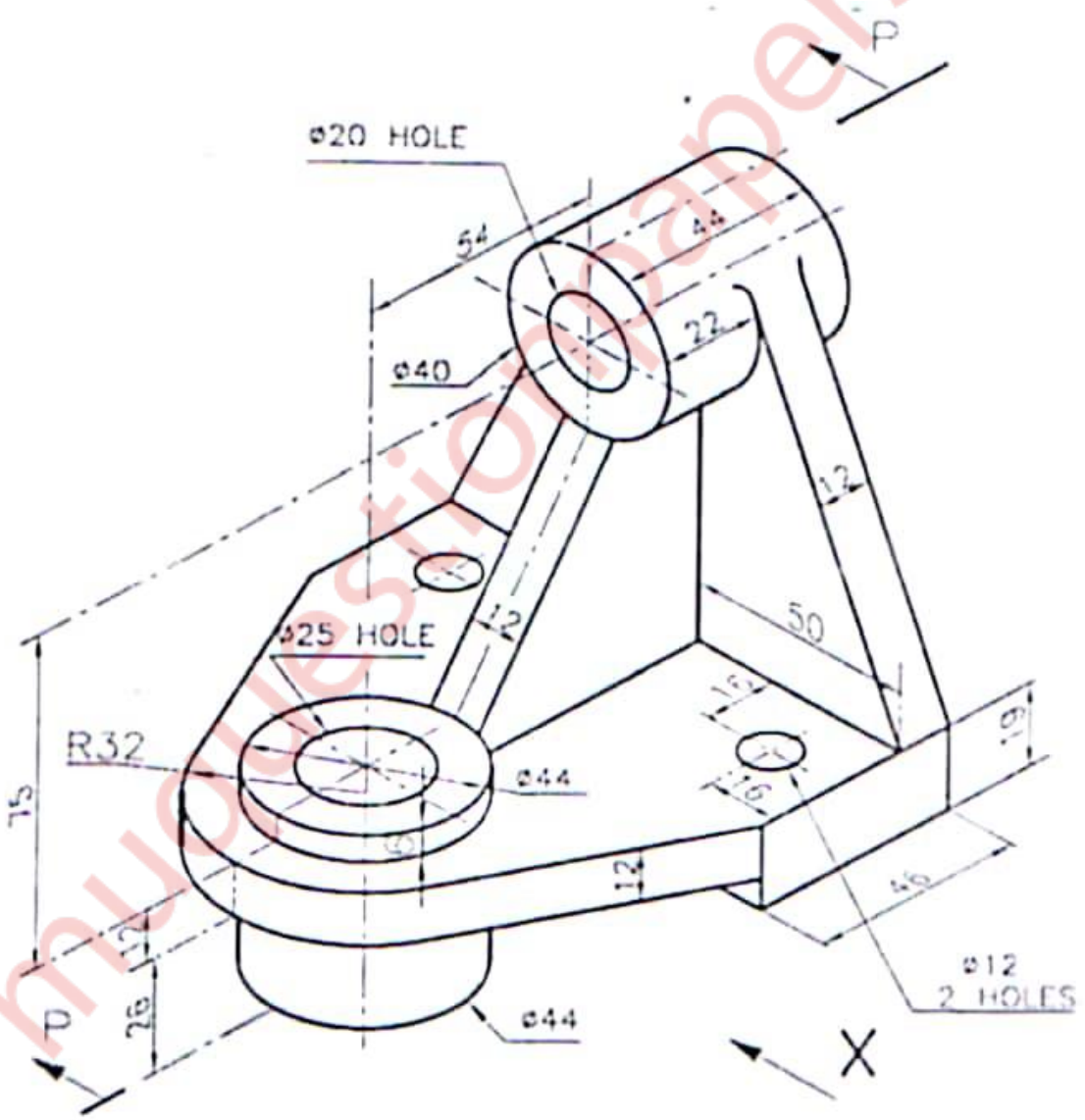
Q1] Figure given below shows two views of an object. Draw the following views to full scale:- 15 M

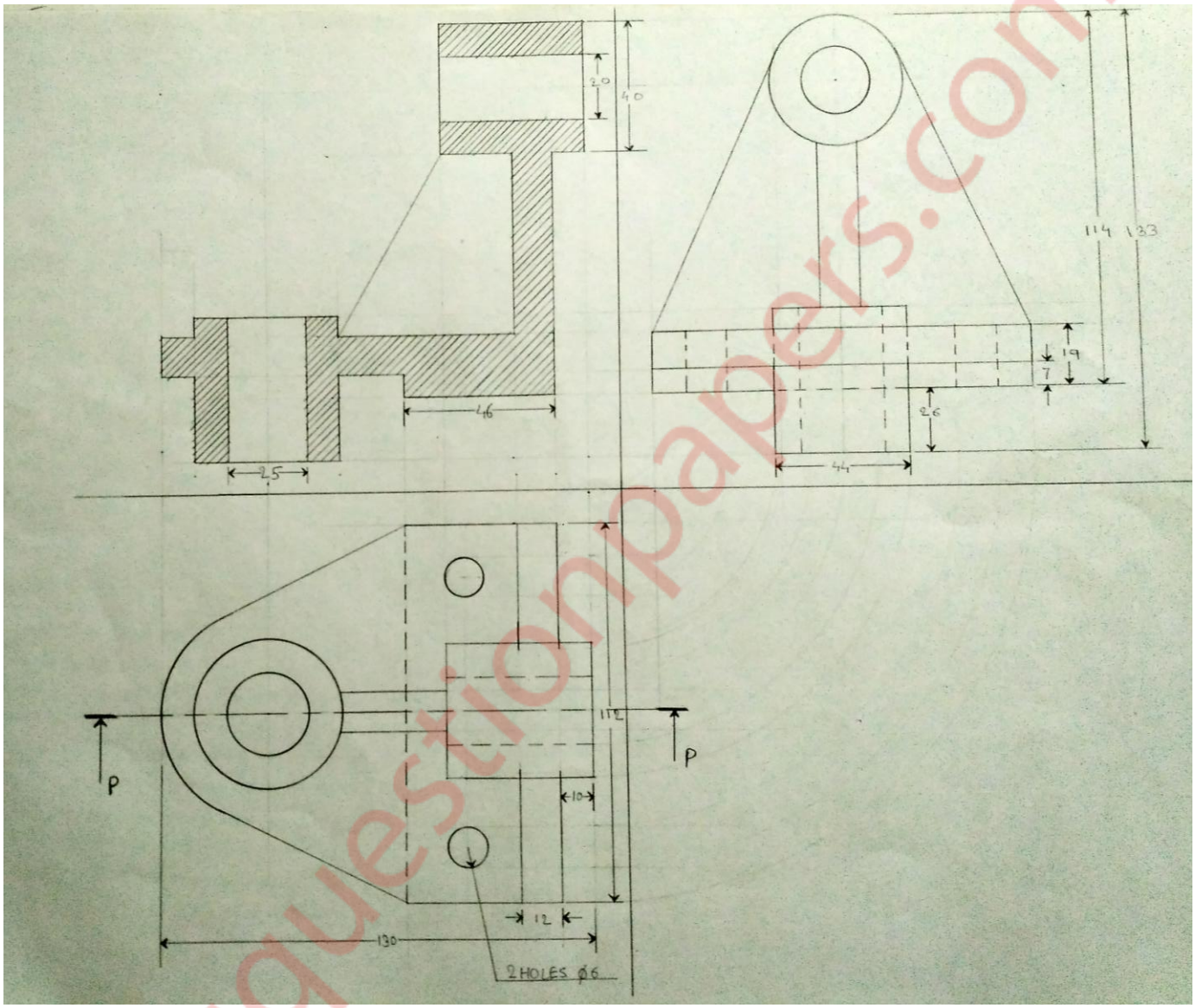
i)Sectional front view section P-P.

ii)Top view.

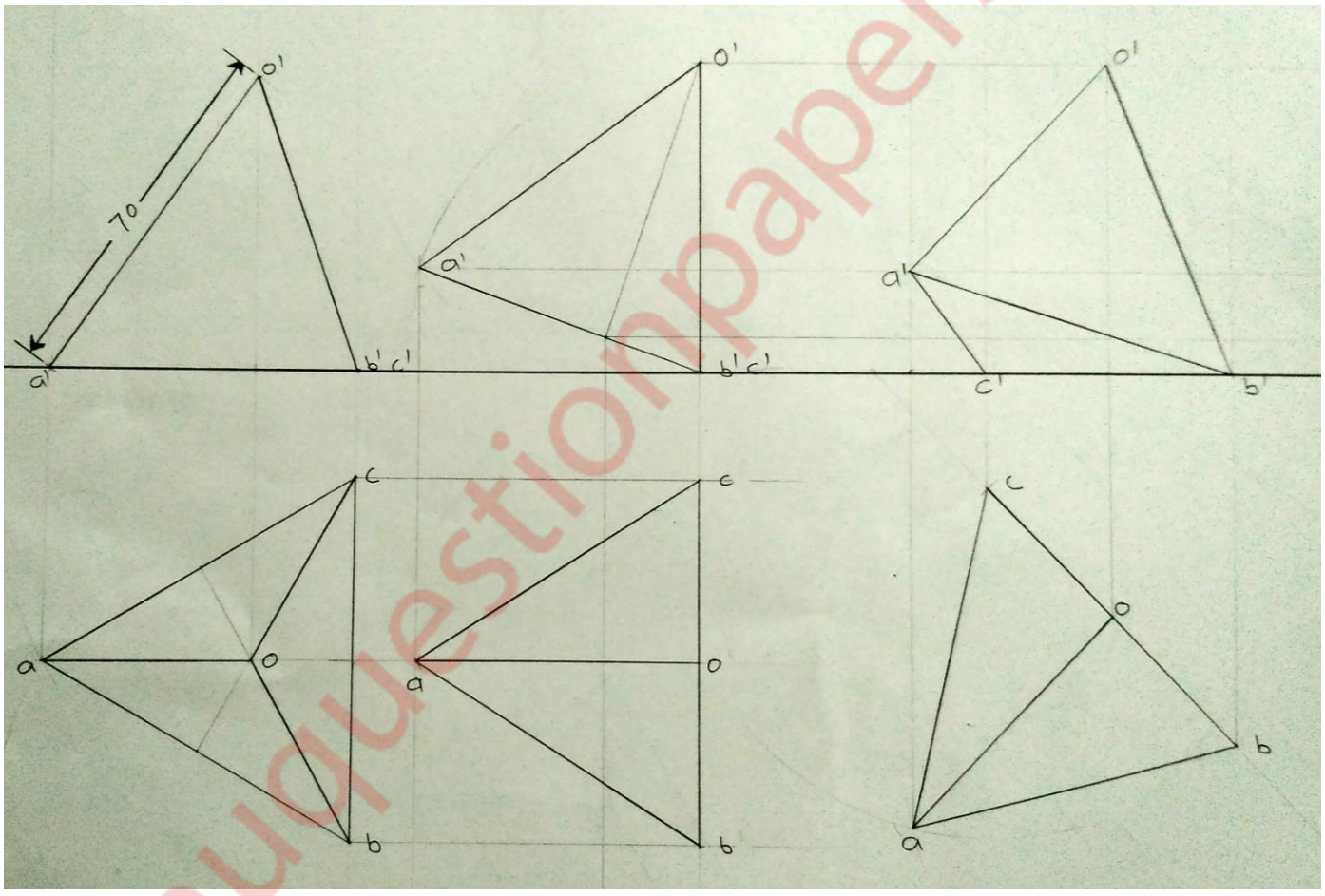
iii)Left hand side view.

iv)Insert minimum 10 dimensions.

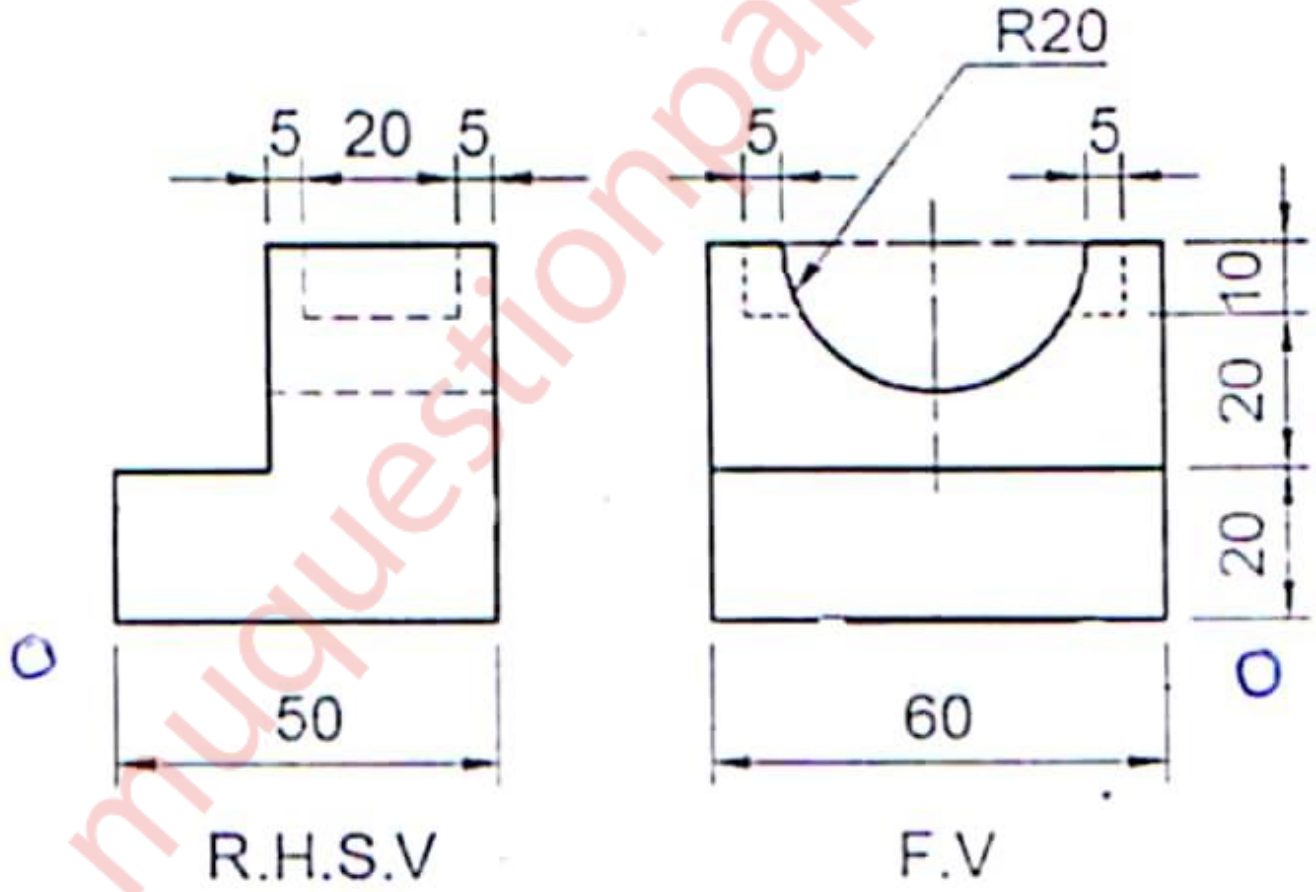


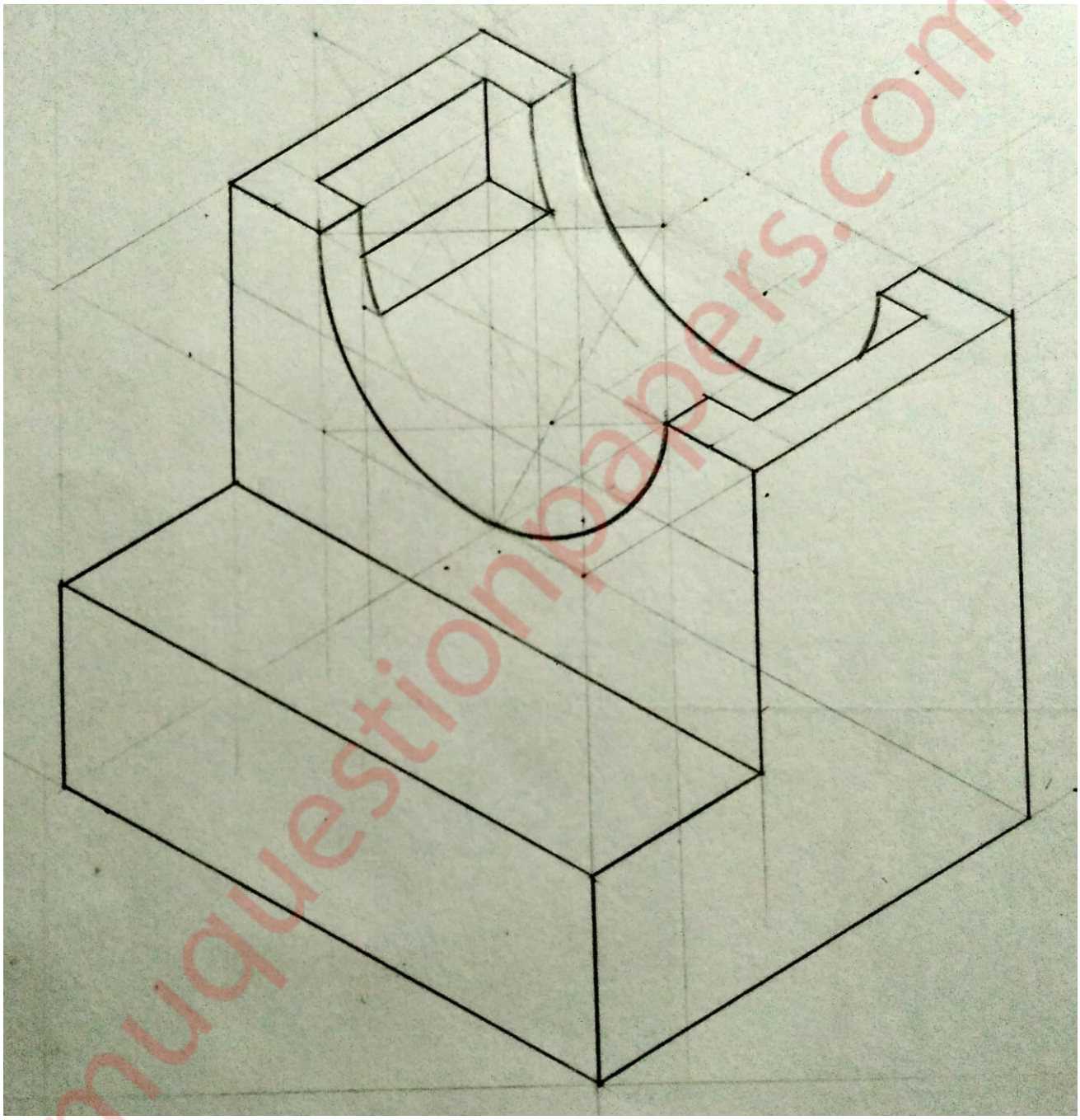


Q 2] A tetrahedron of 70 mm sides has one of its edges in HP and inclined at 45° to the VP. While a face containing that edge is vertical. Draw projections of the tetrahedron. 15 M

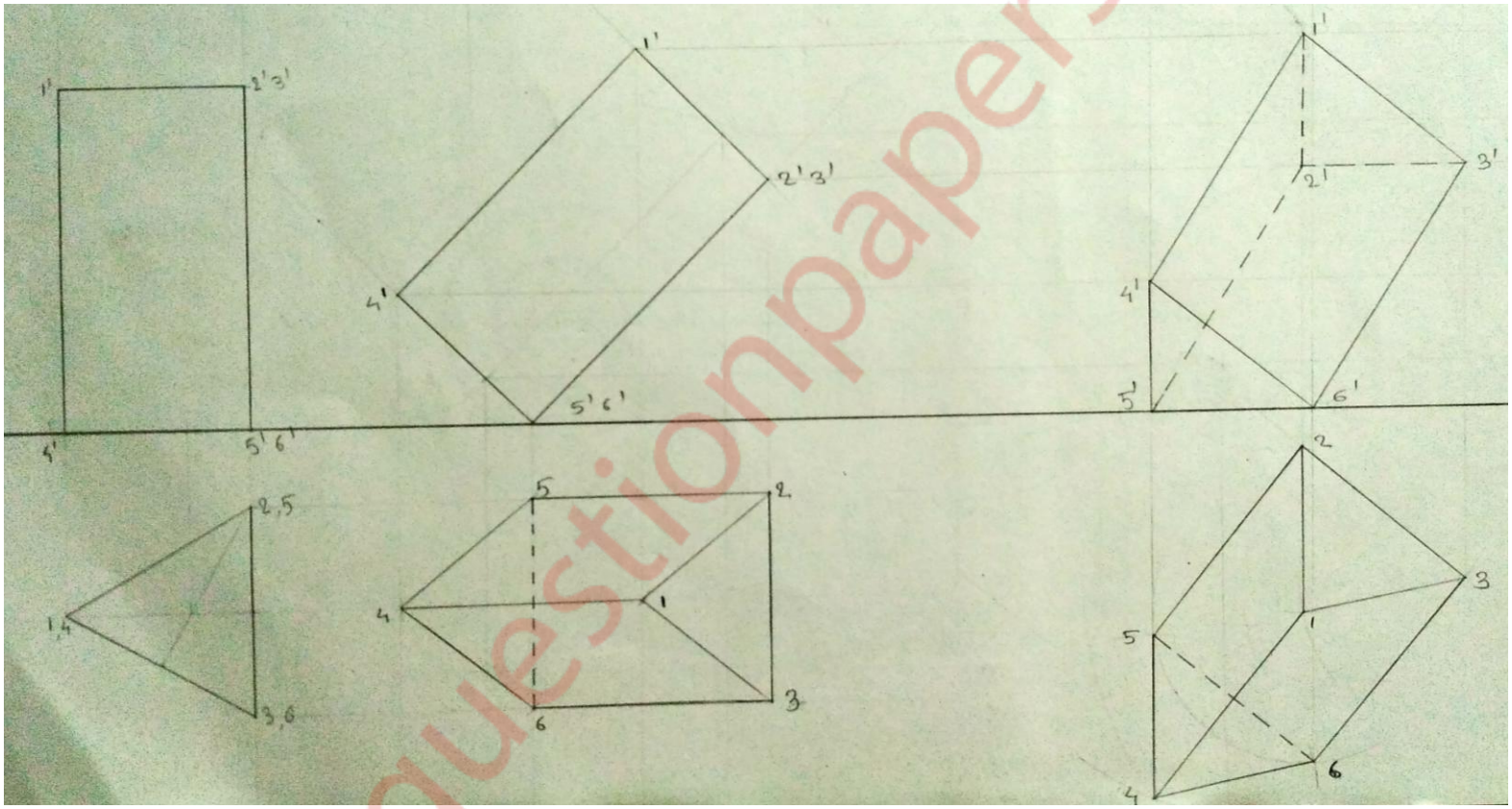


Q 3a] Draw the isometric view of the following using the natural scale. 08 M

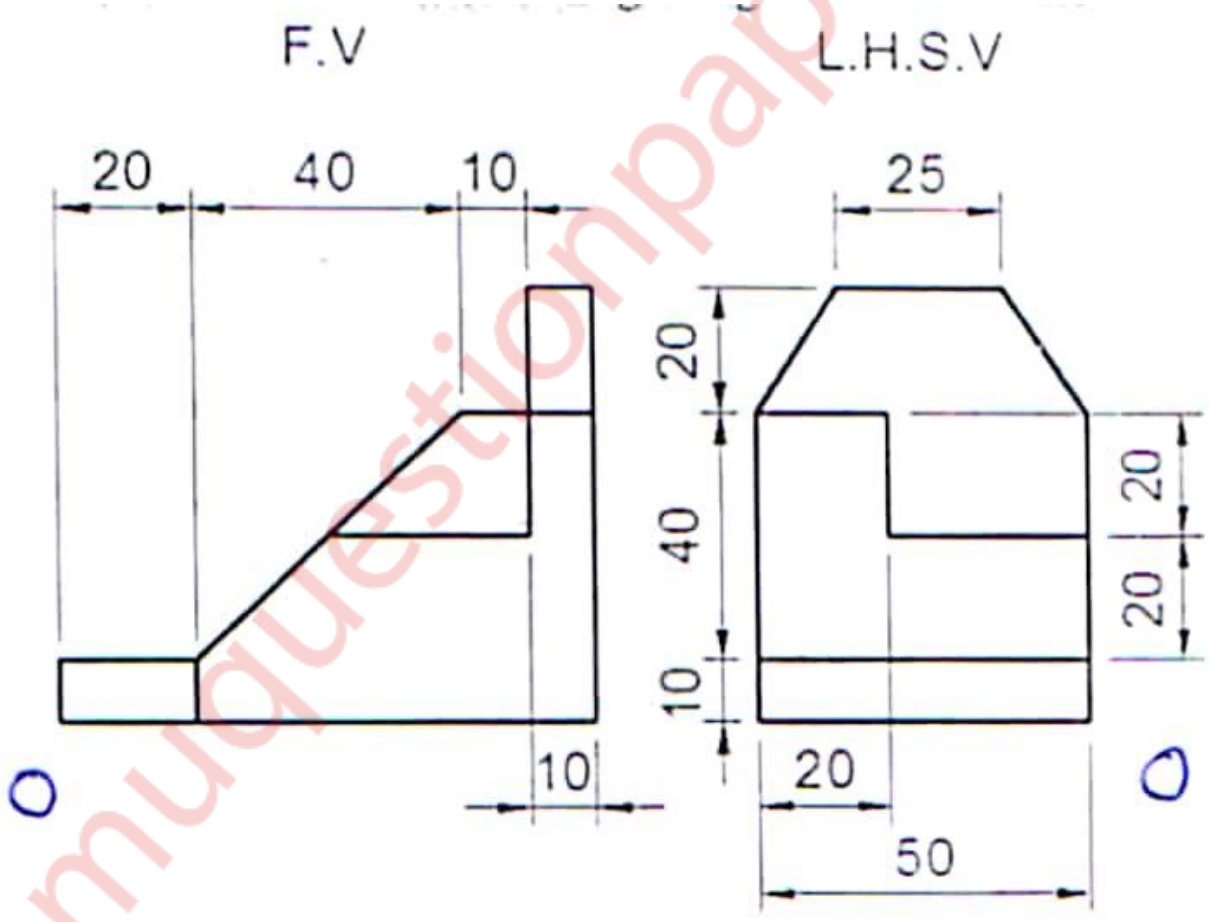


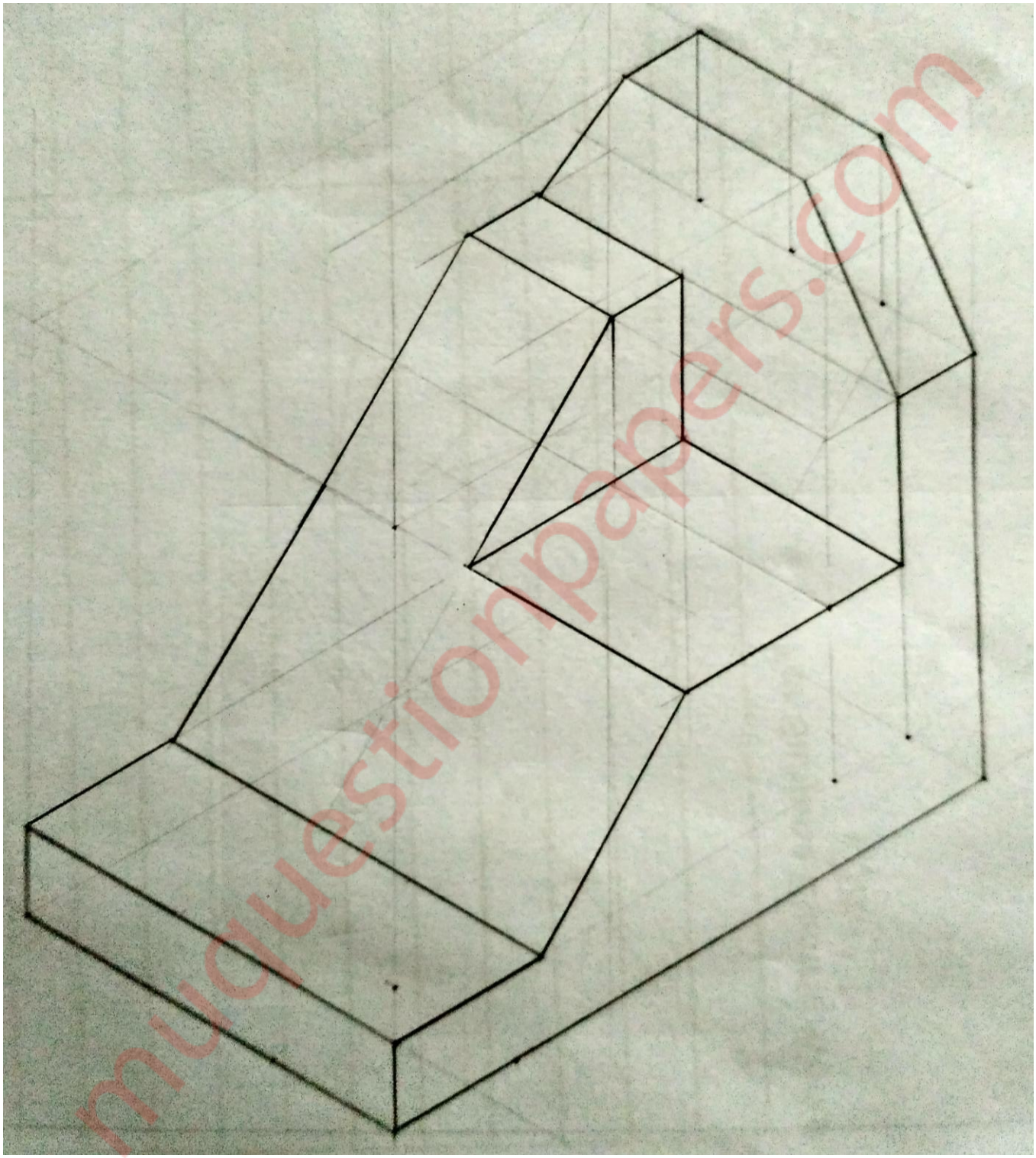


Q 3b] A triangular prism base 40 mm long and height of axis 65 mm has one of its base edges in HP and inclined at 40° to VP. Draw projections when the axis is inclined at 45° to HP. 07 M

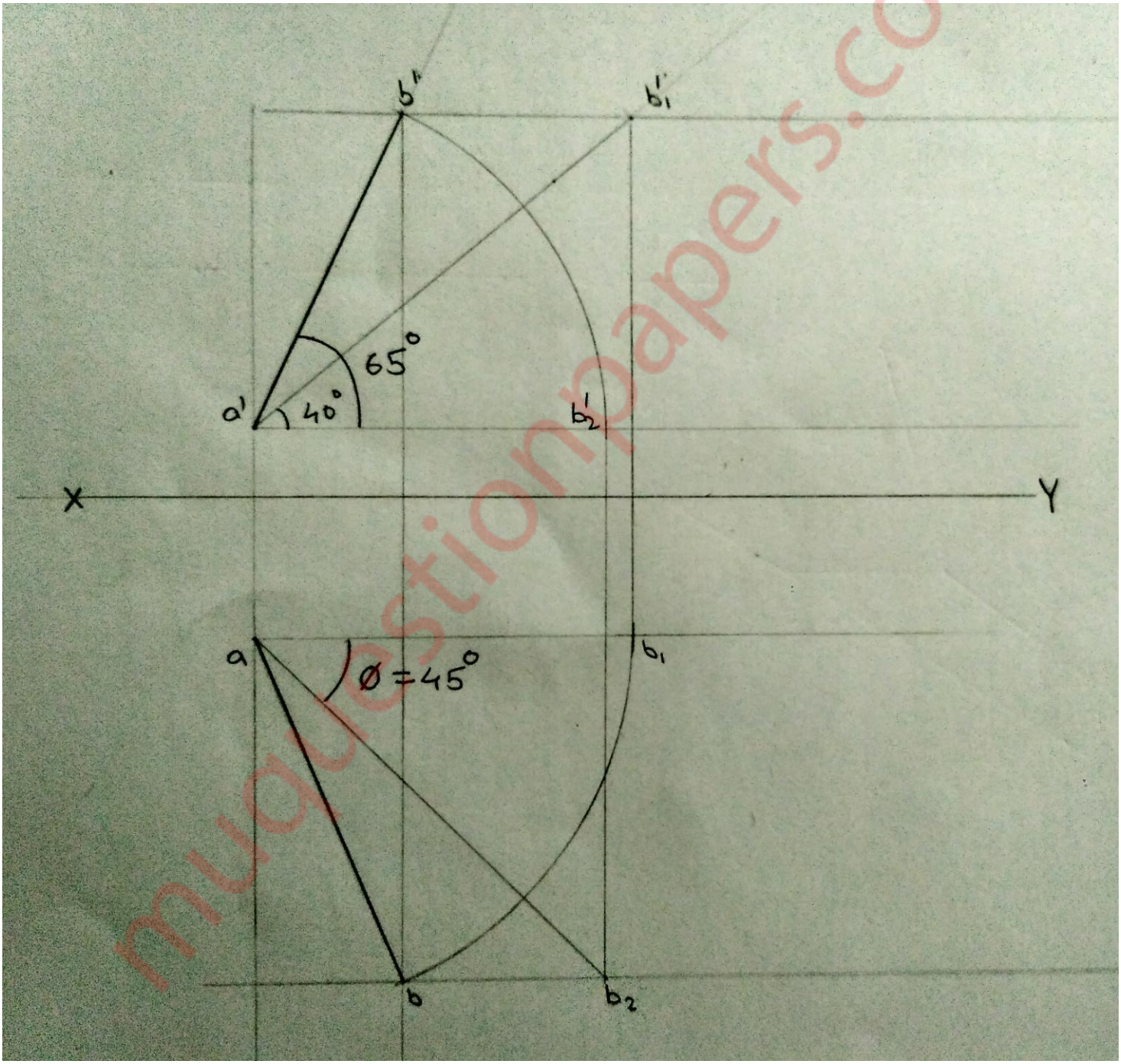


Q 4a] Draw the isometric view of the following using the natural scale. 07 M

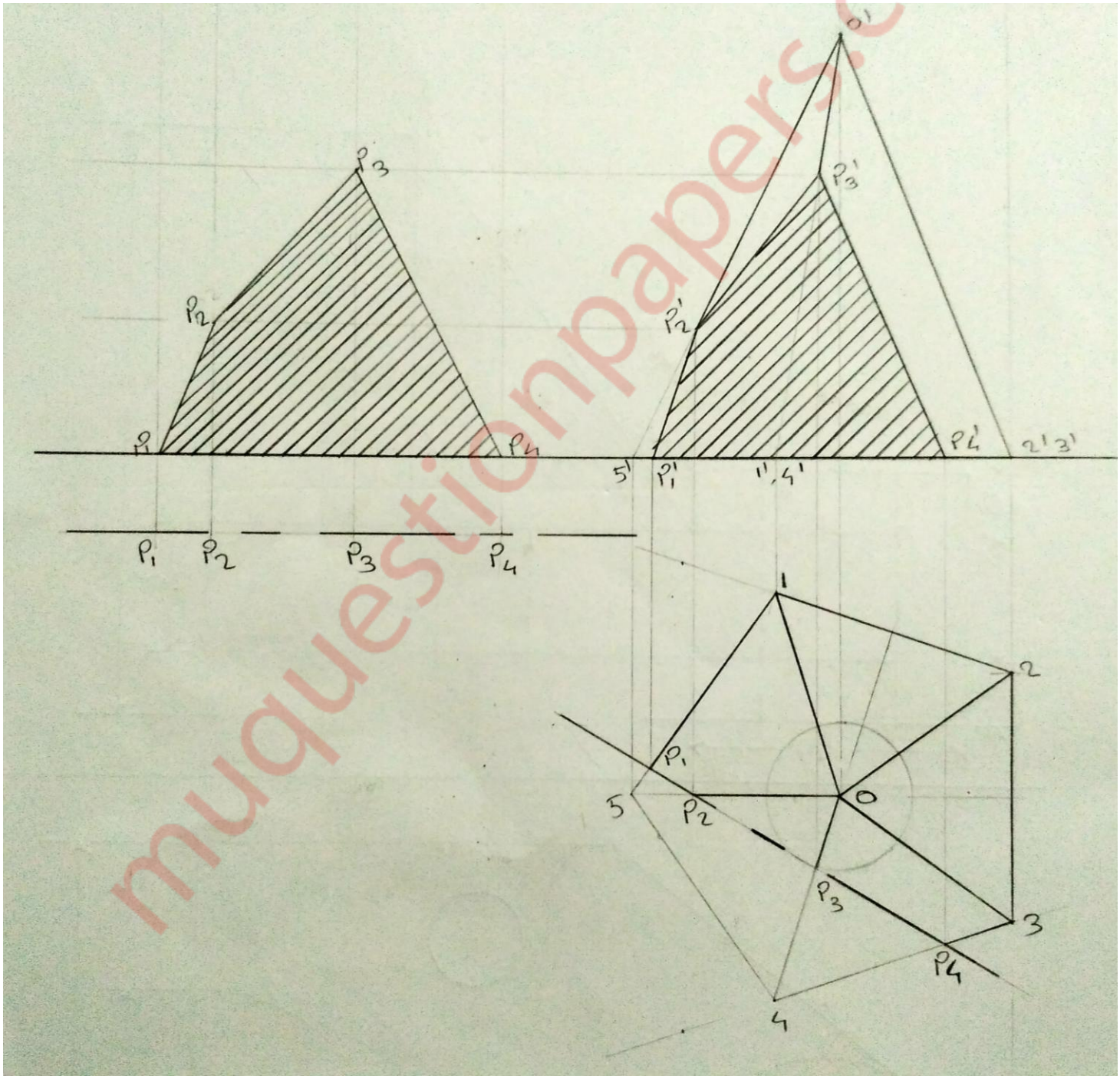




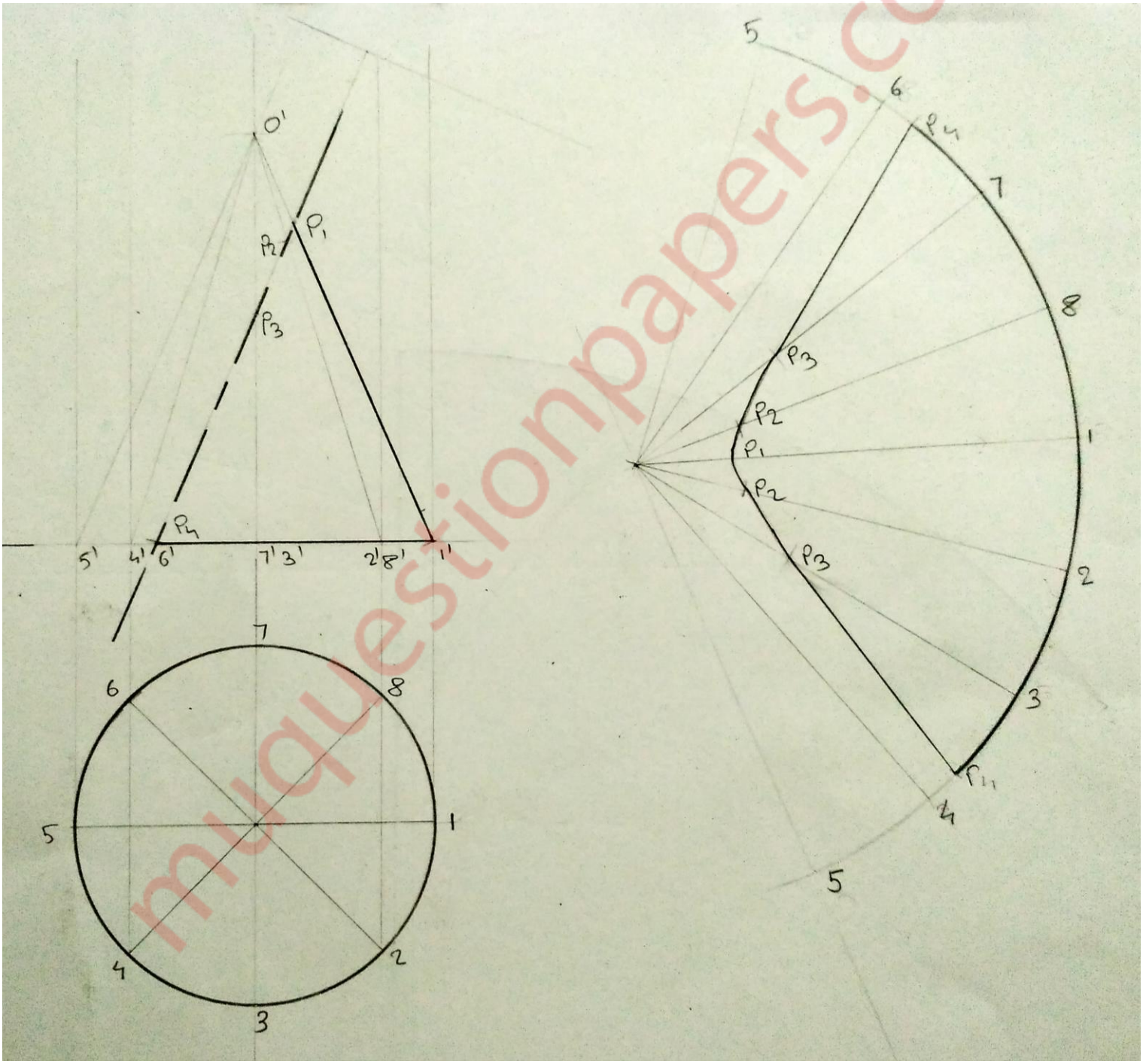
Q 4b] A line AB 70mm long has its end A 10mm above HP and 20mm infront of VP. The line AB is inclined at 40° to HP and its front view is inclined at 65° to XY. Draw its projection and find inclination of AB with VP. 08 M



Q 5a] A pentagonal pyramid of 40mm edge of base and 70mm high stands vertically with its base on HP and an edge of base is perpendicular to VP. Asection plane perpendicular to HP and inclined at 30° to VPcuts the pyramid such that it passes through the pyramid at a shortest distance of 12mm from the axis and in front of it. Draw sectional front view, top view showing the section, and true shape of section. 08 M



Q 5b] A cone of 70mm height of axis and base diameter 60mm is resting on its base on HP. It ia cut by a section plane parallel to one of its end generators and 12mm away from it. Draw development of lateral surface of truncated solid.
07 M

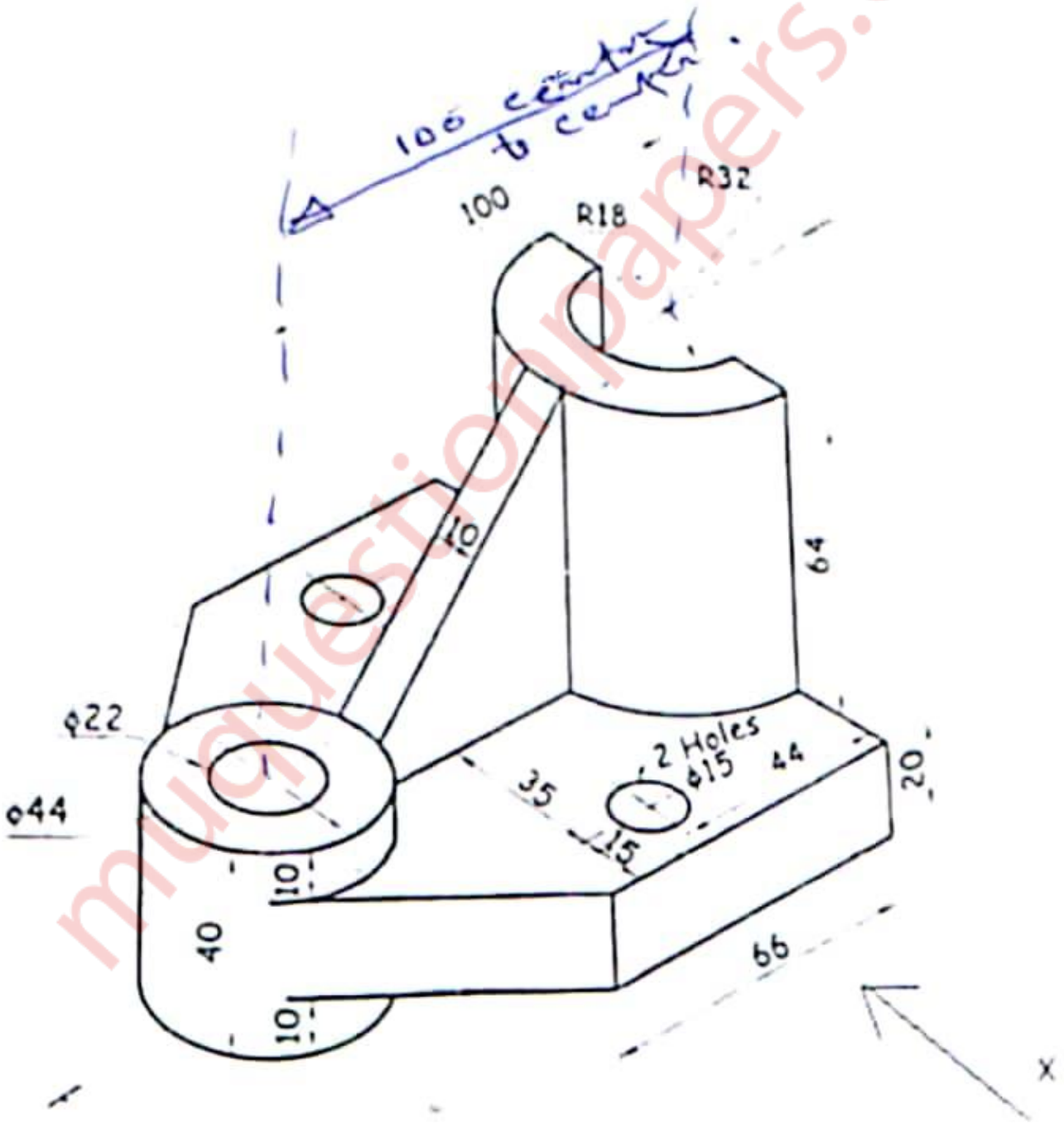


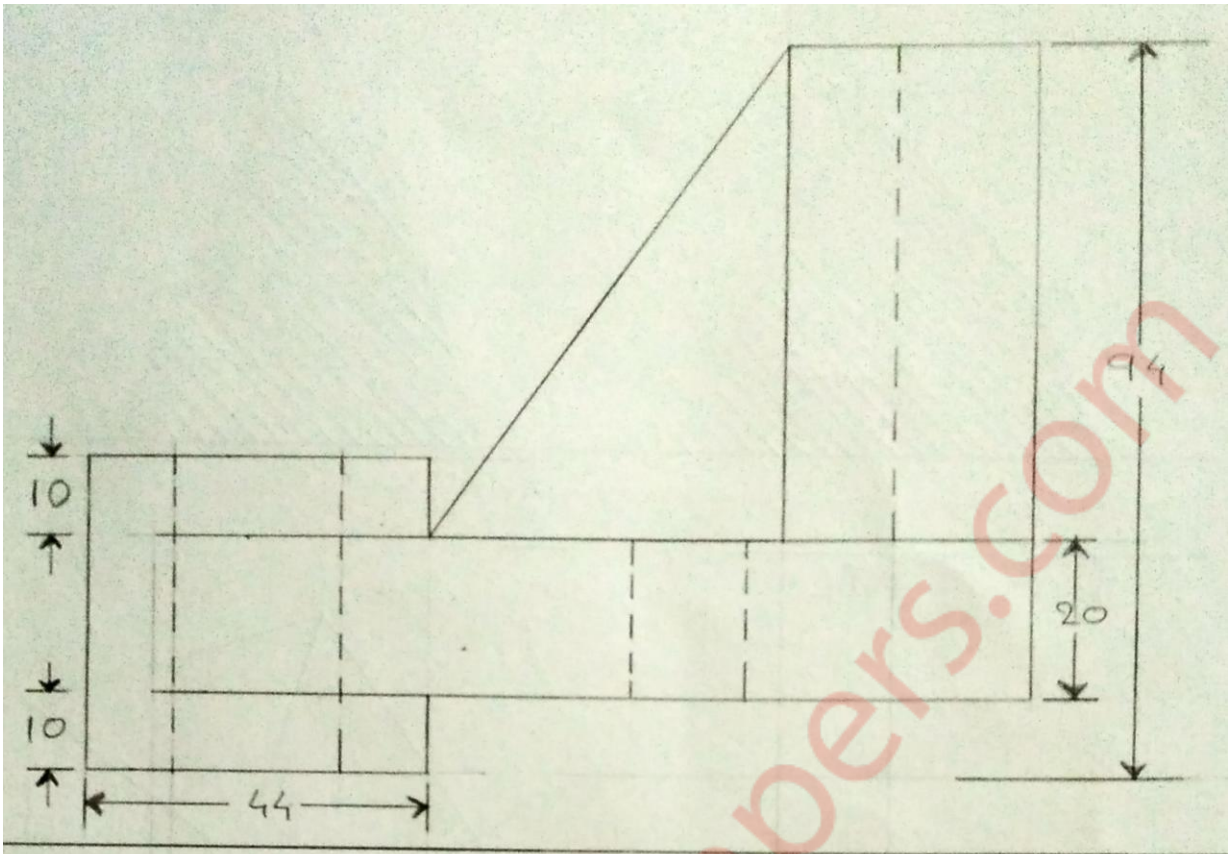
Q 6a] Figure given below shows two views of an object. Draw the following views to full scale:- 09 M

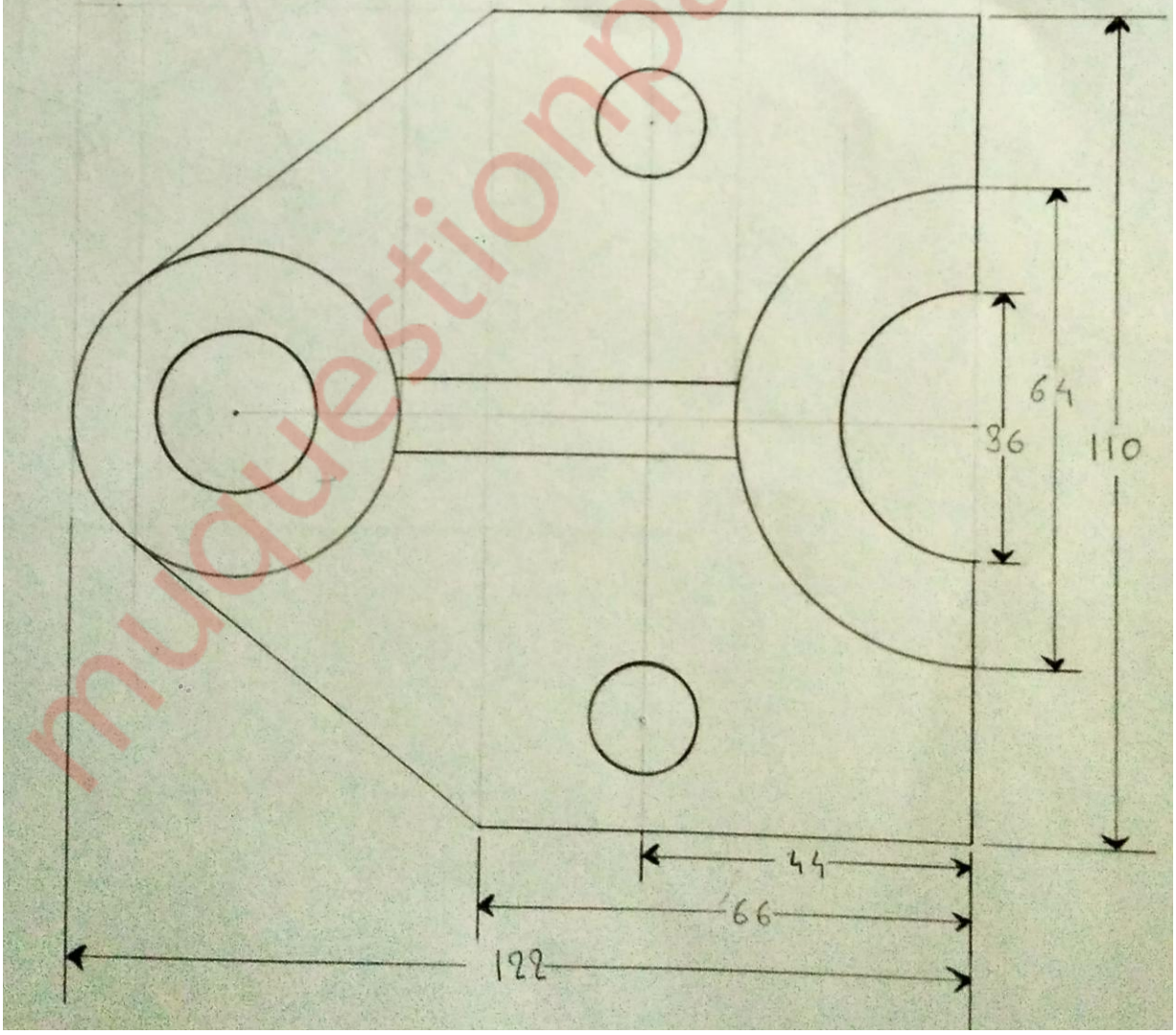
i)Front view from X.

ii)Top view.

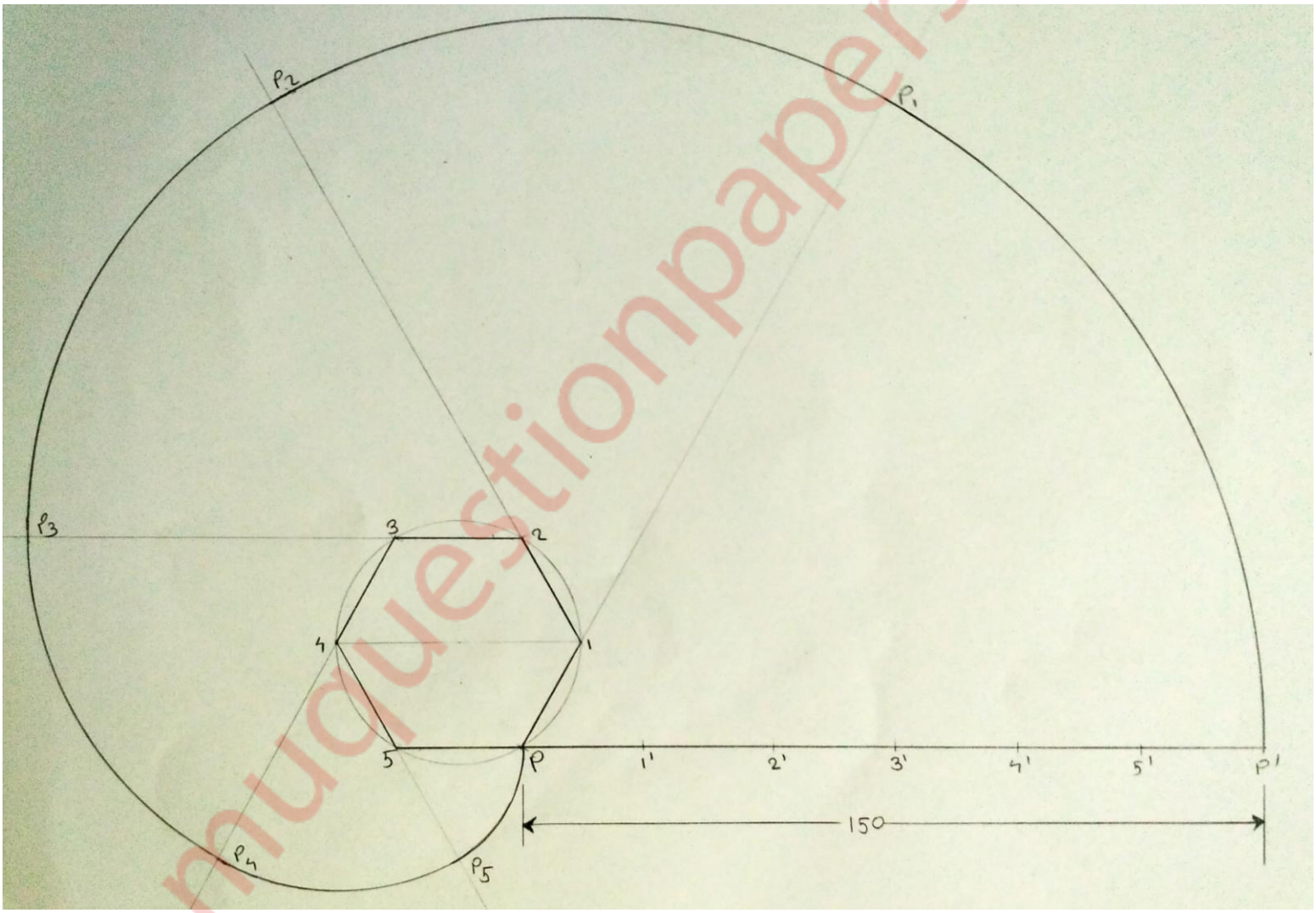
iii)Insert minimum 6 dimensions.







Q 6b] One end of an inelastic thread of 150mm length is attached to one corner of a regular hexagonal disc having a side of 25mm. Deaw the curve traced out by the other end of the thread when it is completely wound along the periphery of the disc, keeping the thread always tight. 06 M

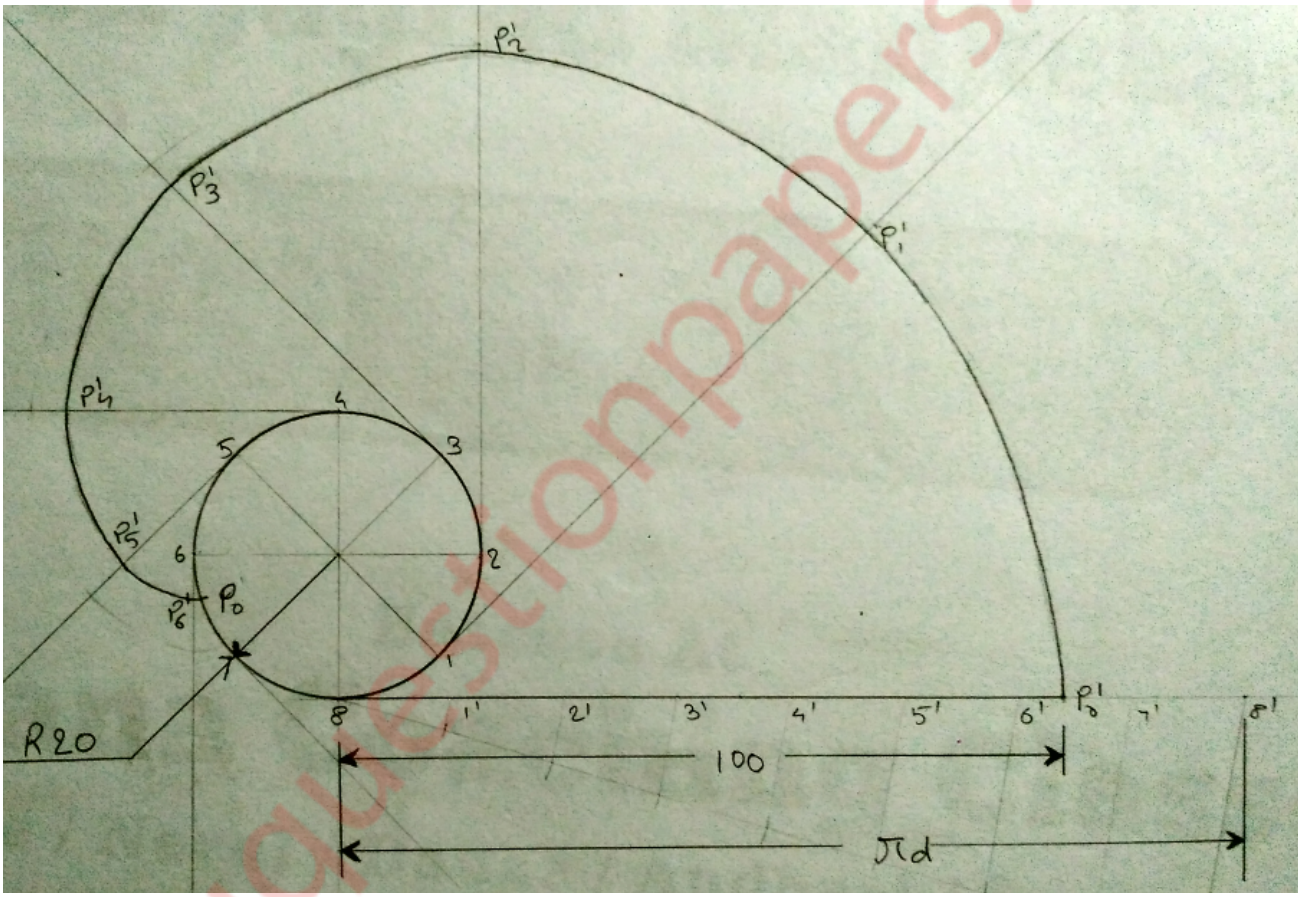


Engineering Drawing

DEC,2017

Q1 a] An inelastic string 100 mm long is wound around a disc of 40 mm diameter. Trace the path of free end of string and name the curve. 06 M

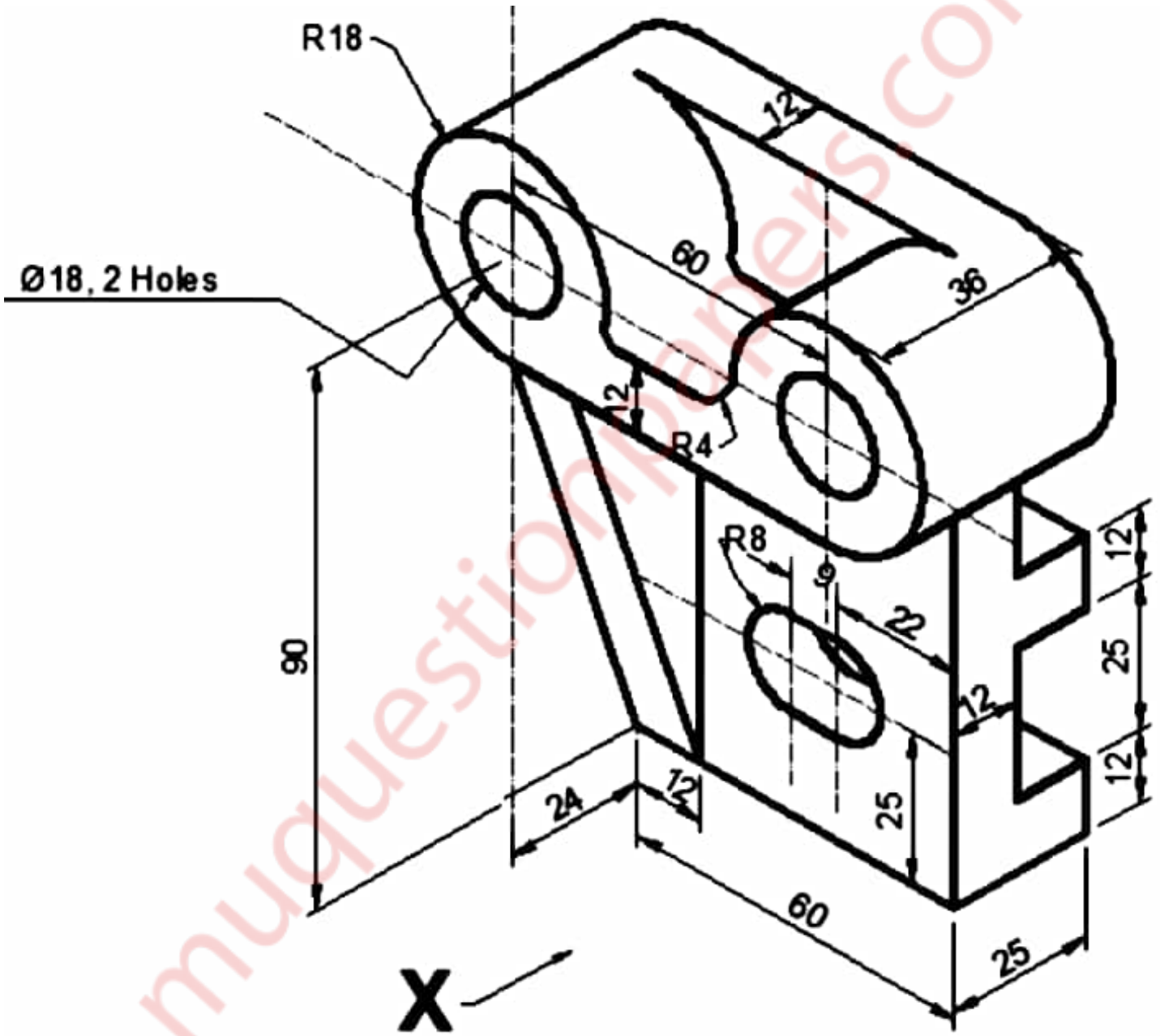
Involute Curve

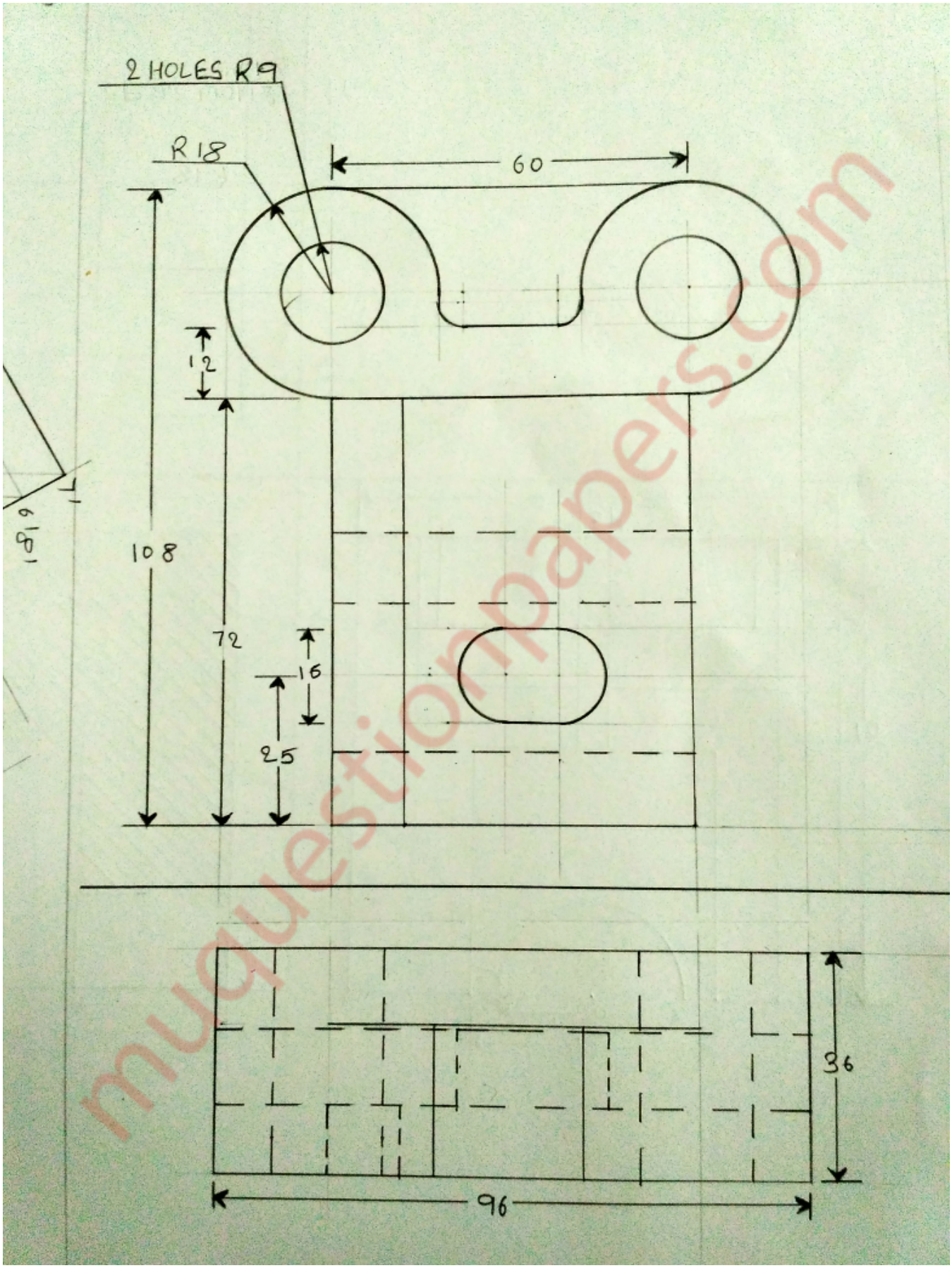


Q1 b] For the object shown in figure draw the following views - 09 M

i) Front view in the direction of arrow X.

ii) Top view.





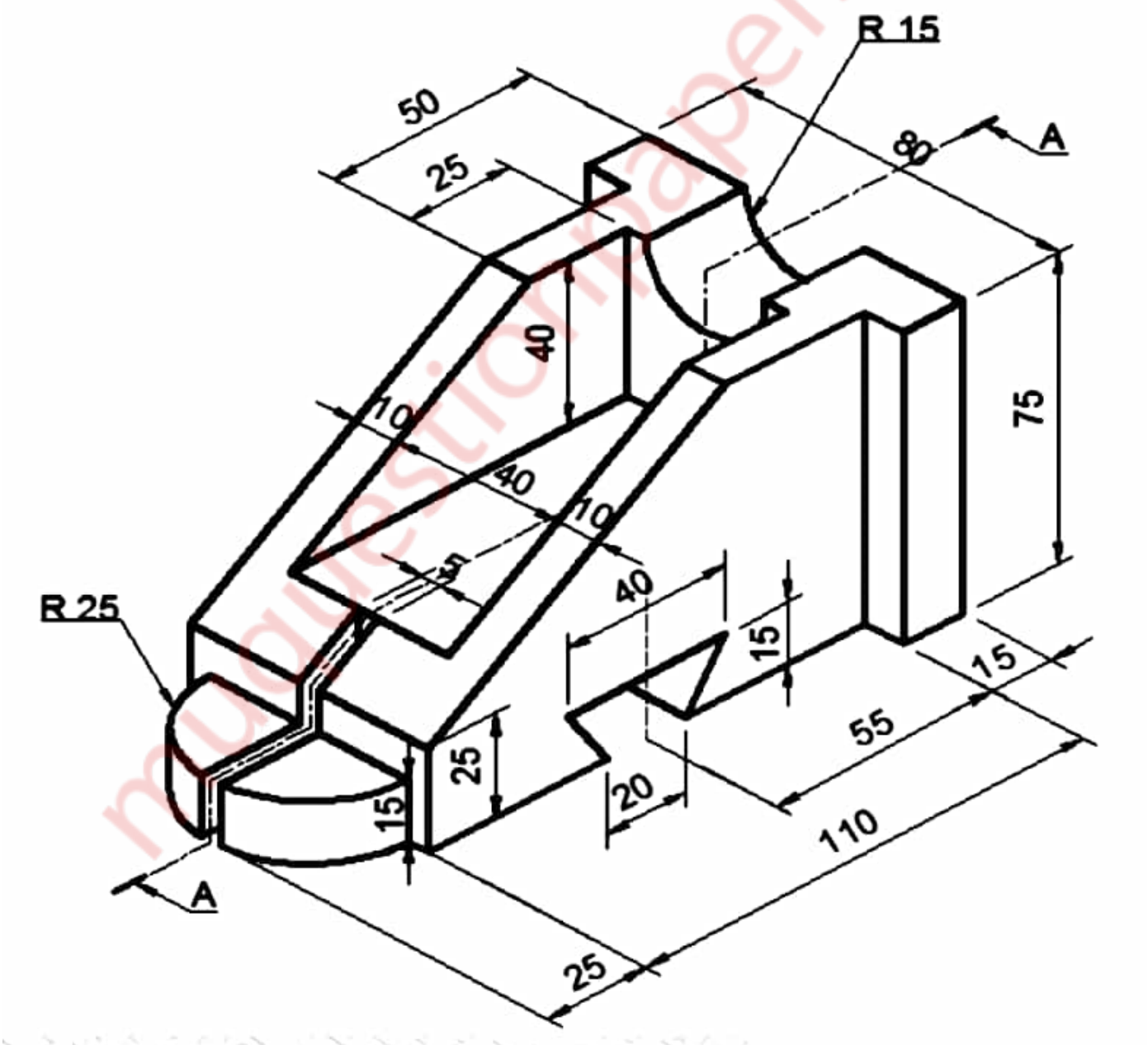
Q2] For the object shown in figure draw the following views - 15 M

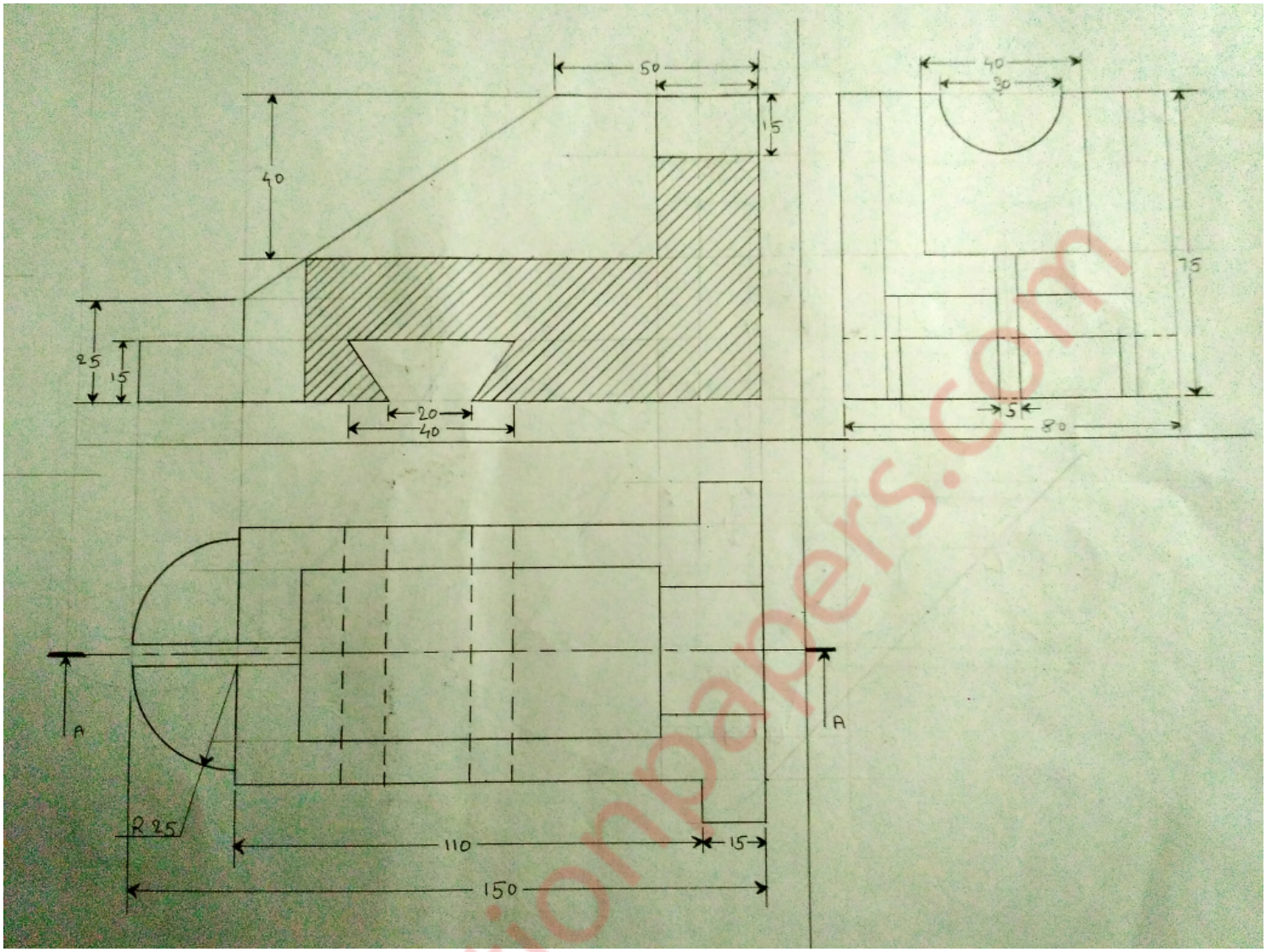
i) Sectional front view along section A-A.

ii) Side view from left.

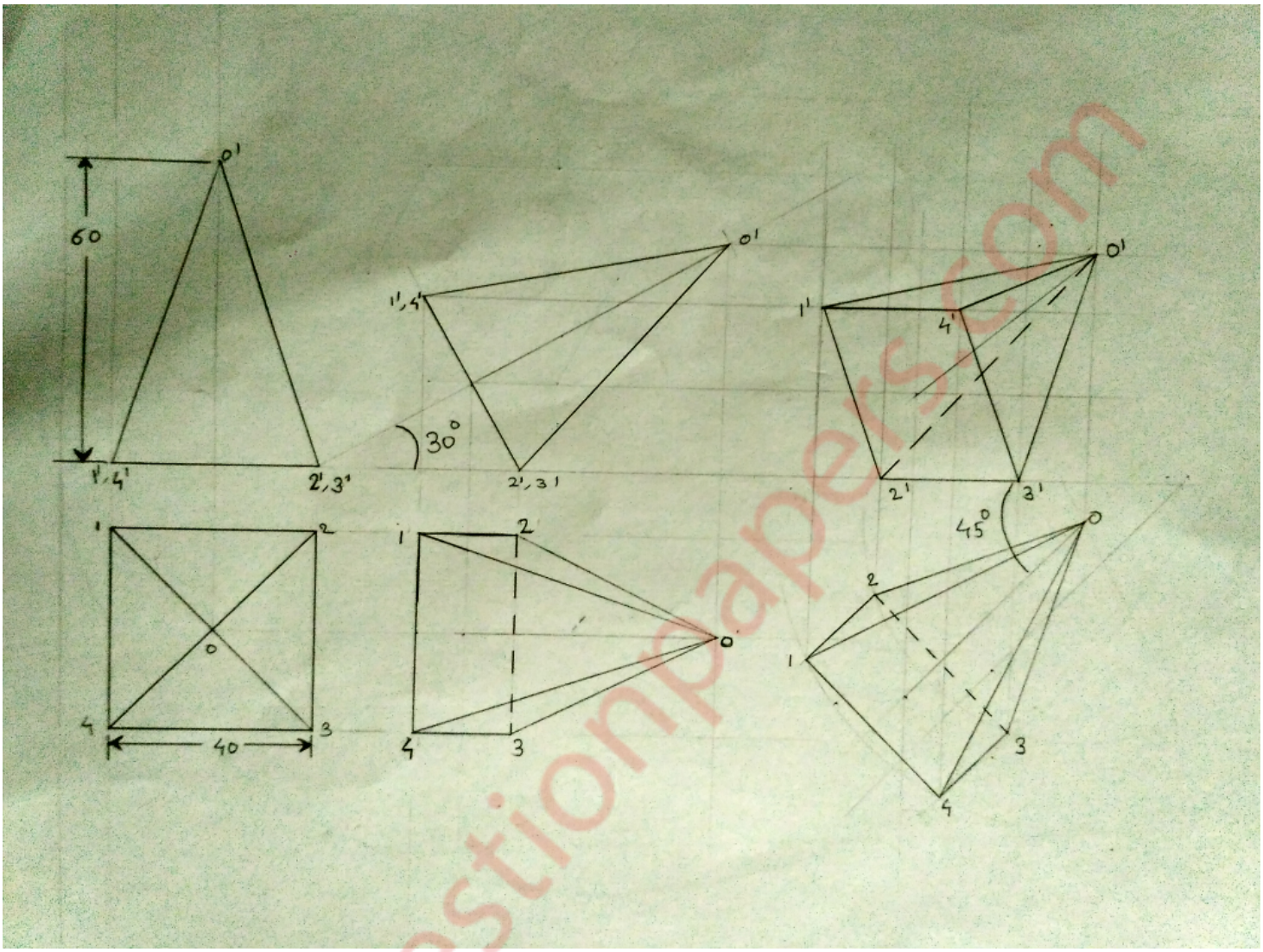
iii) Top view.

iv) Insert the major dimensions.

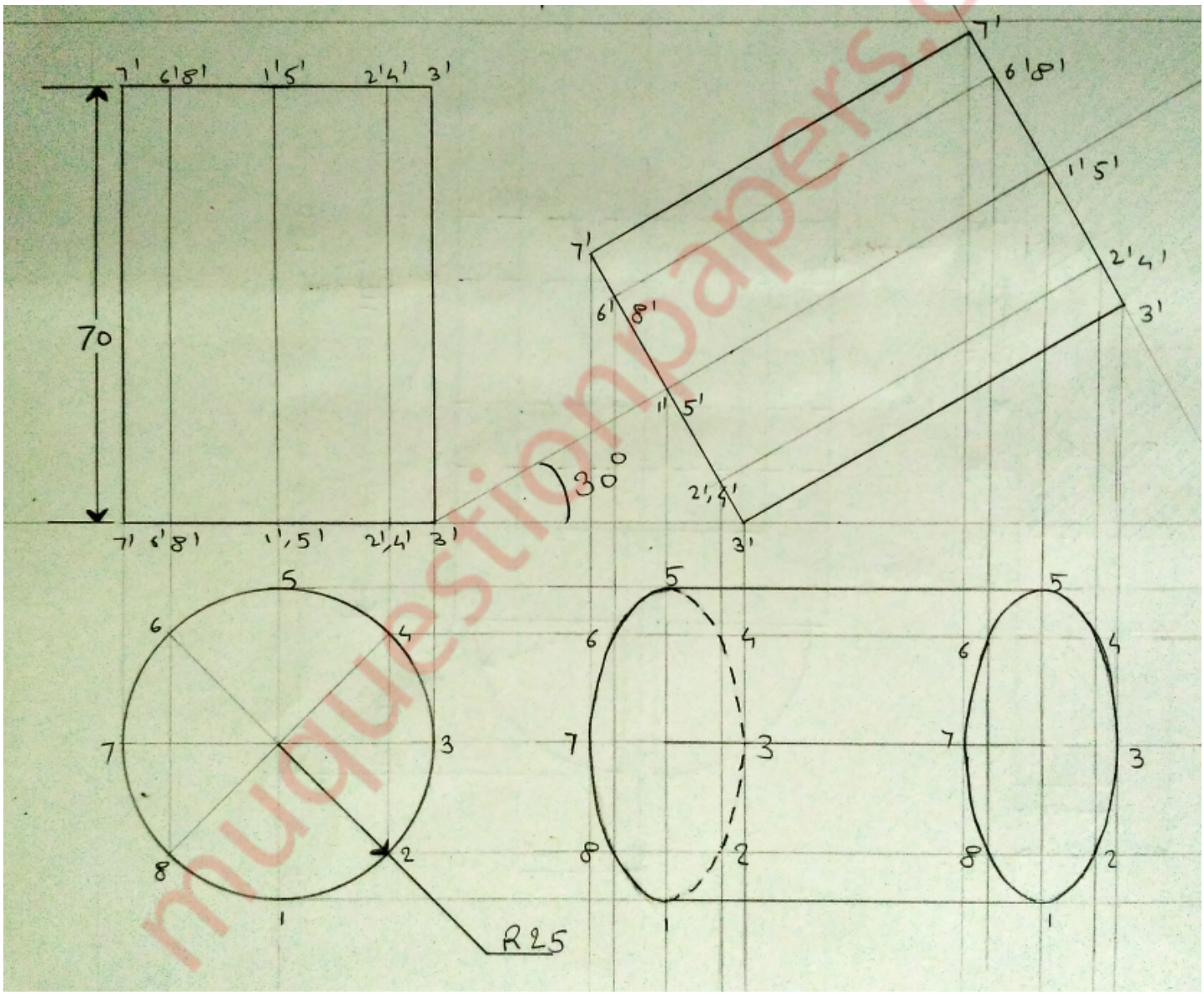




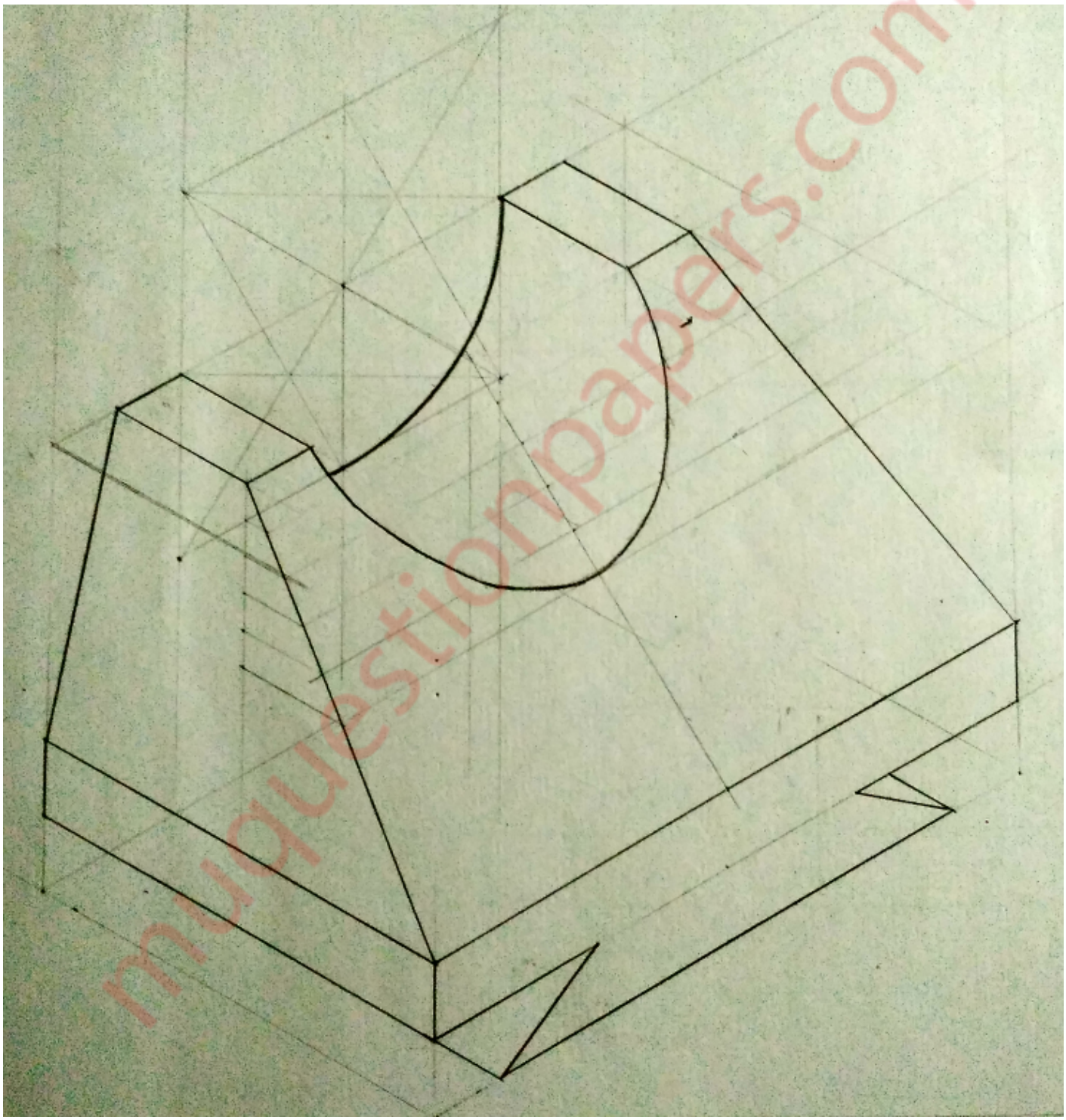
Q3] A square pyramid side of base 40 mm and axis length 60 mm has one of its side of base in the HP. The axis of the solid is inclined to the HP at an angle 30° and top view of the axis is inclined at an angle 45° with the VP. Draw its projection when the apex is away from the observer. 15 M



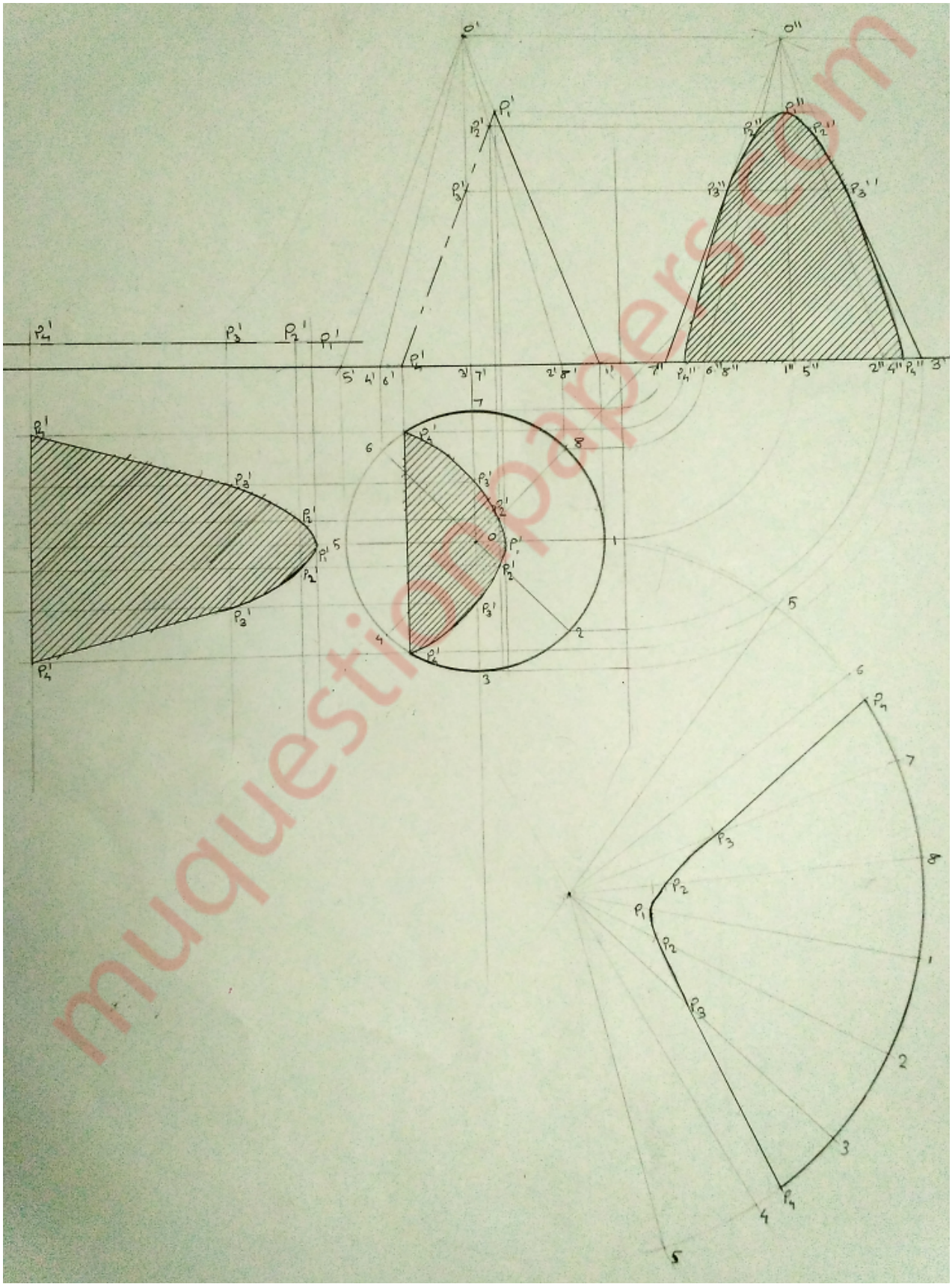
Q4 a] A right circular cylinder diameter of base 50 mm and axis height 70 mm has one of the circumference point of base in the HP, such that its axis is inclined at 30° to the HP. Draw its projections. 06 M



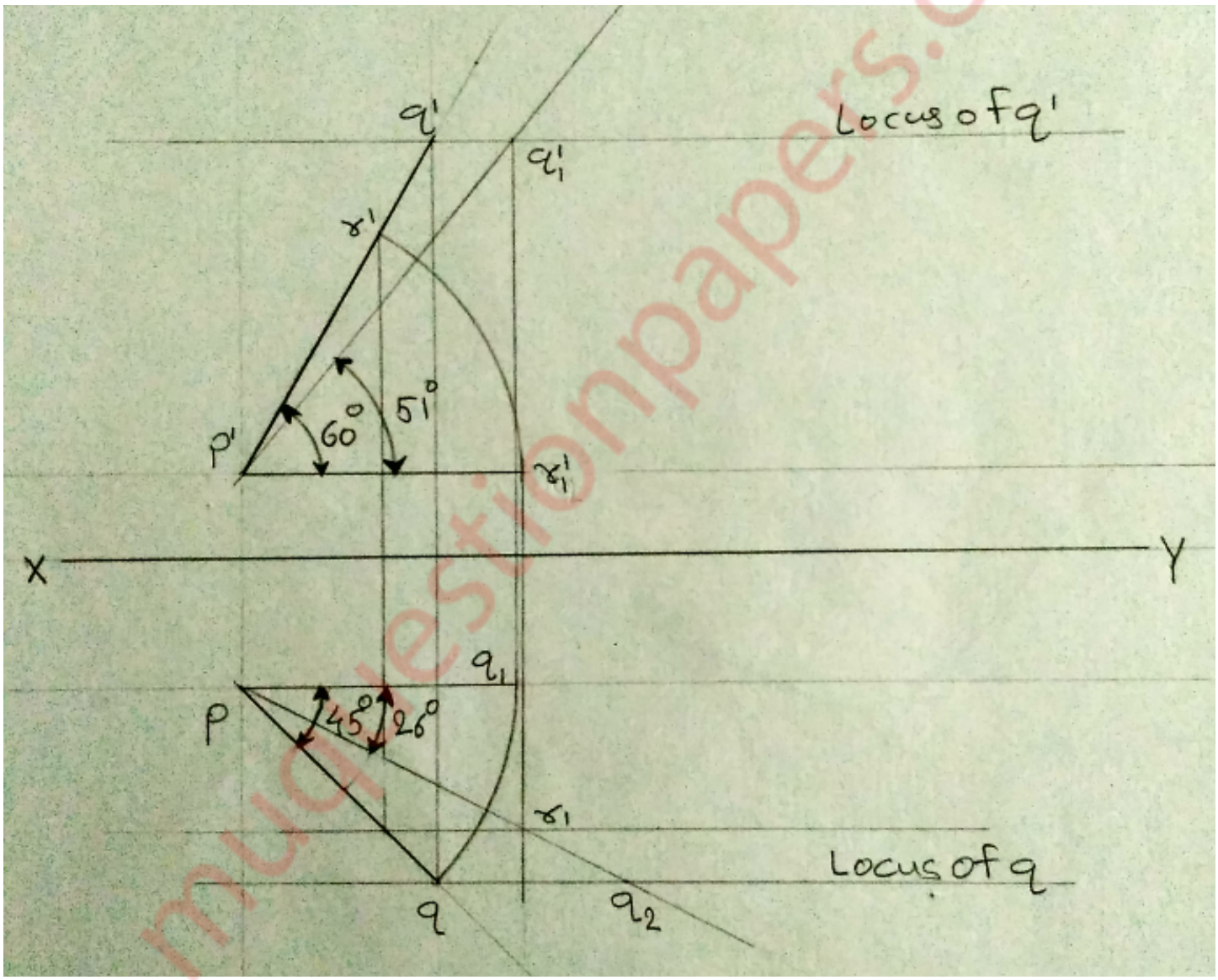
Q4 b] Figure shows two views of an object. Draw its isometric view. 09 M



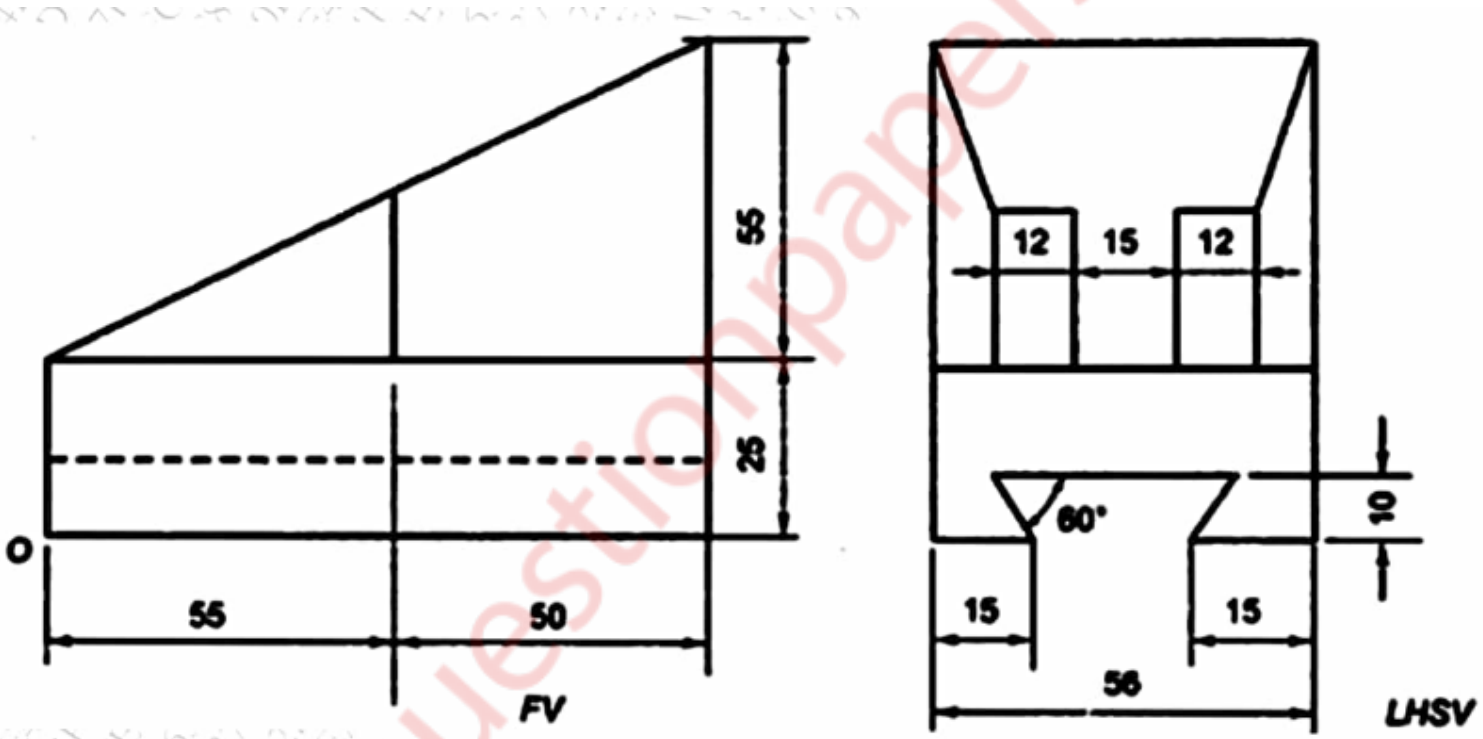
Q5] A cone of base 70 mm diameter and axis 90 mm long is resting on its base on HP. It is cut by a section plane perpendicular to the VP and parallel to and 15 mm away from one of its end generators. Draw the sectional top view, front view and sectional side view. Also draw the true shape of the section. Also draw the development of lateral surface of cone. 15 M



Q6 a] A straight line PQ has its end point P 10 mm above HP and 15 mm infront of the VP. The line 50 mm long and its front and top views are inclined at an angle of 60° and 45° respectively. Draw the projections of line PQ and find its inclinations with the HP and VP. 09 M



Q6 b] Figure shows two views of an object. Draw its isometric view with 'O' as origin. 06 M



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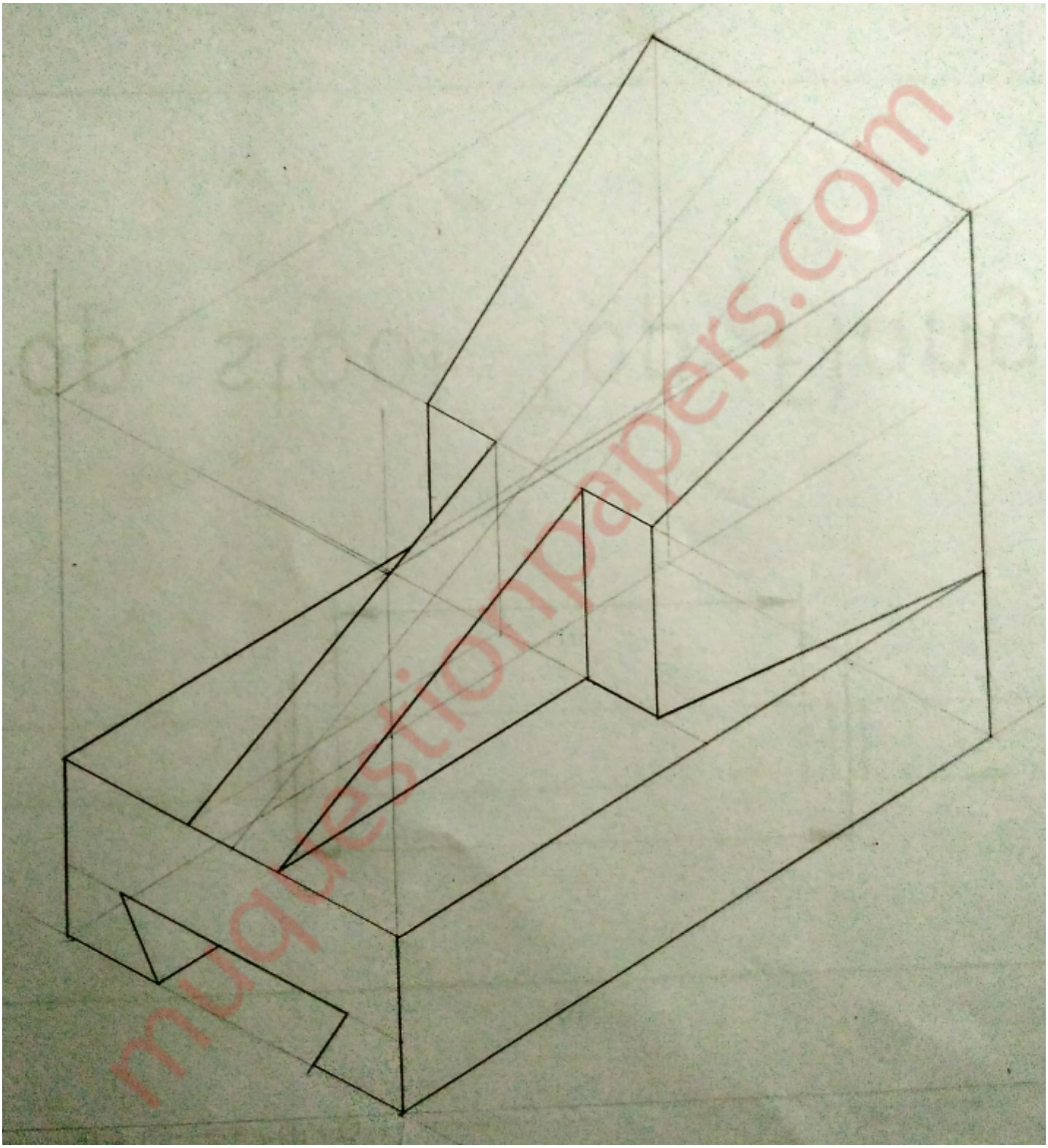


MUMBAI UNIVERSITY

SEMESTER-1

ENGINEERING DRAWING SOLVED PAPER – MAY 2018

N.B:-(1) Solve any FOUR questions.

(2) All the dimensions are in mm .

(3) Use first angle method of projection.

(4) Assume suitable dimension if it is necessary.

(5) Retain all construction lines.

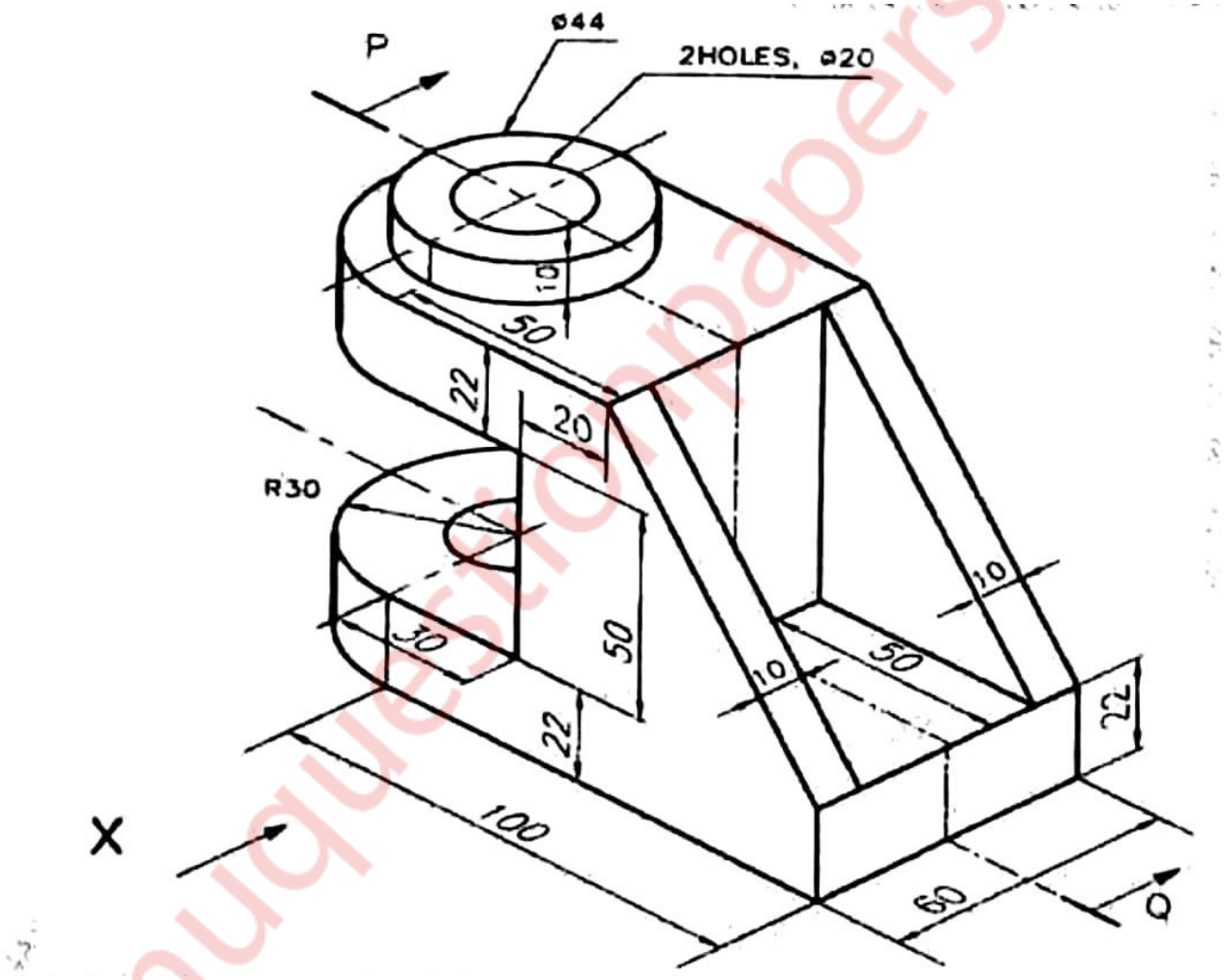
Q.1 Following figure shows the pictorial view of an object,draw (15 marks)

(1) Section front view along section PQ (5 marks)

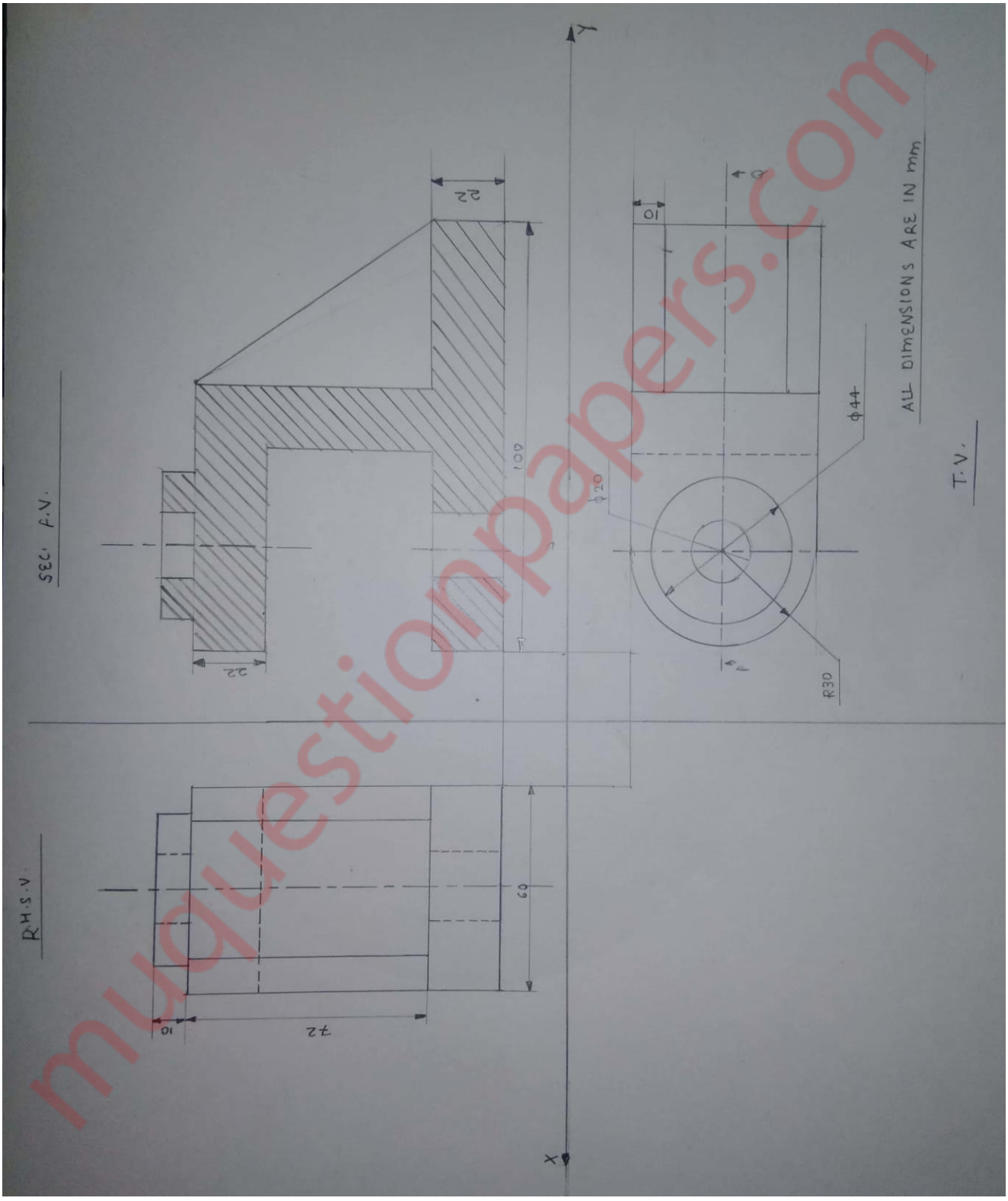
(2) Top view (4 marks)

(3) Right hand side view (4 marks)

(4) Insert 10 major dimensions (2 marks)



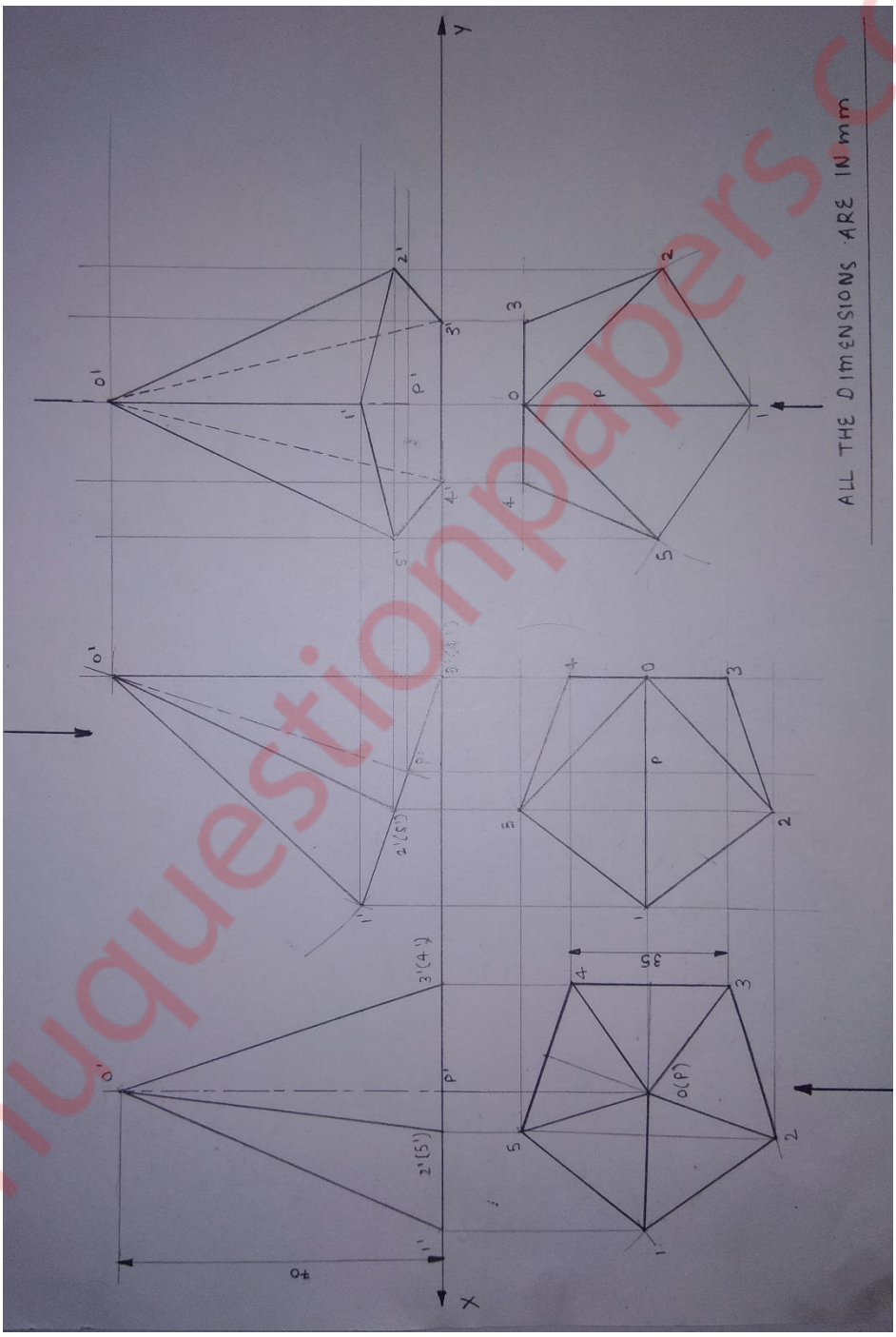
DRAWING :



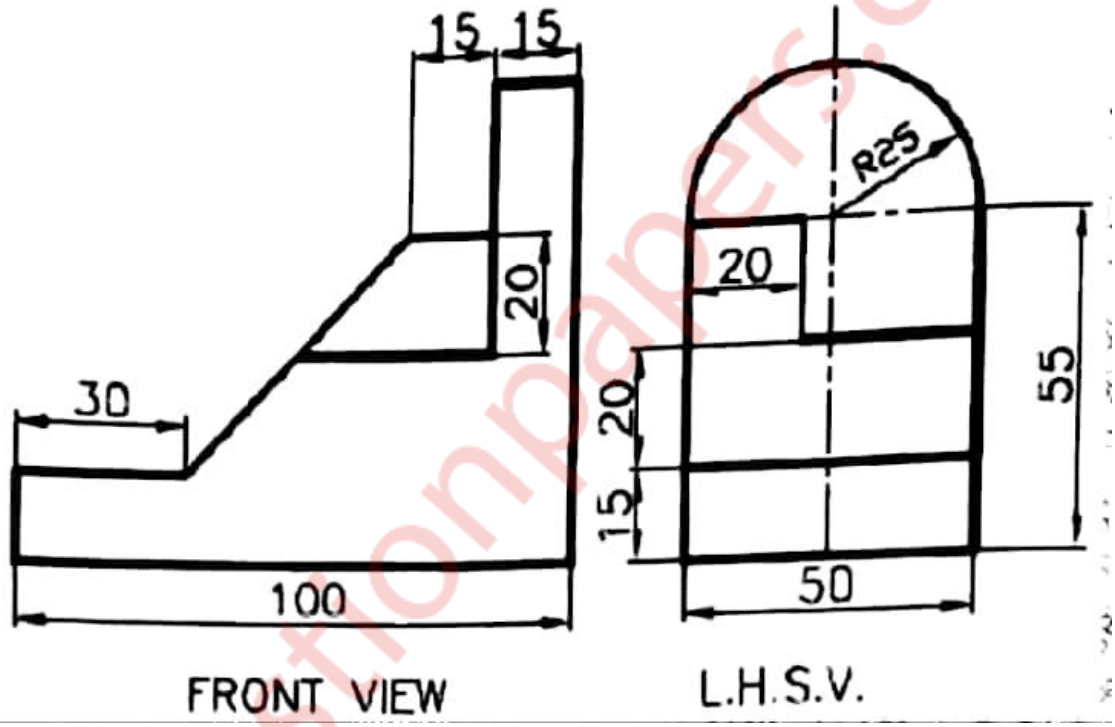
Q.2 A pentagonal pyramid side of base 35 mm and height 70 mm is having one of it's base edge in HP with triangular face containing this edge perpendicular to HP,parallel to VP and away from observer.

Draw its projections. (15 marks)

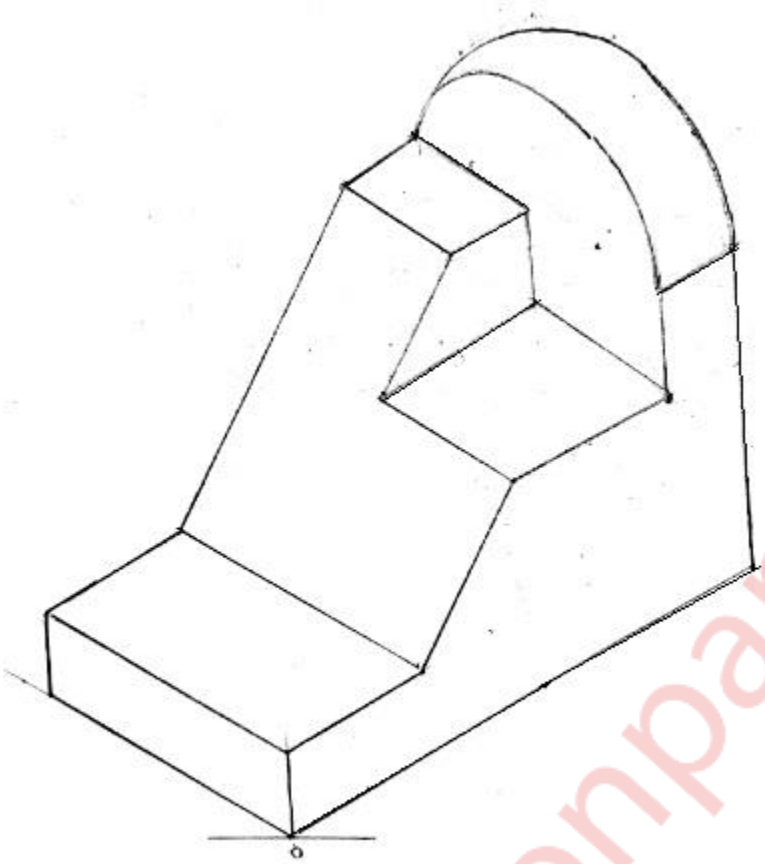
DRAWING :



Q.3(a)Front view and side view of an object is shown in figure,draw the isometric view. (8 marks)

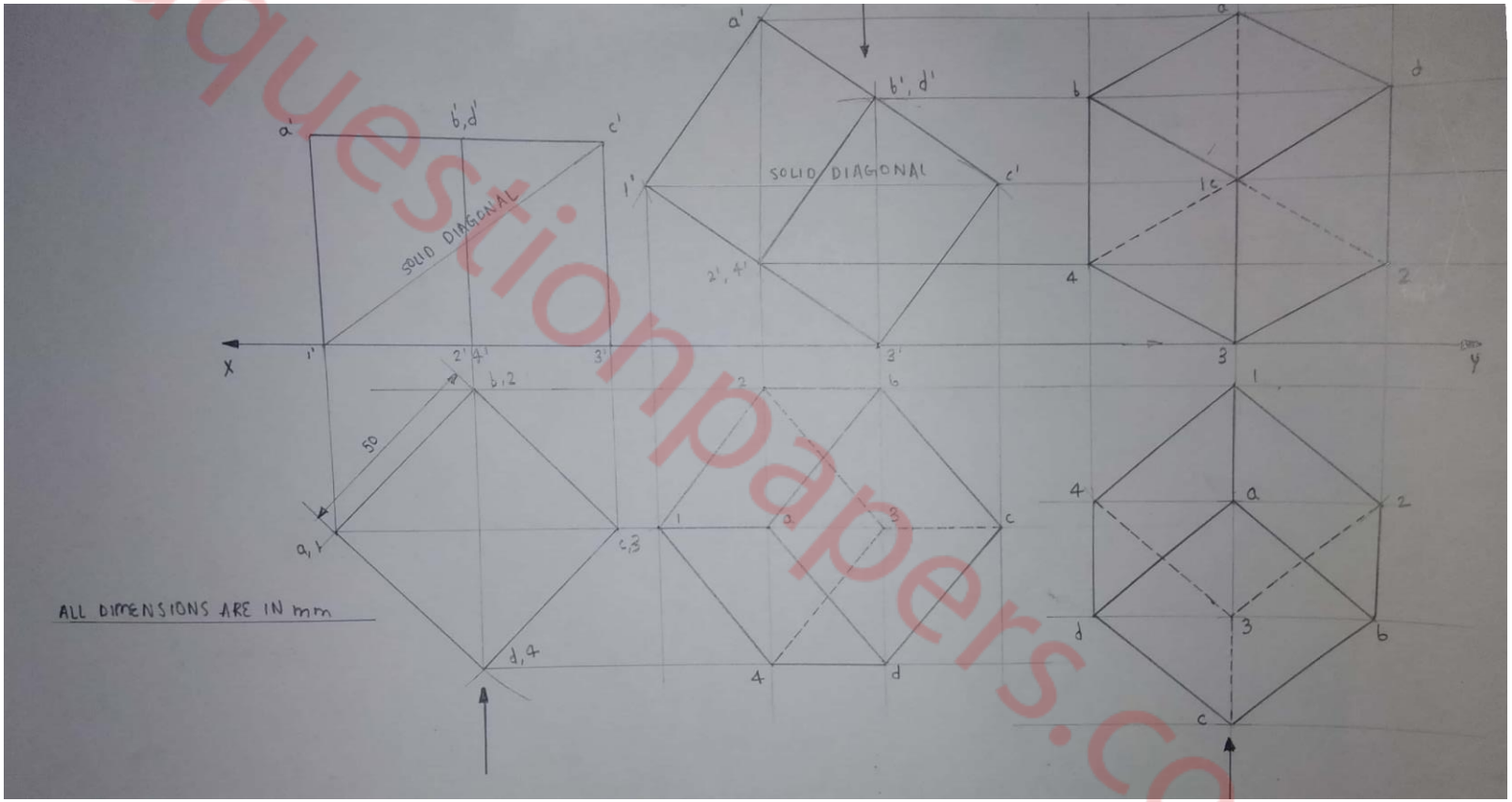


DRAWING :



Q.3(b)Draw the elevation and plan of a cube of side 50 mm resting on one of it's corner of base on HP with solid diagonal perpendicular to VP. (7 marks)

DRAWING :



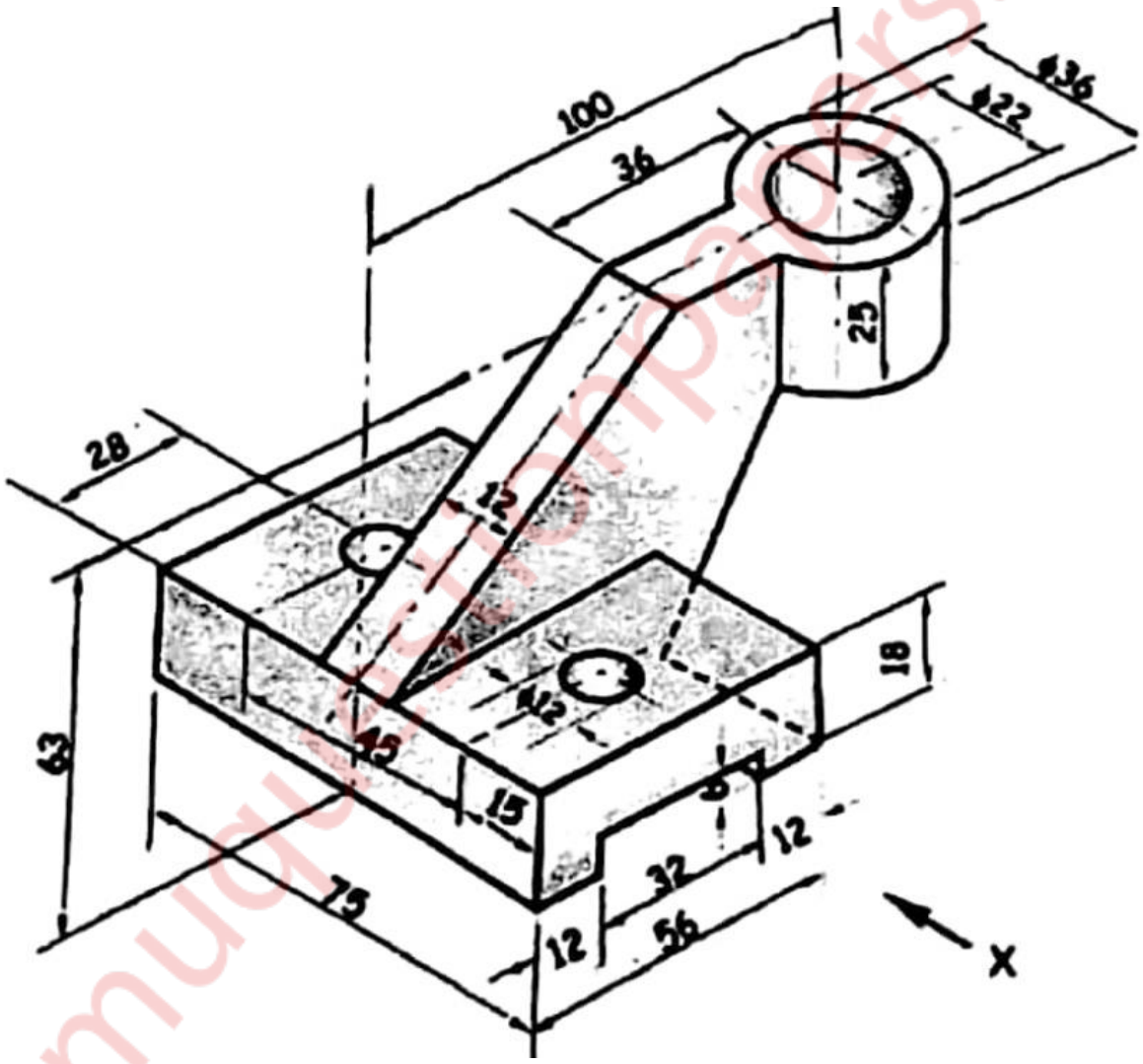
Q.4(a) The pictorial view of a machine part is shown in the following figure.

Draw : (9 marks)

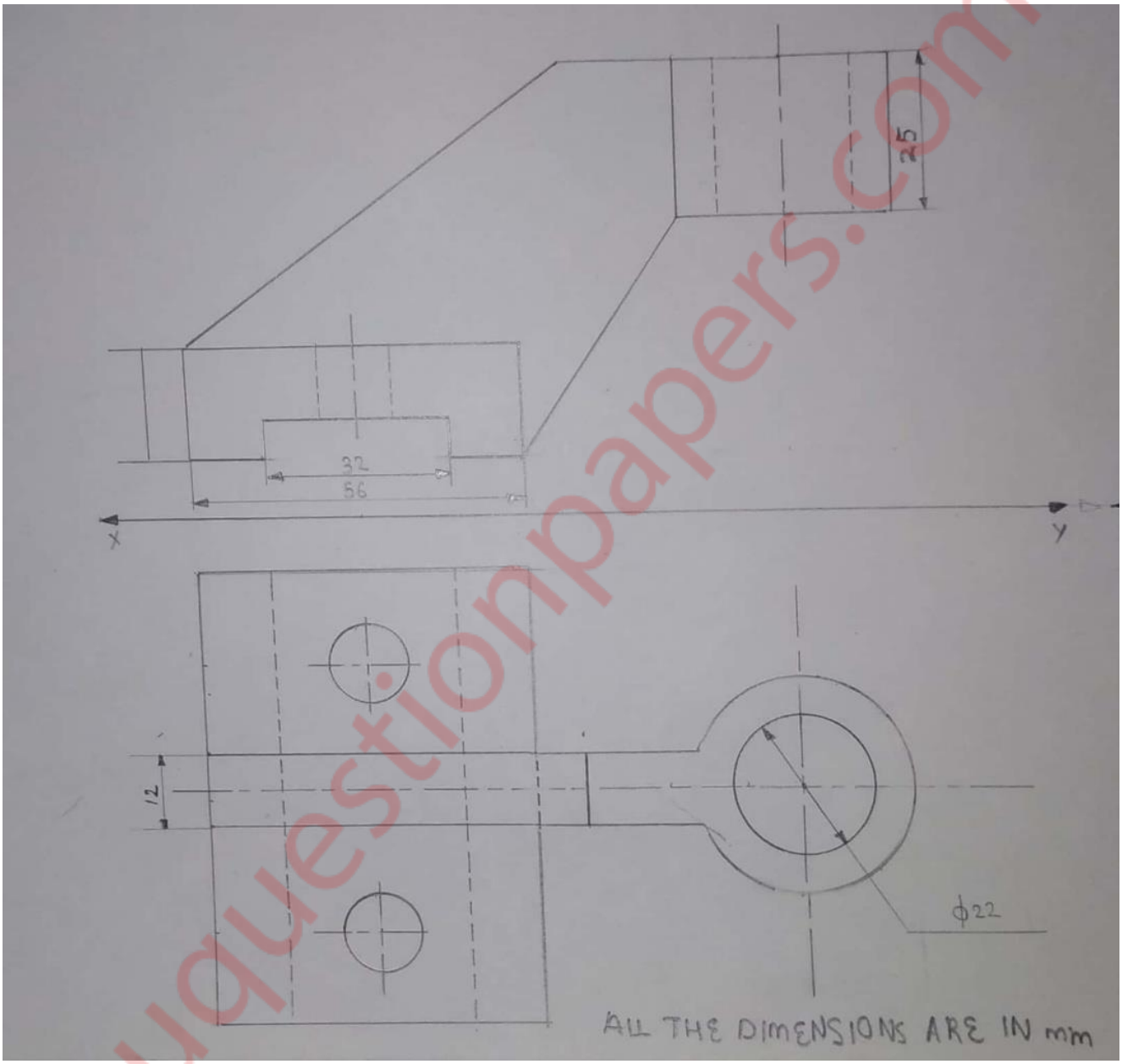
(1) Front view from X (4 marks)

(2) Top view (4 marks)

(3) Insert at least 6 dimensions (1 mark)

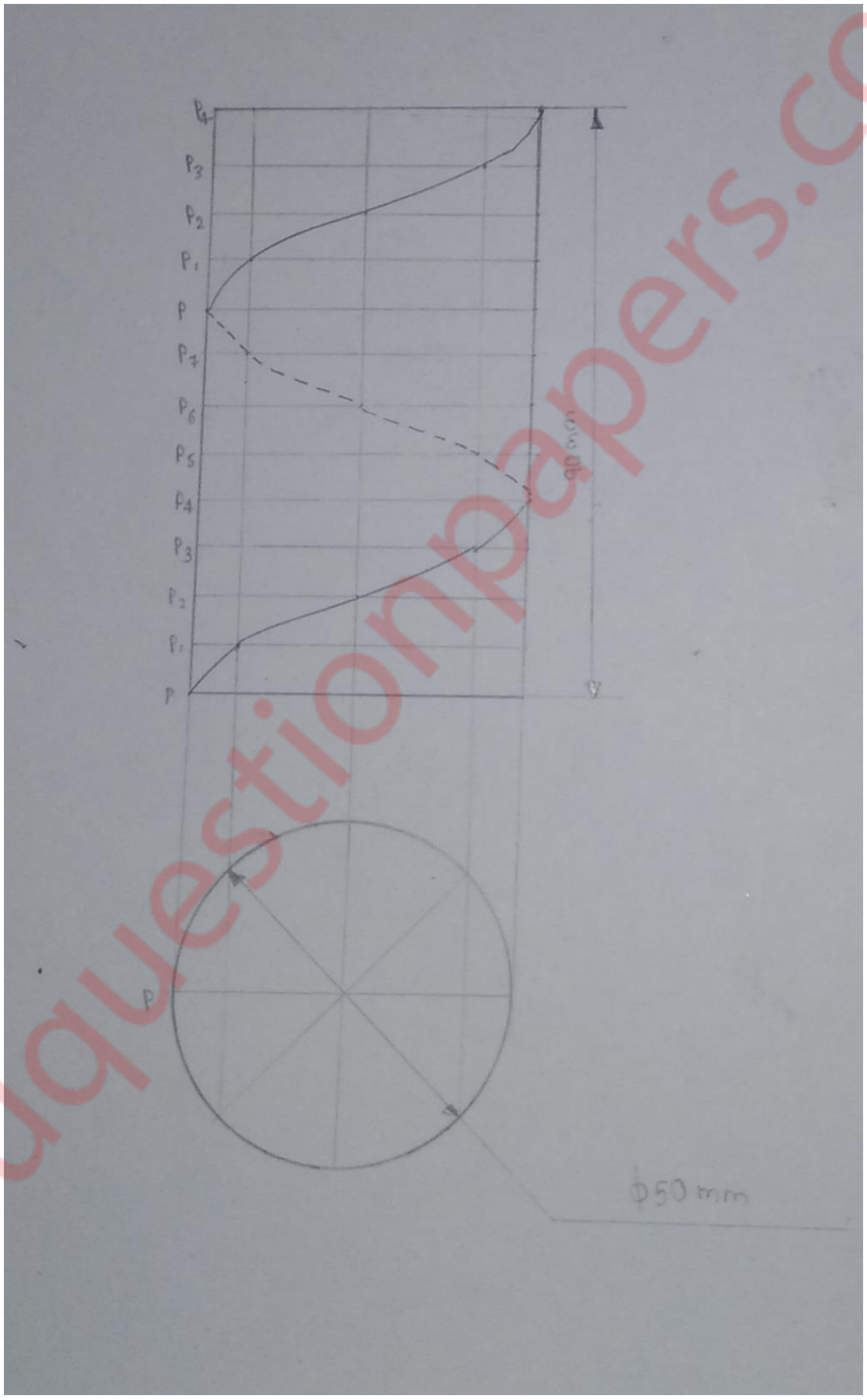


DRAWING :



Q.4(b)Draw 1.5 revolution of a cylindrical helix of pitch 60 mm on a cylinder of 50 mm diameter.

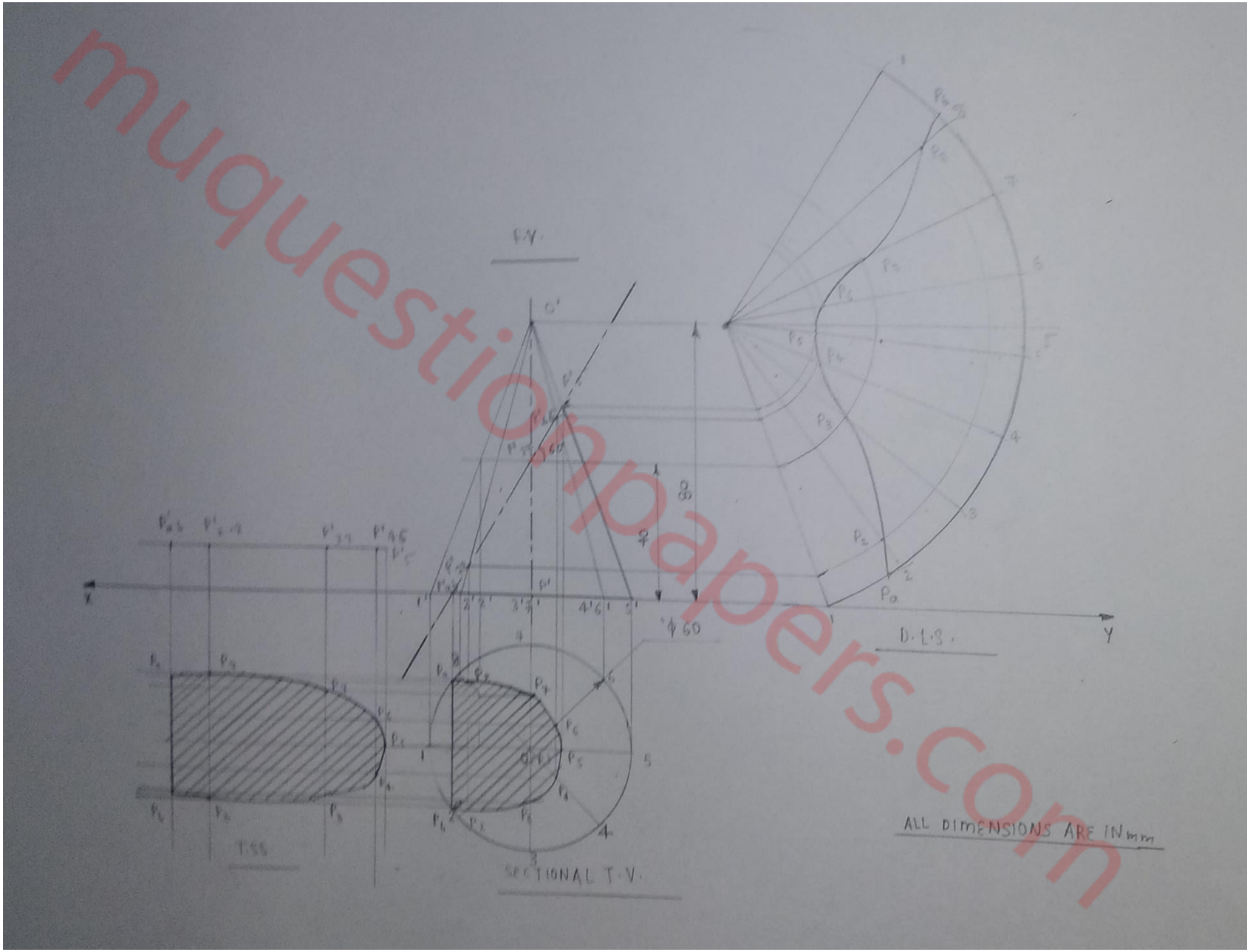
DRAWING :



Q.5 right circular cone having diameter of base 60 mm,axis length 80 mm resting on it's base on HP is cut by cutting plane perpendicular to VP and inclined to HP at 60o,bisects the axis.

Draw it's front view,sectional top view and true shape of section.Also draw the development of lateral surface of the cone after removing the portion containing the apex. (15 marks)

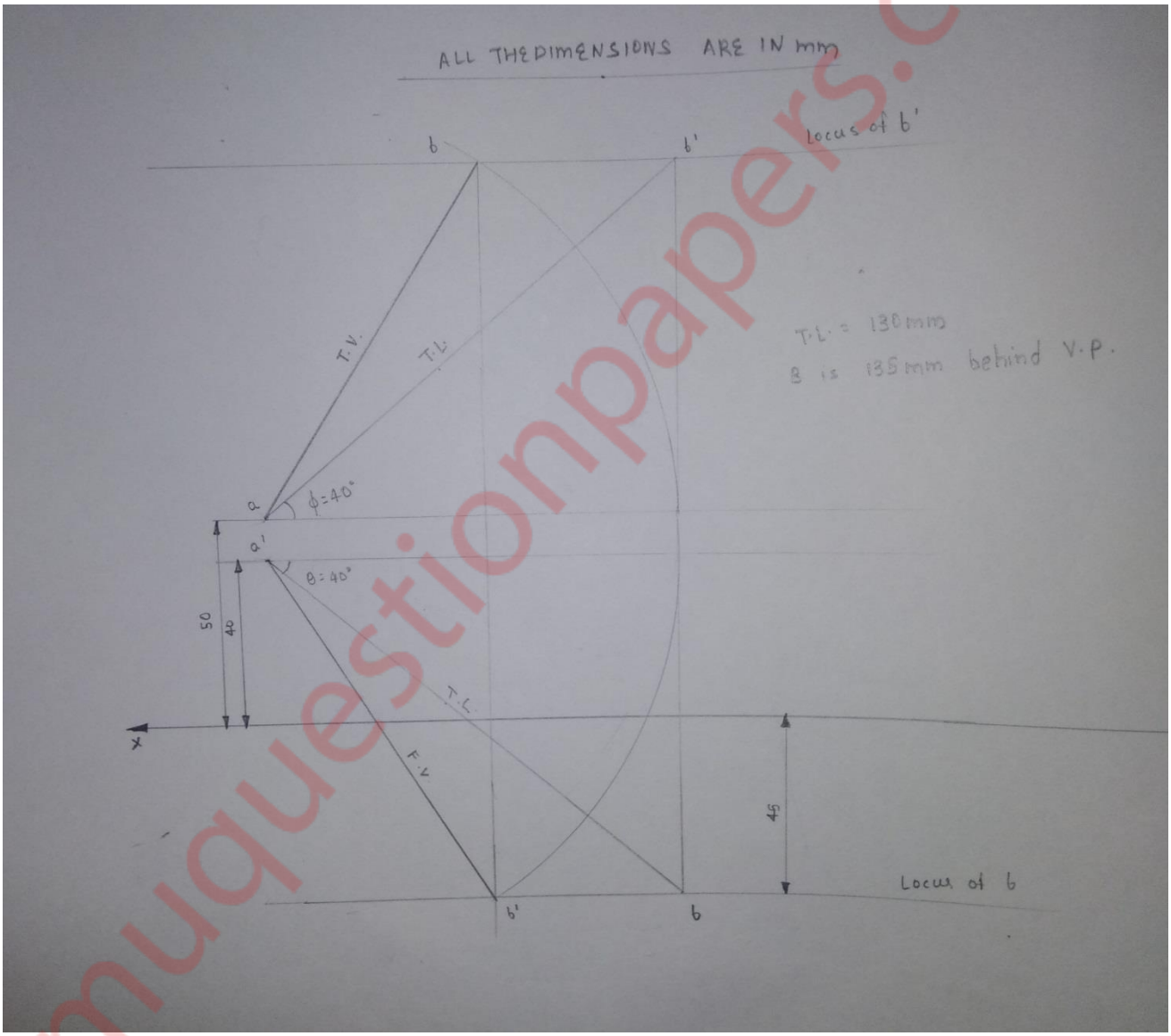
DRAWING ON NEXT PAGE



Q.6(a)End A of line AB is in second quadrant and is 40 mm and 15 mm from HP and VP respectively.The line is inclined at 40o to both the reference planes.

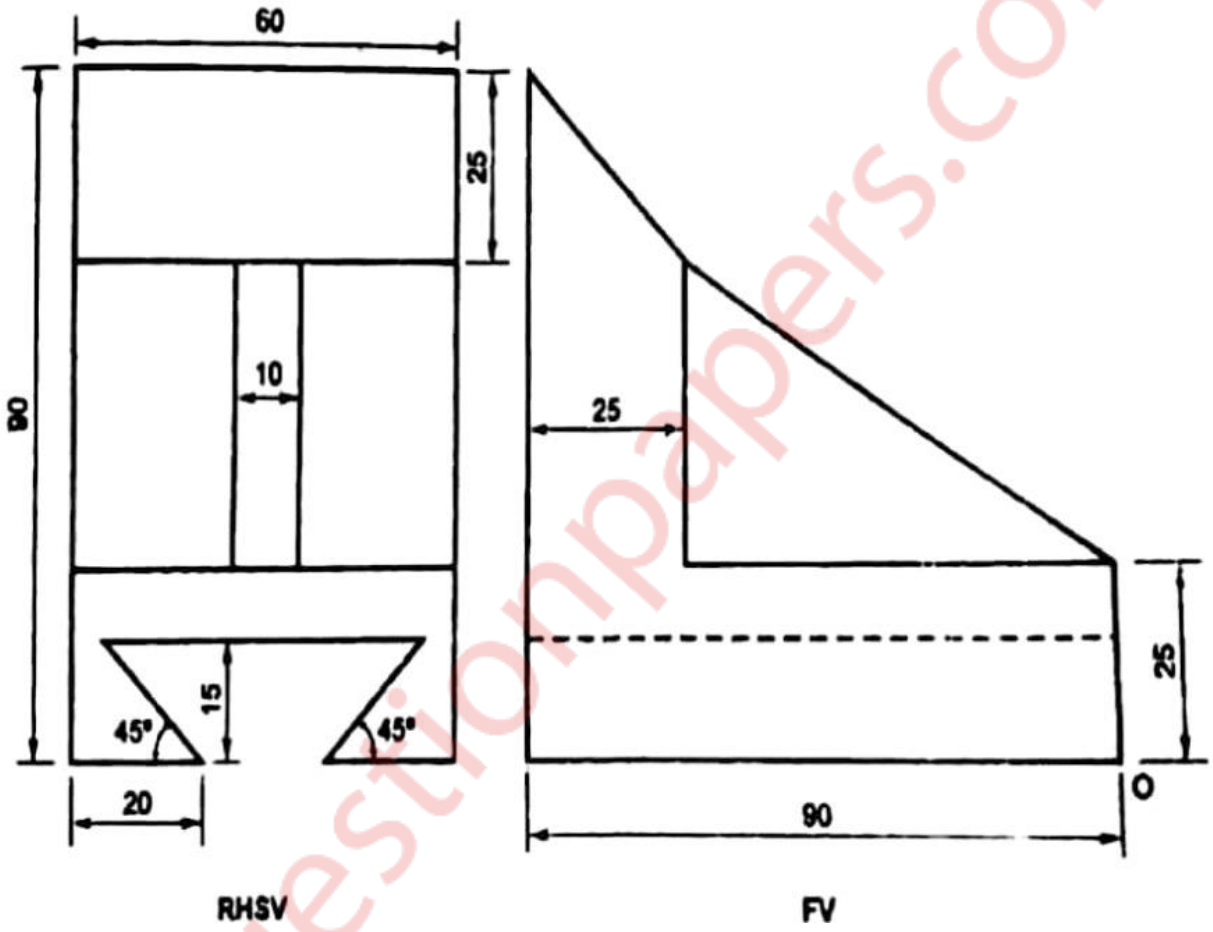
Draw it's projection when end B is in third quadrant and 45 mm from HP.Find the true length and distance of end B from VP. (8 marks)

DRAWING :

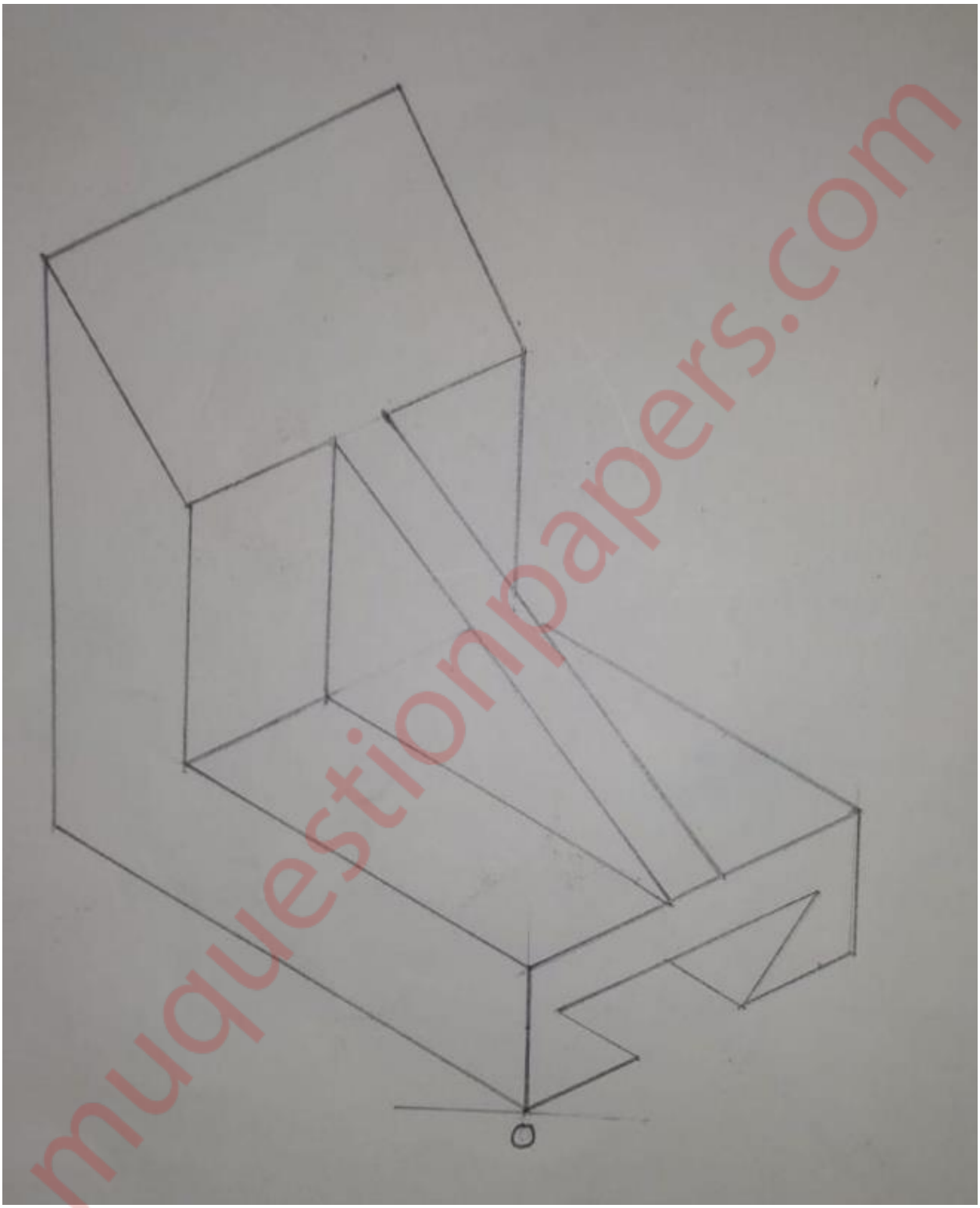


Q.6(b)Front view and side view of an object are shown in figure.

Draw the isometric view. (7 marks)



DRAWING :

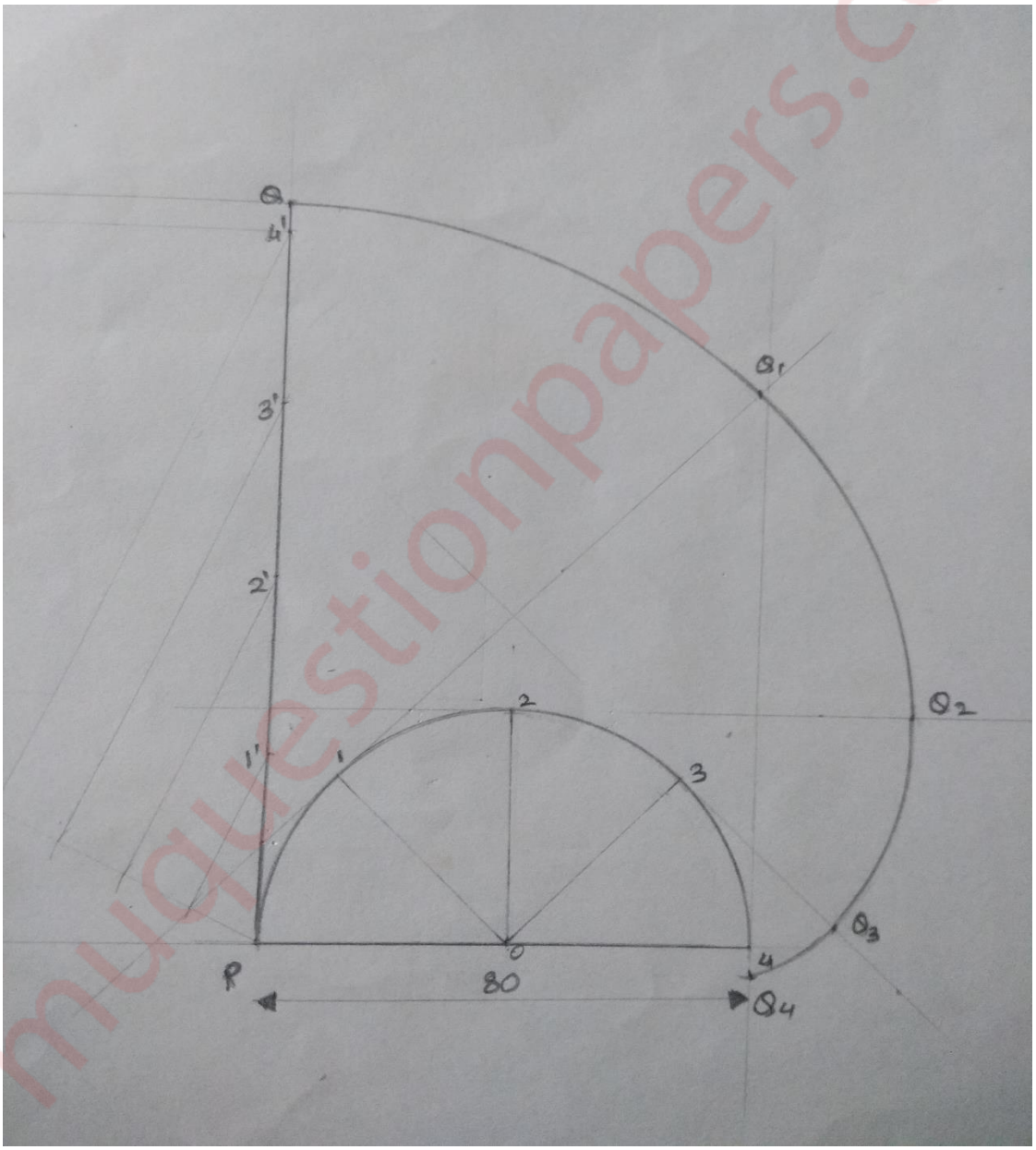


ENGINEERING DRAWING

DEC 2018

Q.1. (a) A stick is 130 mm long in initially tangent to semicircle of 80 mm diameter at its left side corner. This stick now rolls over the circumference of semi circle without slipping. Draw the locus of the end point of the stick, which is away from the semicircle and name the curve. (6)

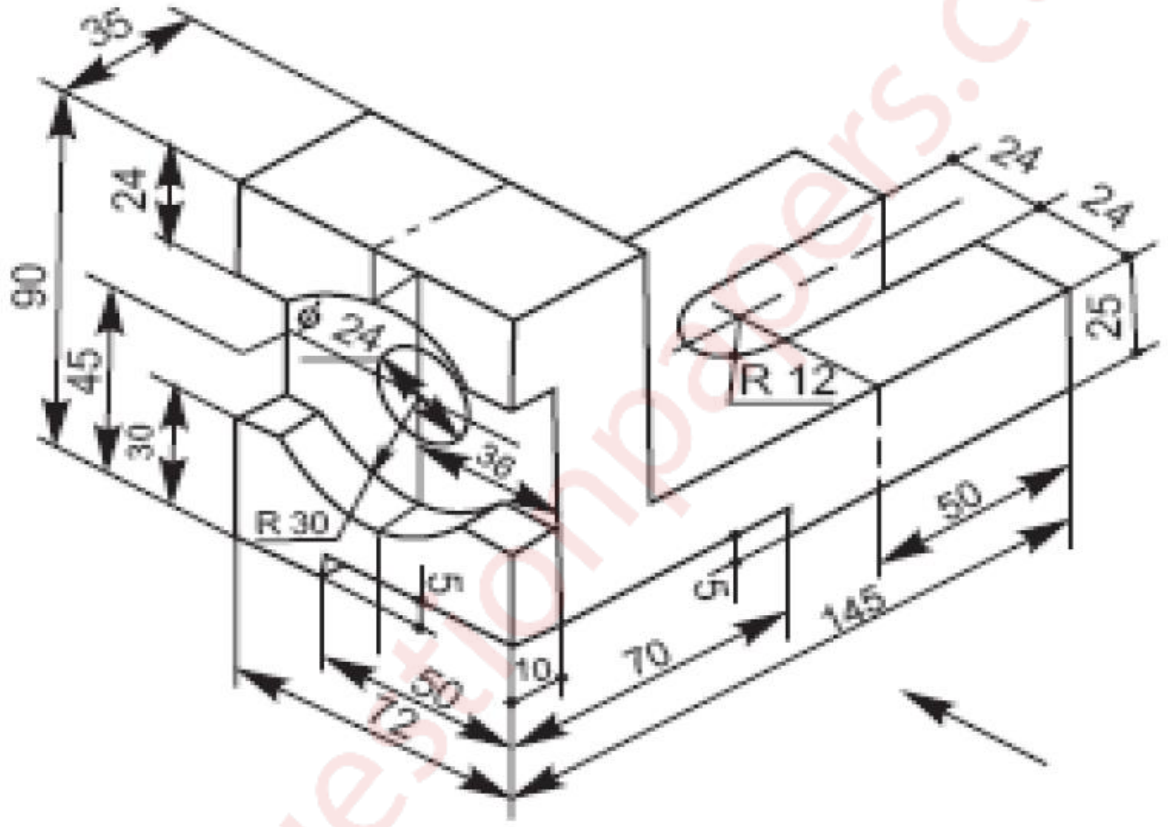
SOL:



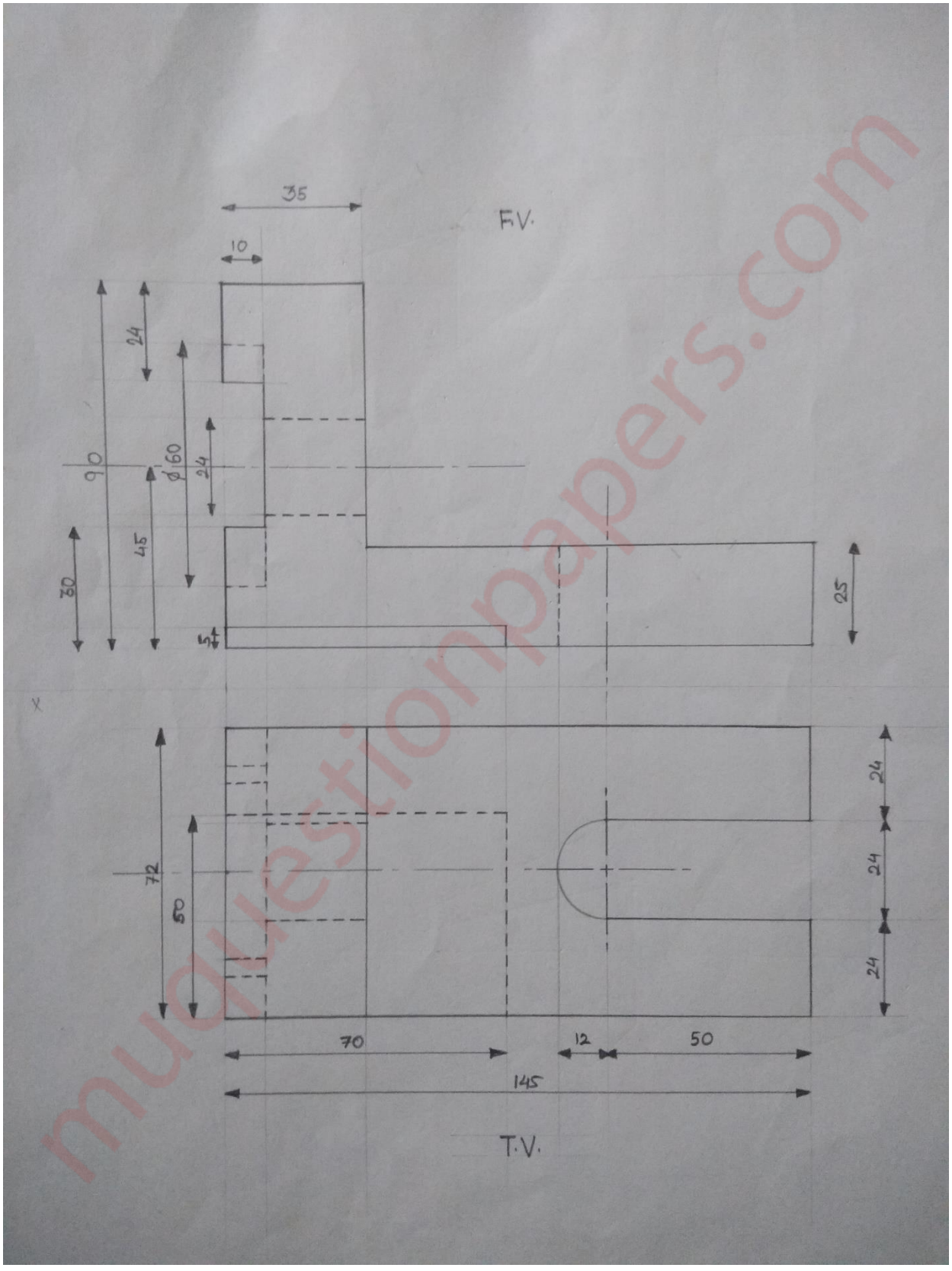
Q.1. (b) For the object shown in the figure draw the following views –

(i) Front view in the direction of arrow. (5)

(ii) Top view. (6)



SOL:



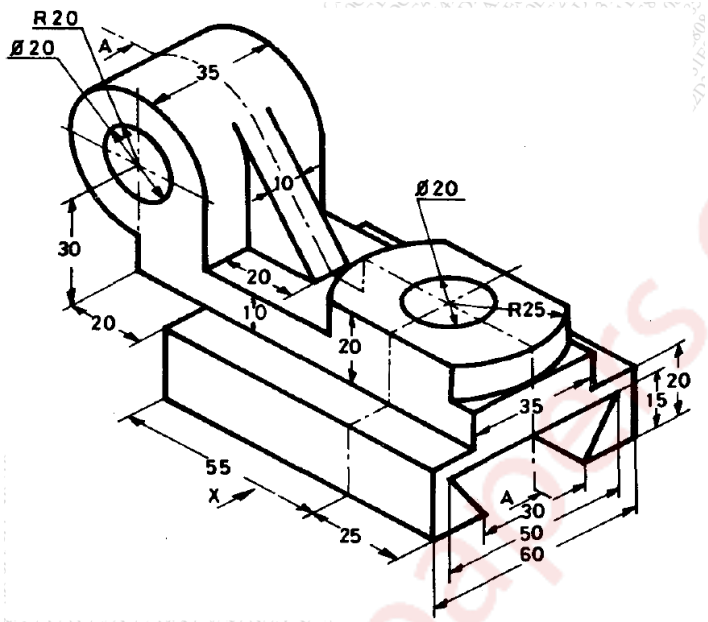
Q.2. For the object shown in figure draw the following views –

i. Sectional front view from X-direction section along A-A. (4)

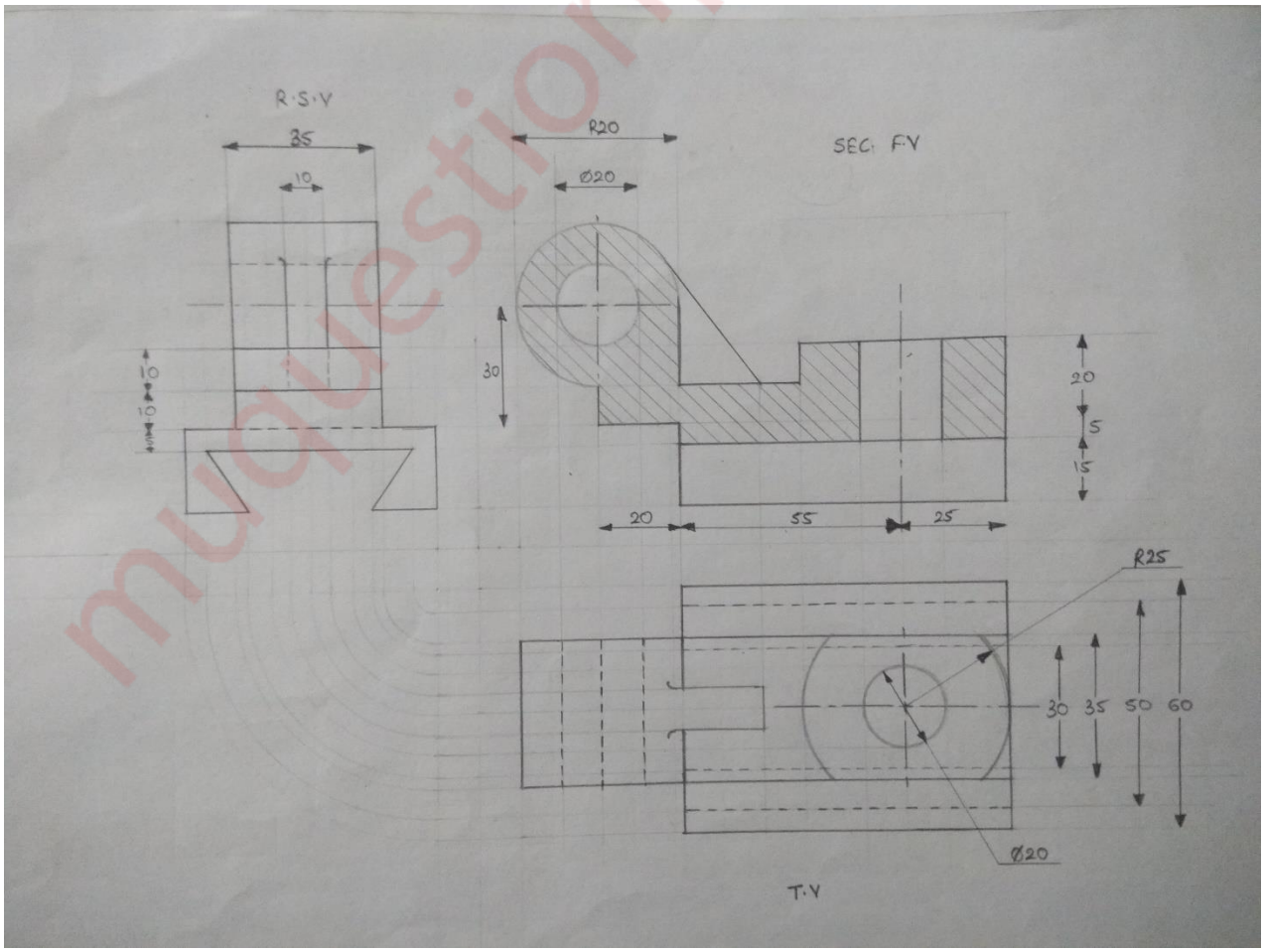
ii. Side view from Right. (4)

iii. Top view. (5)

iv. Insert the major dimensions. (2)

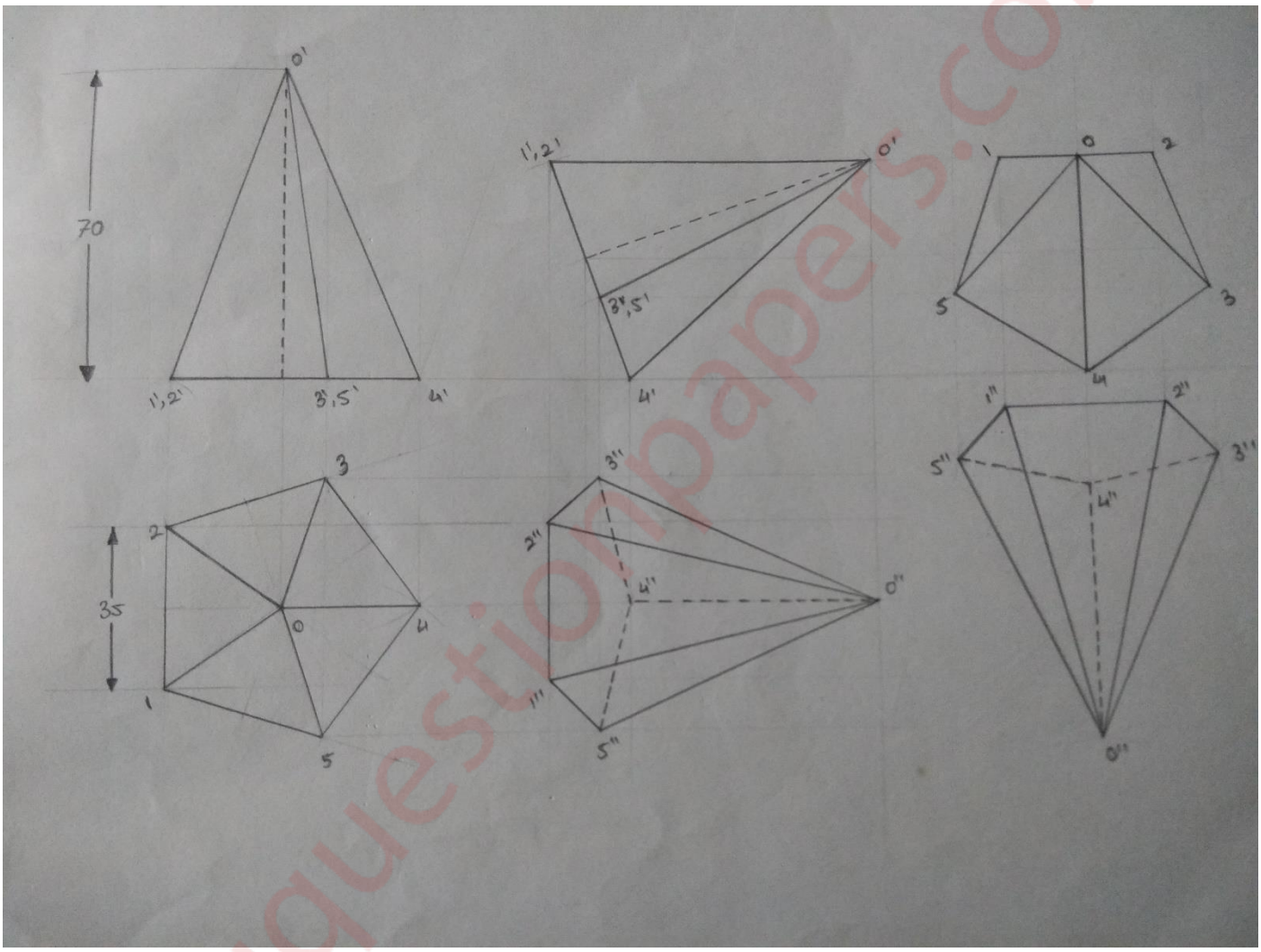


SOL:



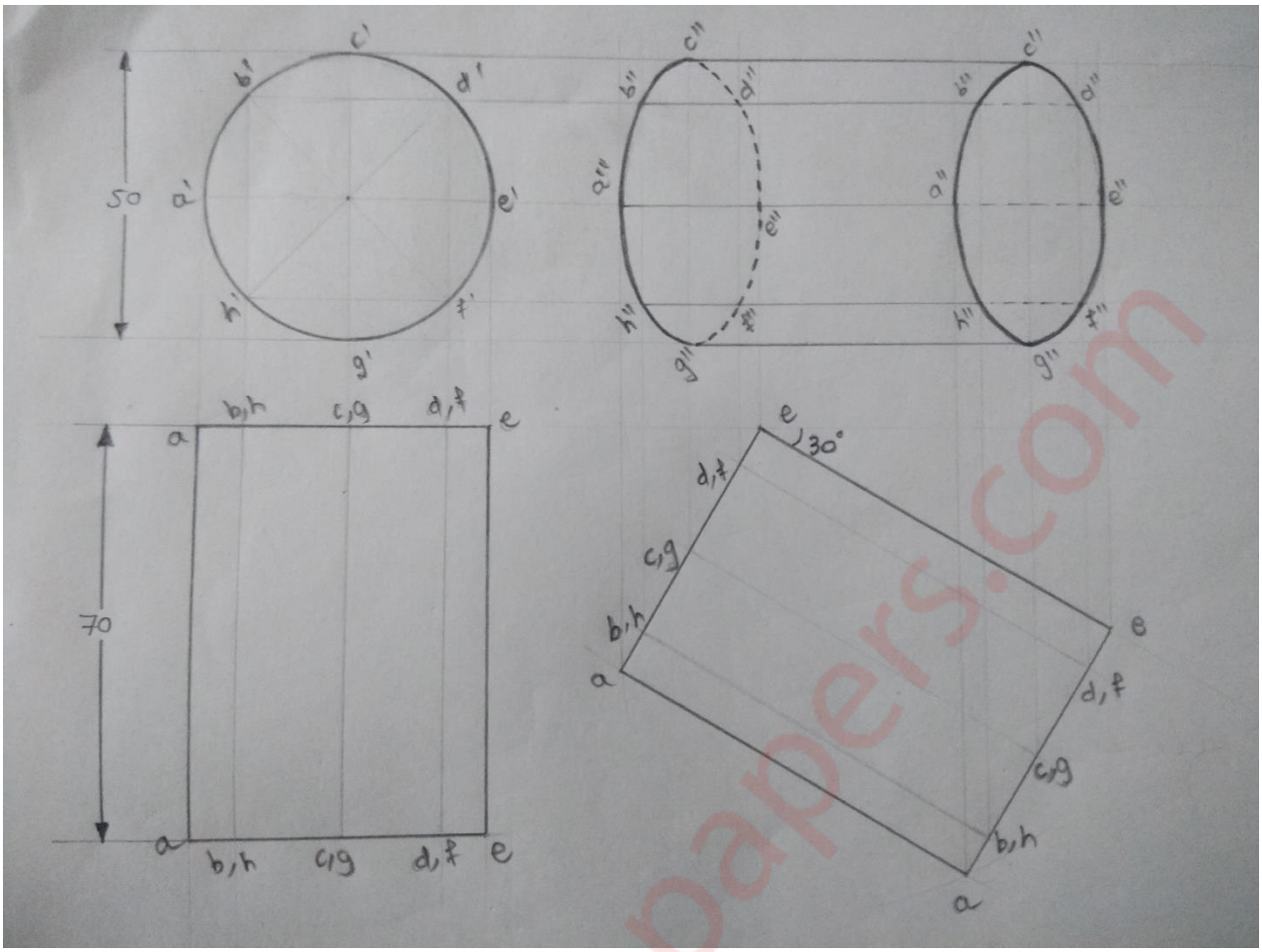
Q.3. A pentagonal pyramid, side of base 35 mm and axis 70 mm long, is lying on one of its corner on the HP such that the triangular surface opposite to the corner is parallel to HP and perpendicular to VP, and base edge containing that triangular surface is parallel to both the HP and VP. Draw the projections of the solid when the apex is of the pyramid is nearer to the observer. (15)

SOL:



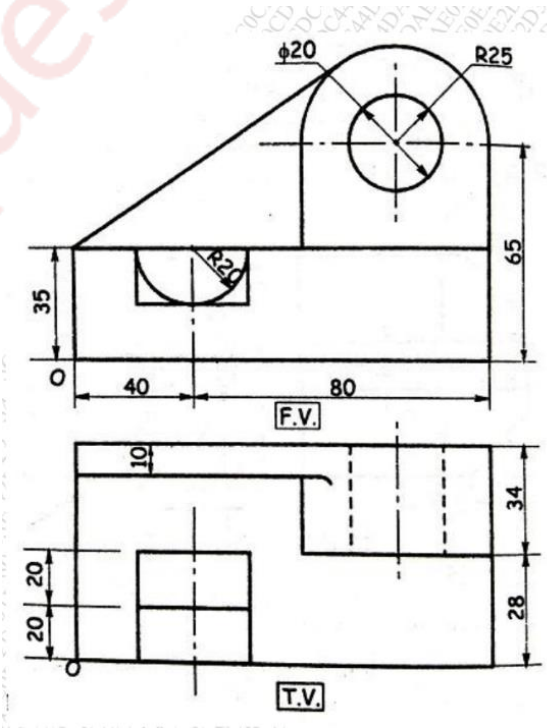
Q.4. (a) A cylinder of 50 mm diameter of base and length of an axis has resting on one point Of the circumference in VP. Draw its projections if one of the generators is inclined At 30˚ to VP and parallel to HP. (6)

SOL:

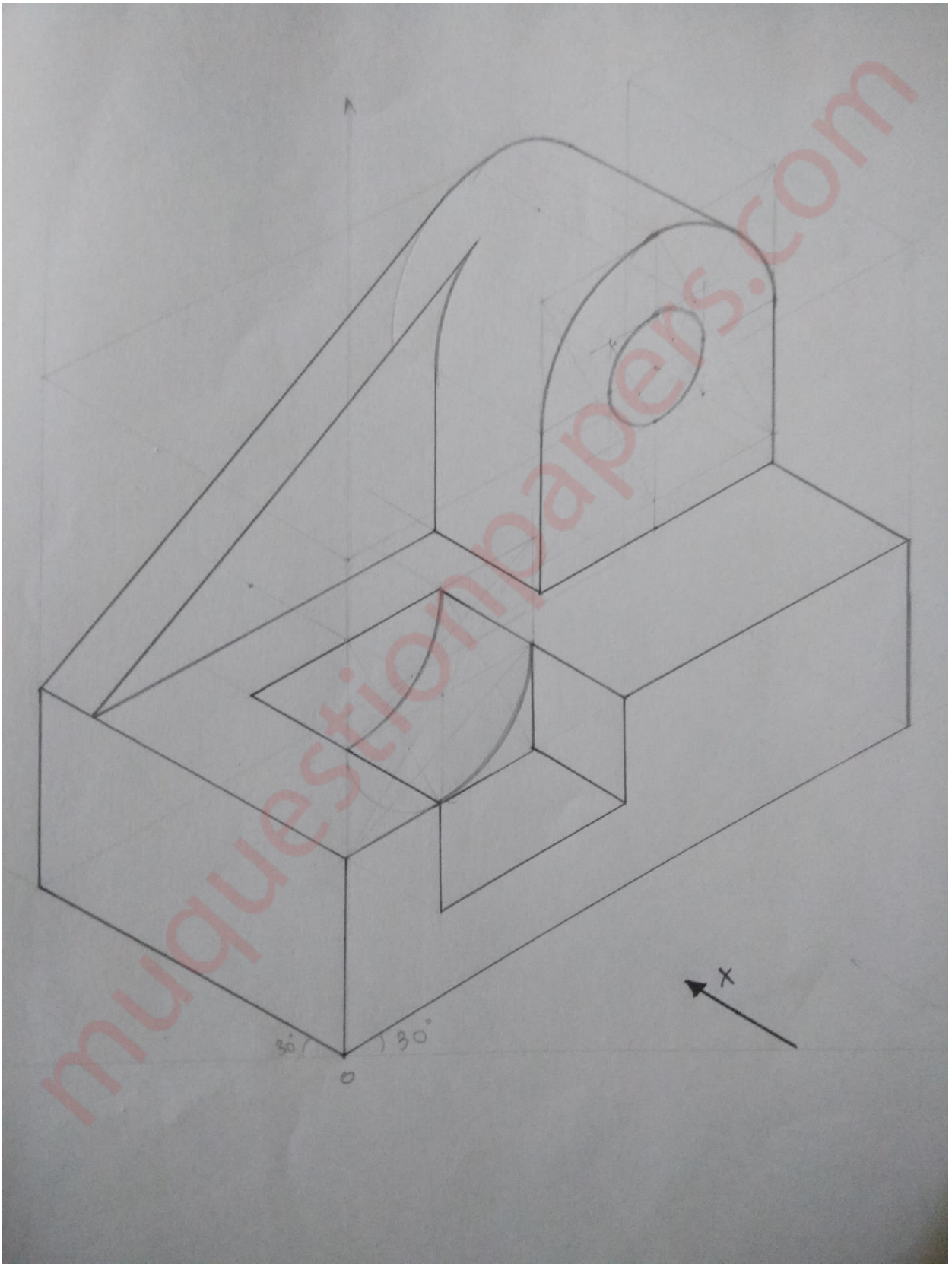


Q.4. (b) Figure Shows three views of an object. Draw its isometric view with 'O' as origin.

(9)

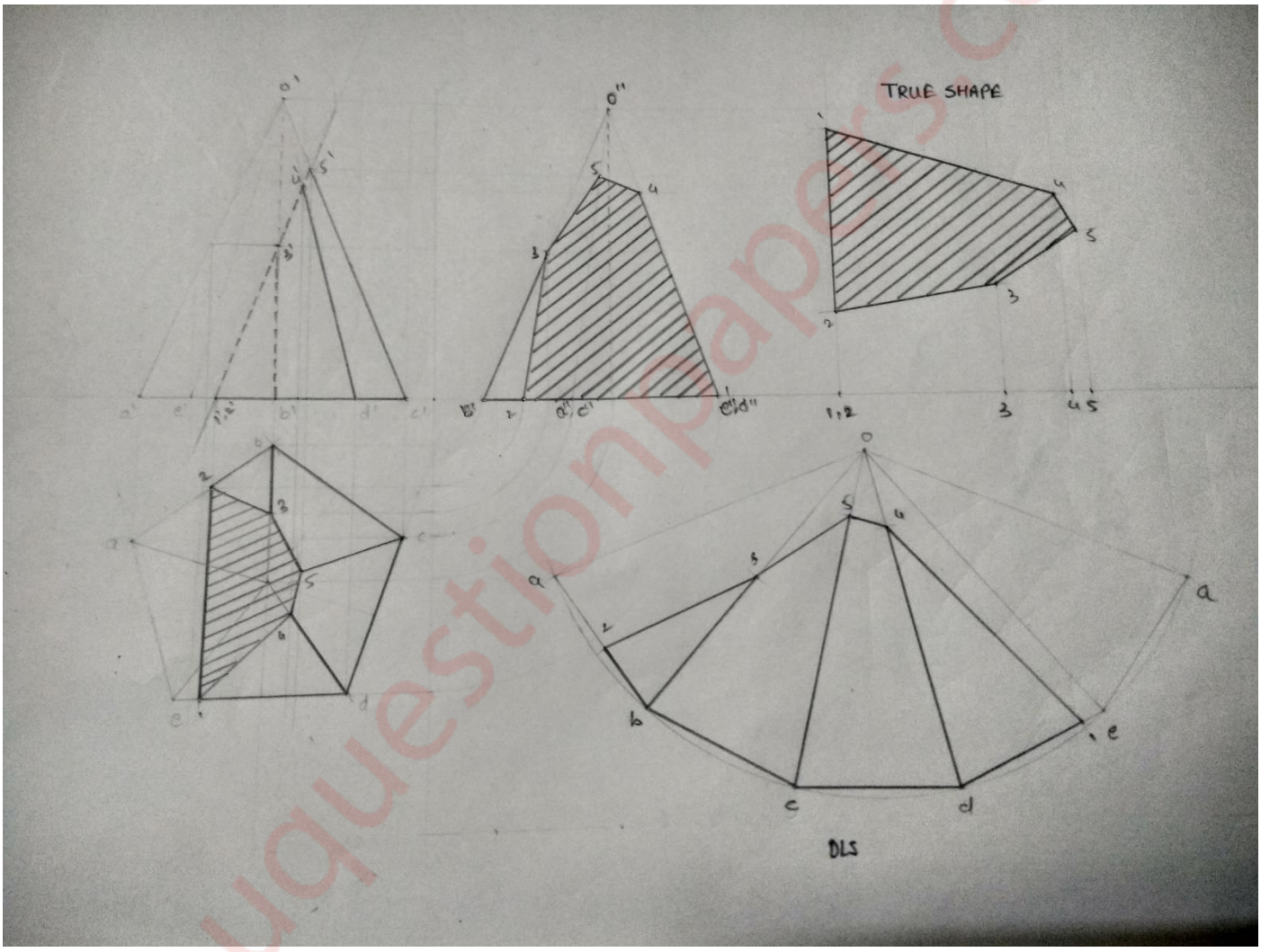


SOL:



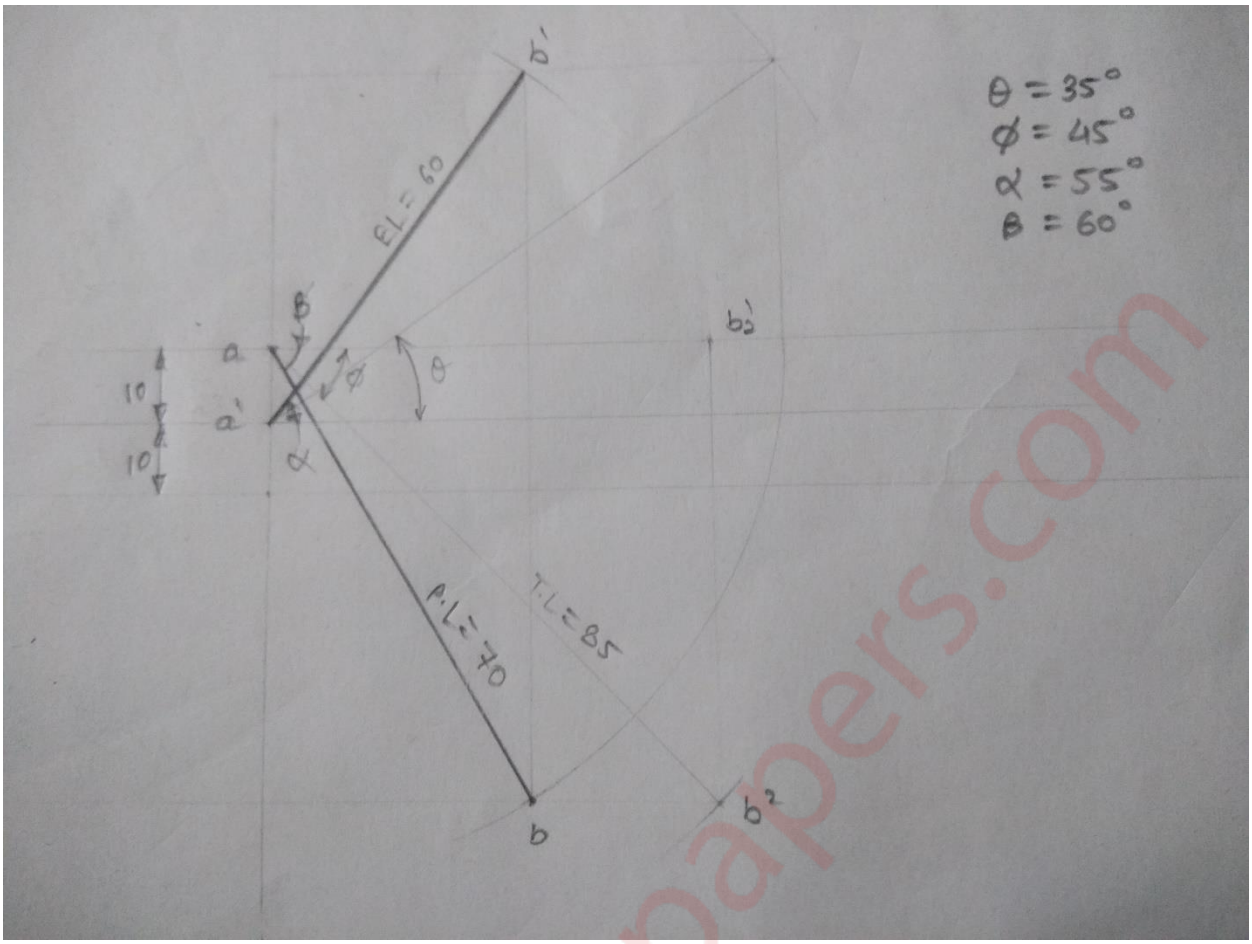
Q.5. A pentagonal pyramid side of base 40 mm and height 80 mm is resting on HP on its base with one of the edge of base parallel to VP and away from VP. It is cut by an AIP bisecting the axis, the distance of the section plane from apex being 13 mm, if the apex portion is removes, draw the elevation and sectional plane of the pyramid and show the true shape of the section. Also draw the development of the lateral surface of the remaining part of the pyramid. (15)

SOL:



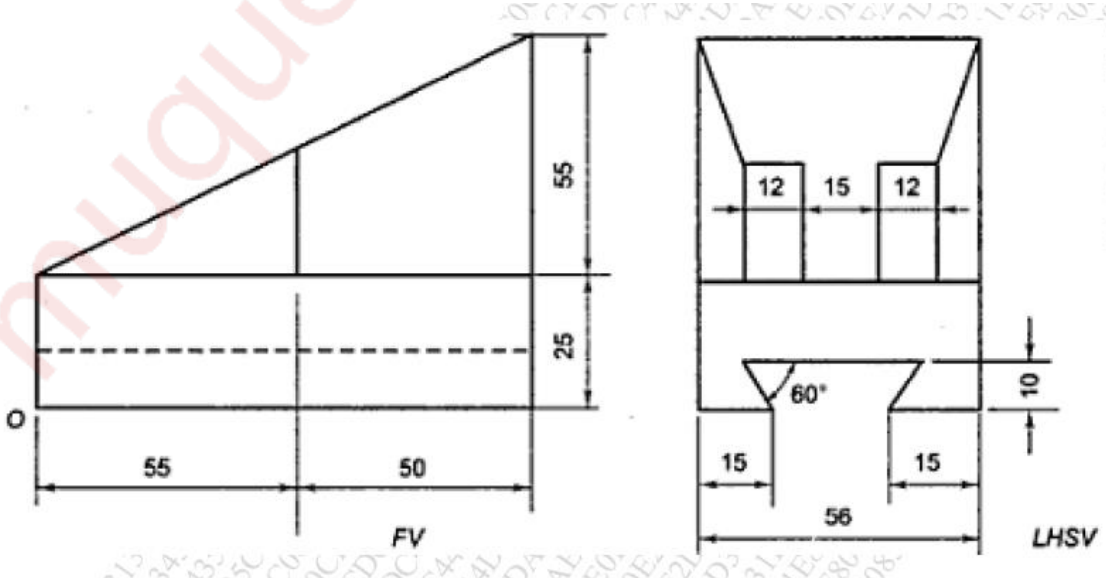
Q.6. (a) The F.V. of 85 mm long straight line AB measures 60 mm while its T.V. measures 70 mm. Draw the projection of AB if its end A is 10 mm above HP and 20 mm behind VP. While its end B is in first quadrant. Draw the projections of line and determine the inclination of line AB with the reference planes. (9)

SOL:

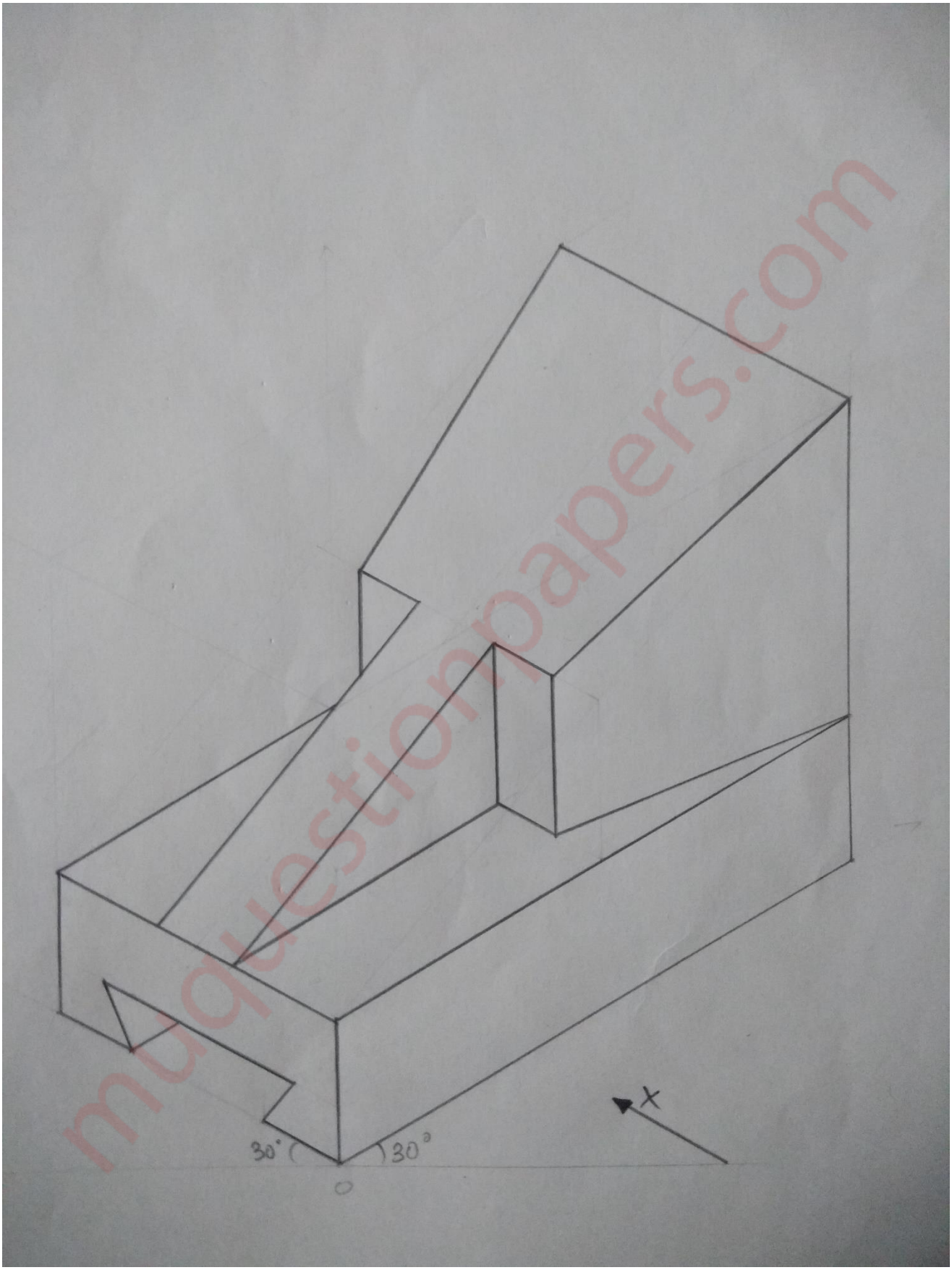


Q.6. (b) Figure shows two views of an object. Draw its isometric view with 'O' as origin

(6)



SOL:

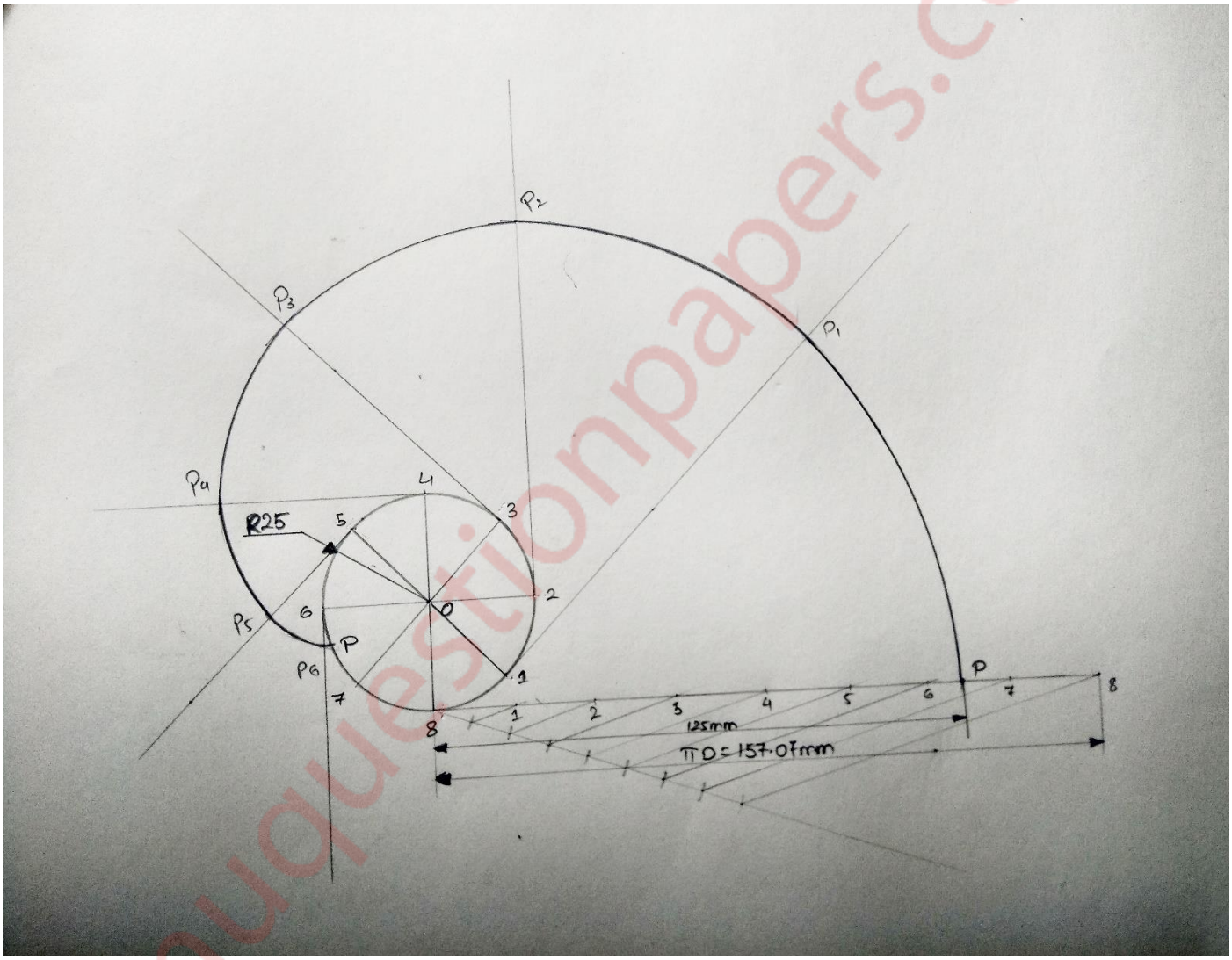


ENGINEERING DRAWING

MAY 19

Q.1. (a) One end of an elastic string, 125 mm long is attached to the circumference of a circular disc of 50 mm diameter. The free end of the string is wound around the disc, keeping the string always tight. Draw the locus of the free end and name the curve. (06)

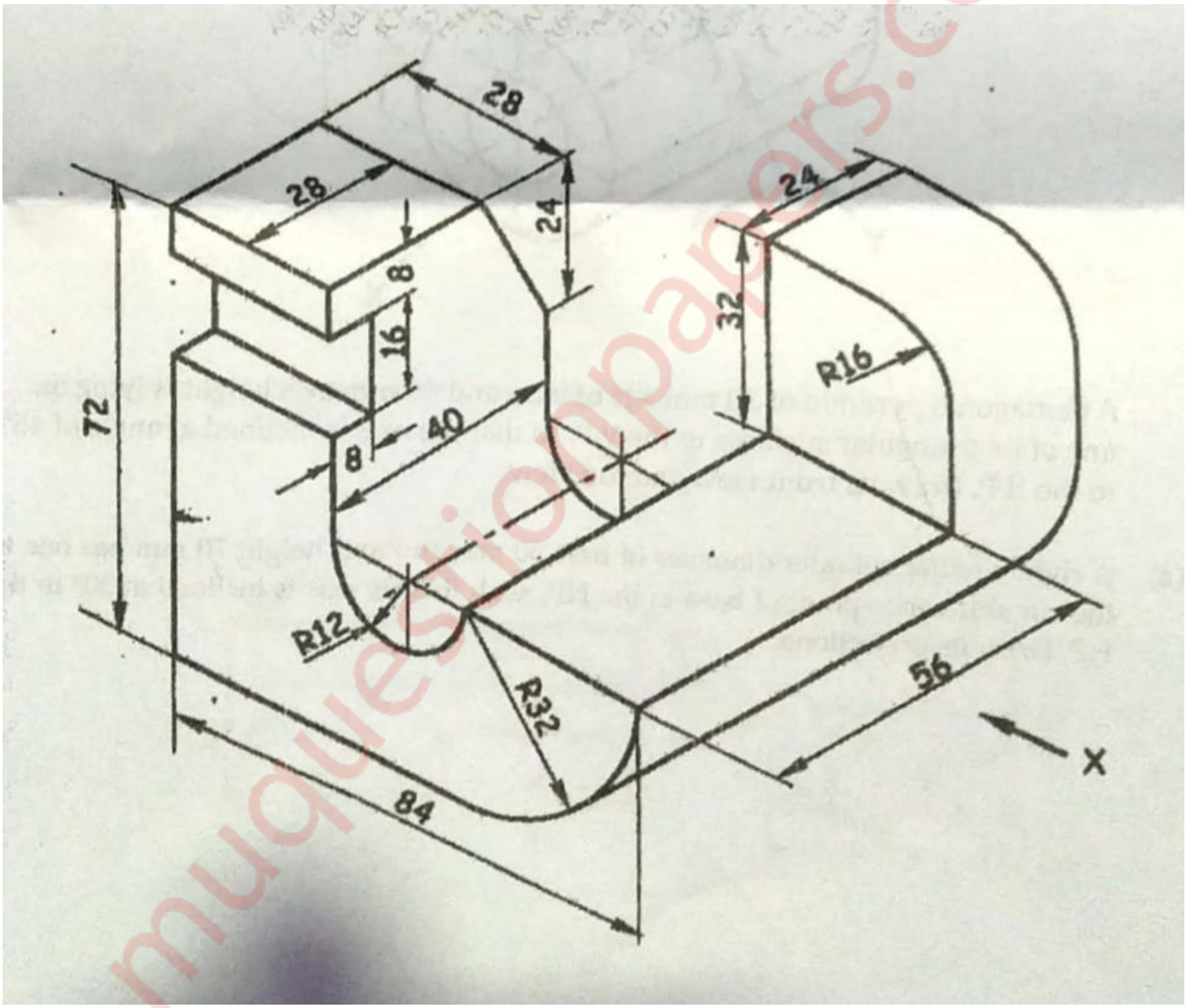
SOL:



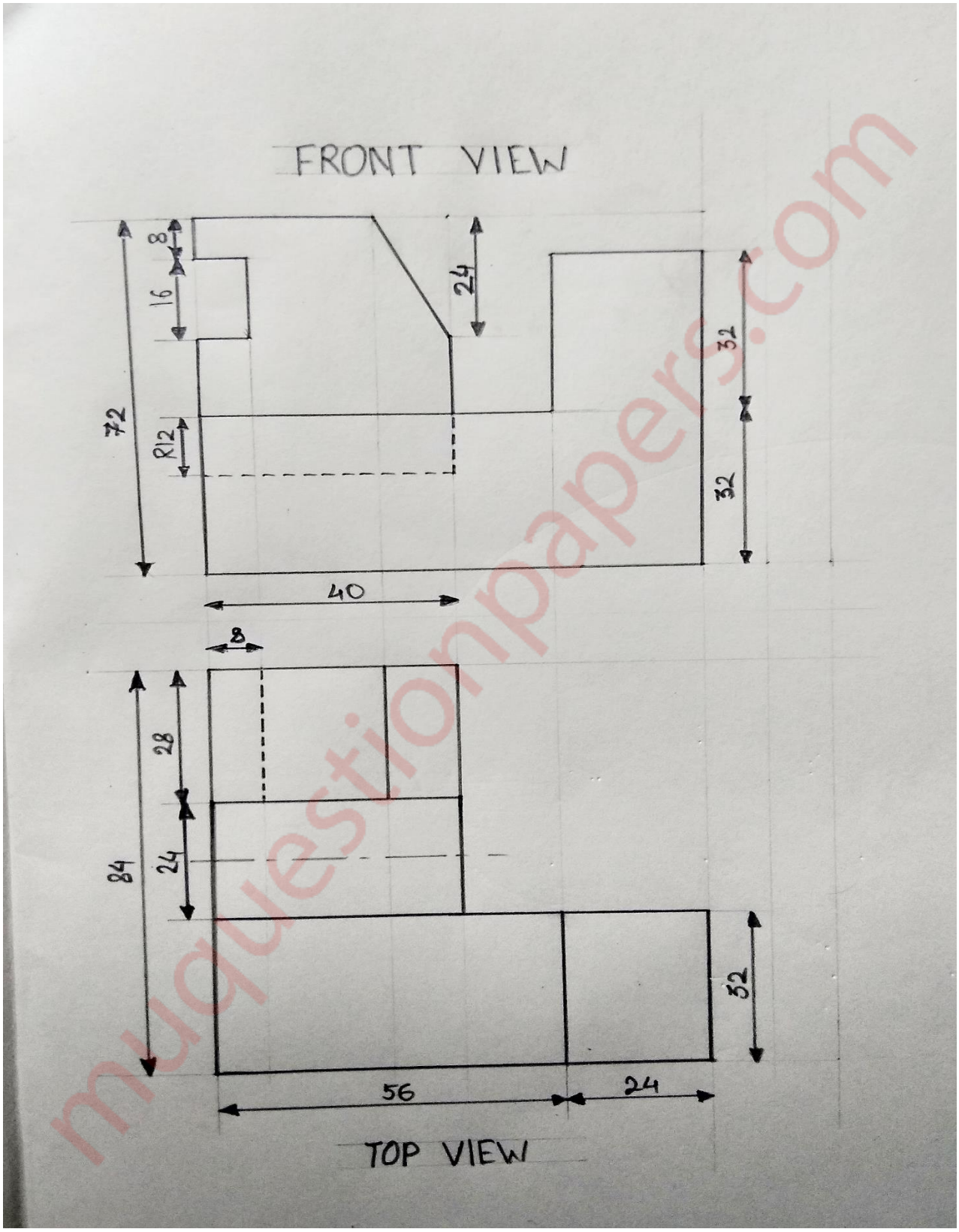
Q.1. (b) For the object shown in figure draw the following views –

(i) Front view in the direction of arrow X. (05)

(ii) Top view. (04)



SOL:



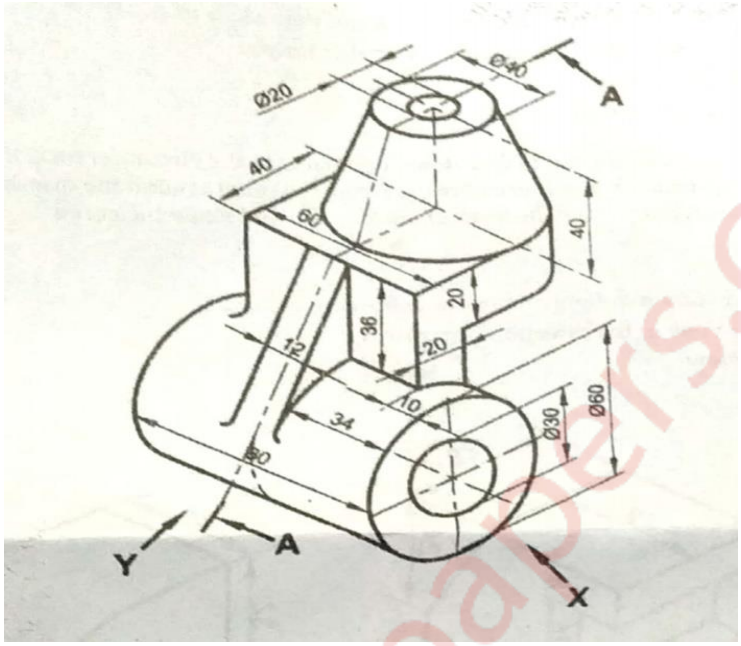
Q.2. For the object shown in figure draw the following views-

(i) Sectional front view along section A-A. (04)

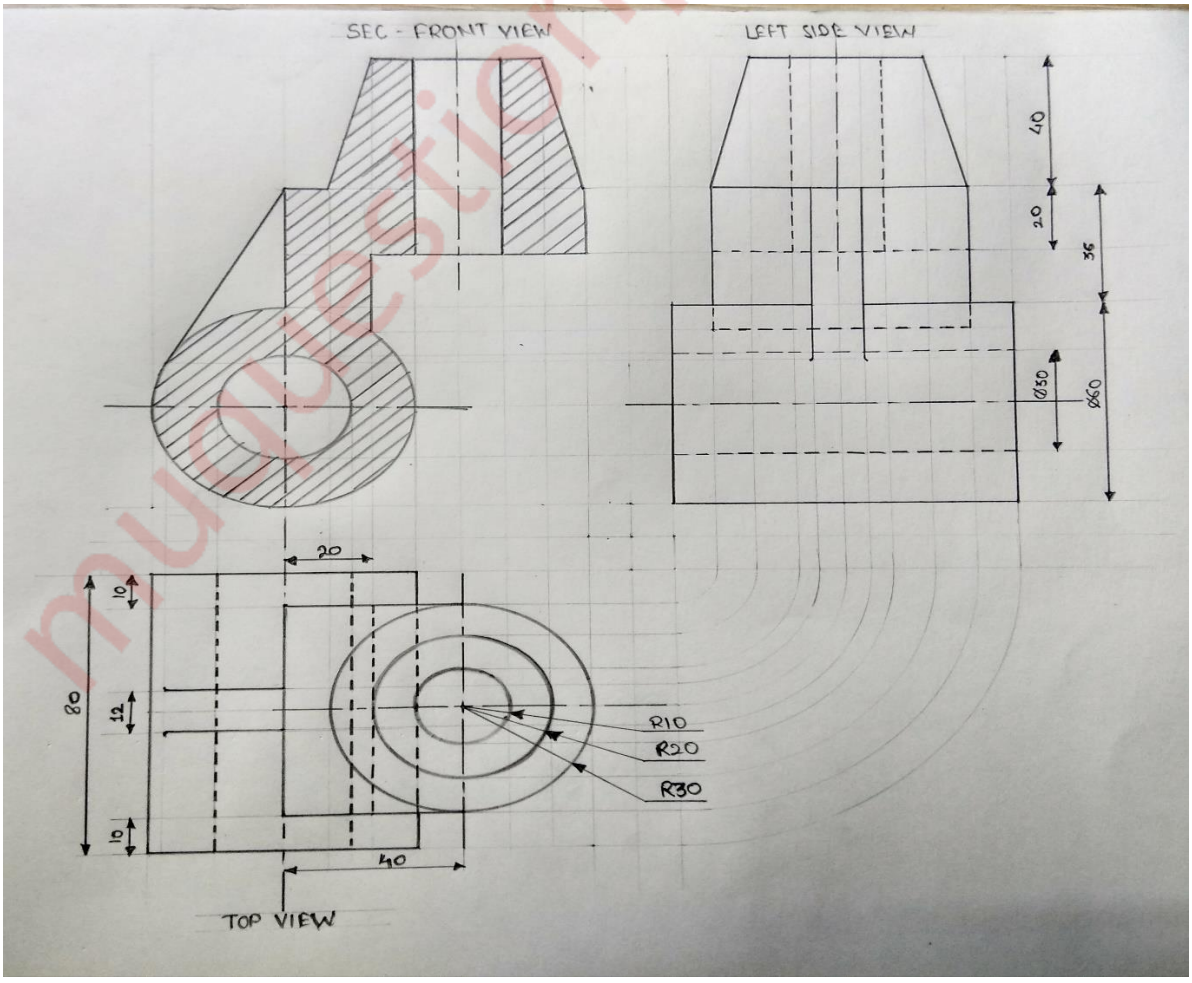
(ii) Side view from left (04)

(iii) Top view (05)

(iv) Insert the major dimensions. (02)

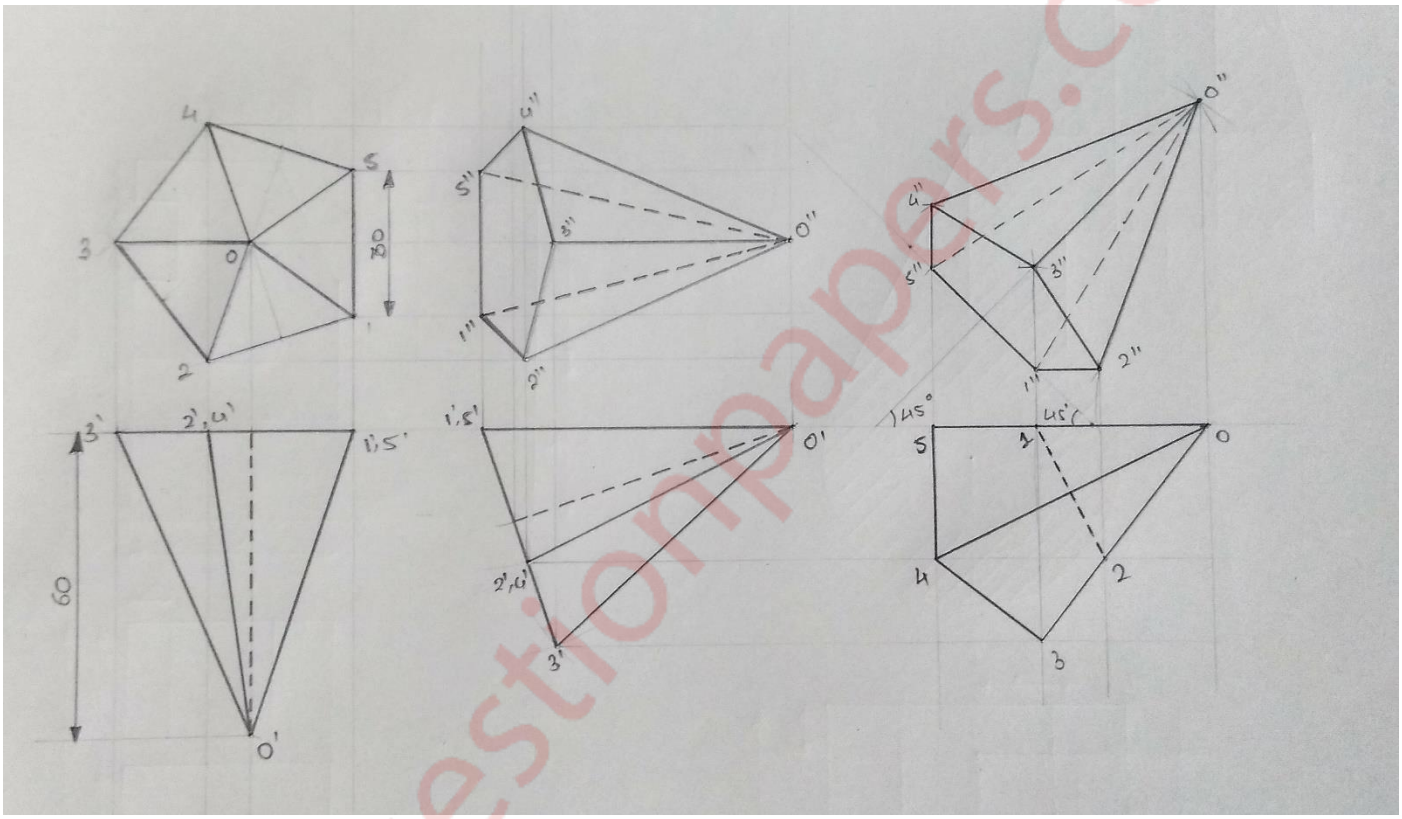


SOL:



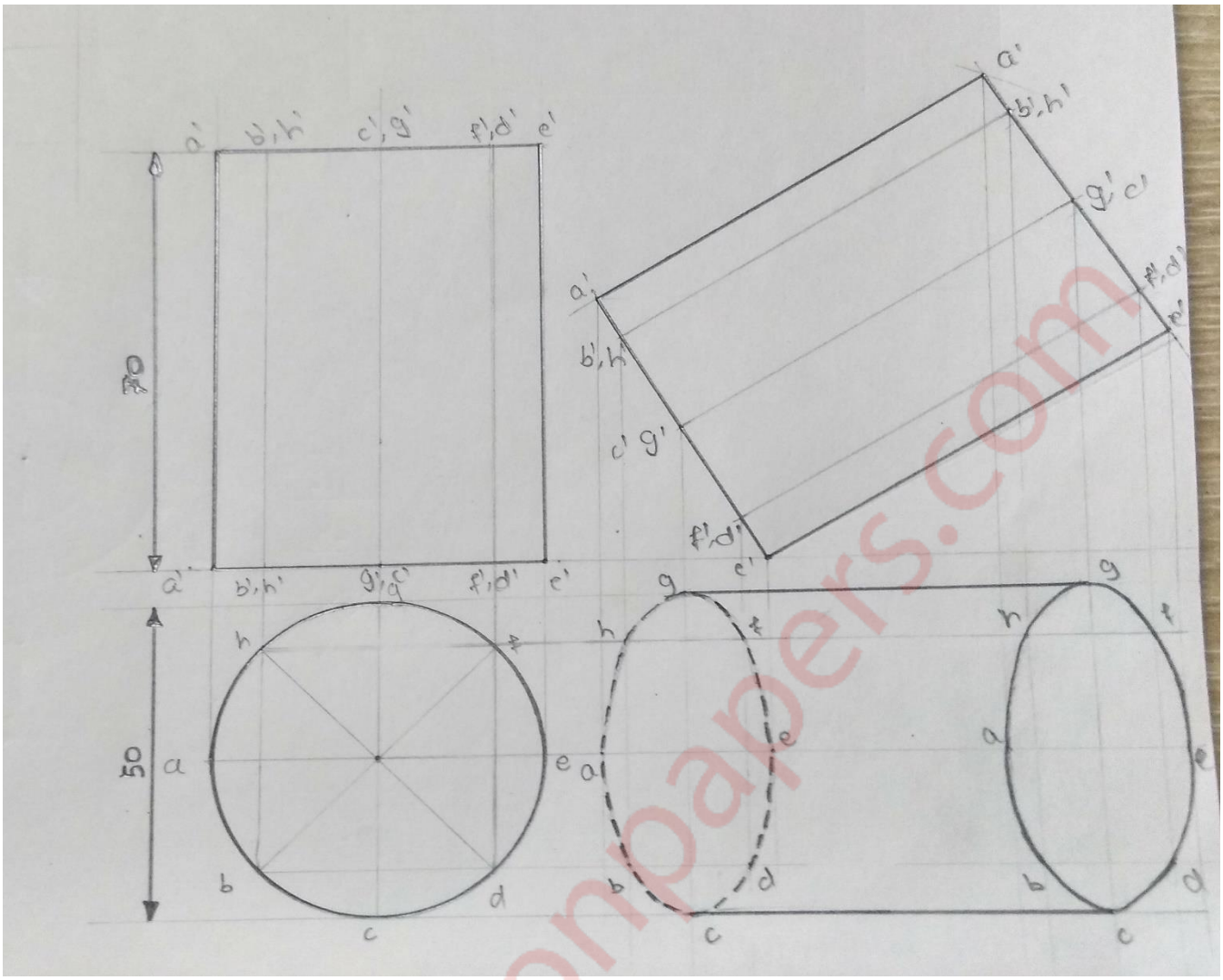
Q.3 A pentagonal pyramid of 30 mm age of base and 60 mm axis height is lying on one of its triangular surfaces in the V.P. so that the axis is inclined at angle of 45˚ to the H.P. Draw its front view and top view. (15)

SOL:

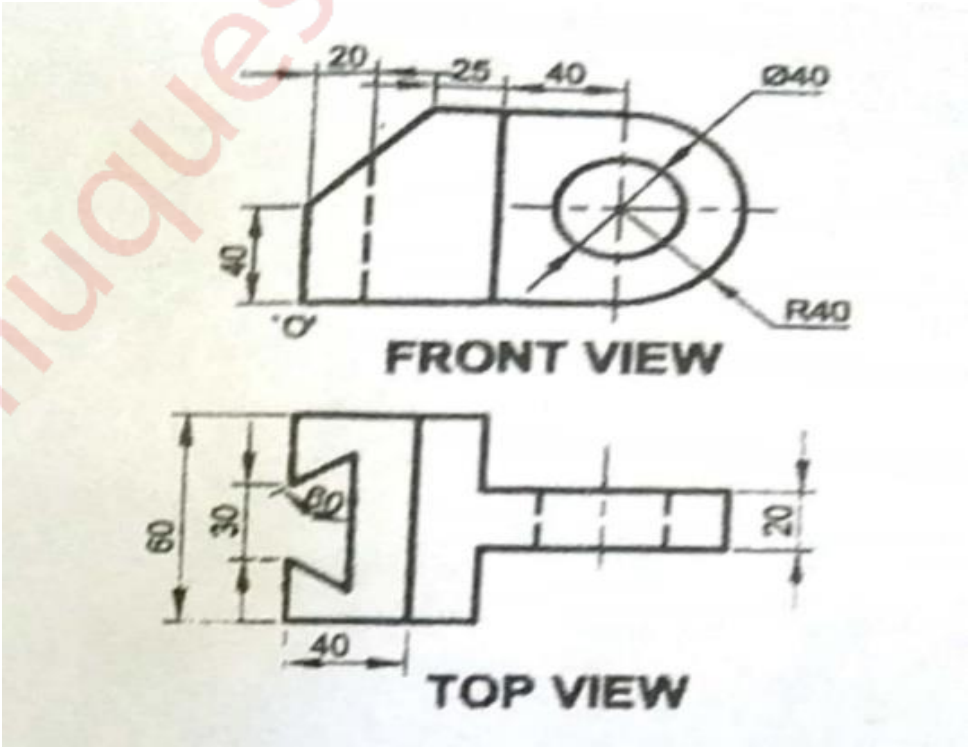


Q.4 (a) A right circular cylinder diameter of base 50 mm and axis height 70 mm has one of the circumference point of base in the HP, such that its axis is inclined at 30˚ to the HP. Draw its projections. (06)

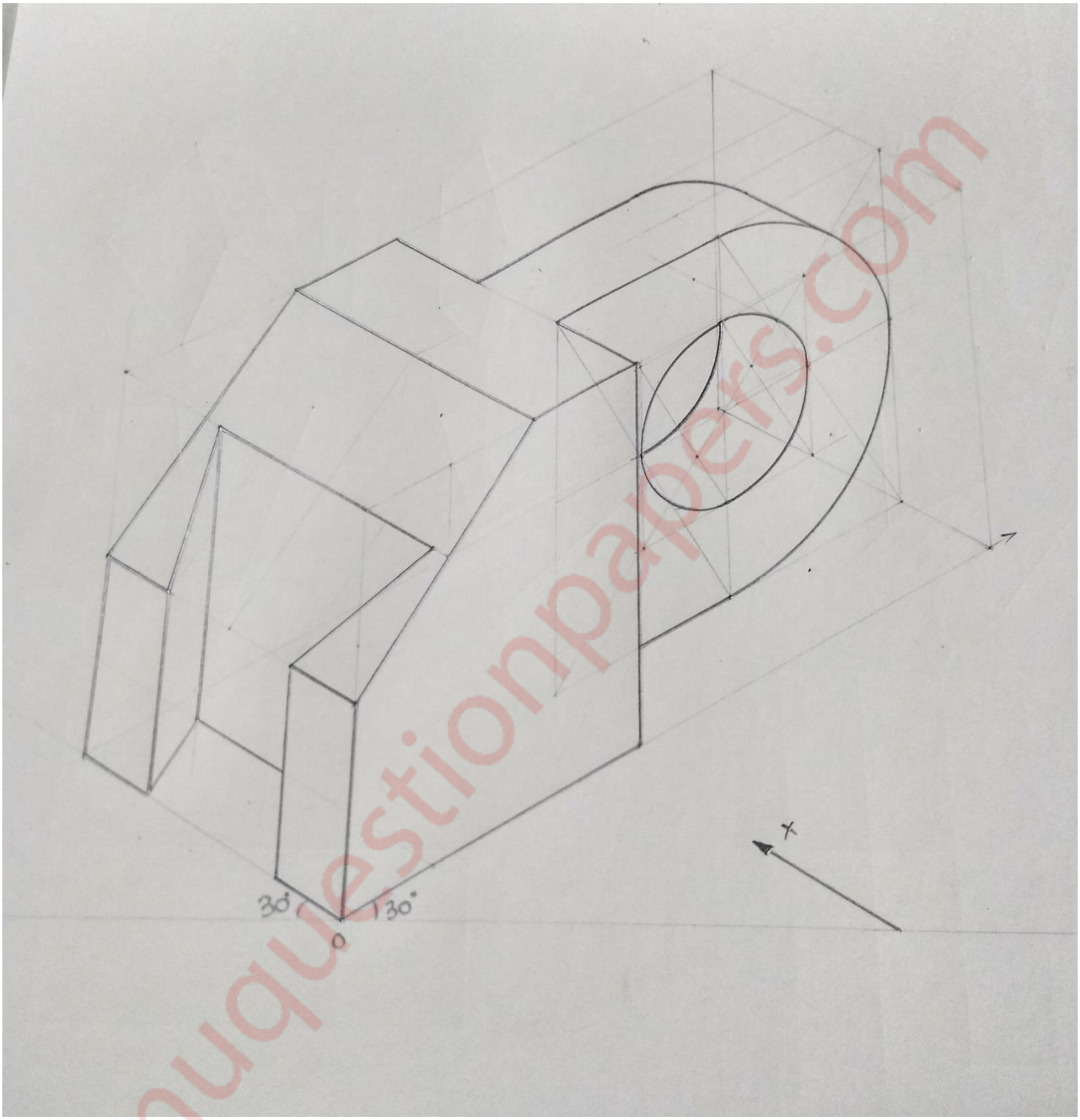
SOL:



Q.4 (b) Figure shows two views of an object. Draw its isometric view. (09)

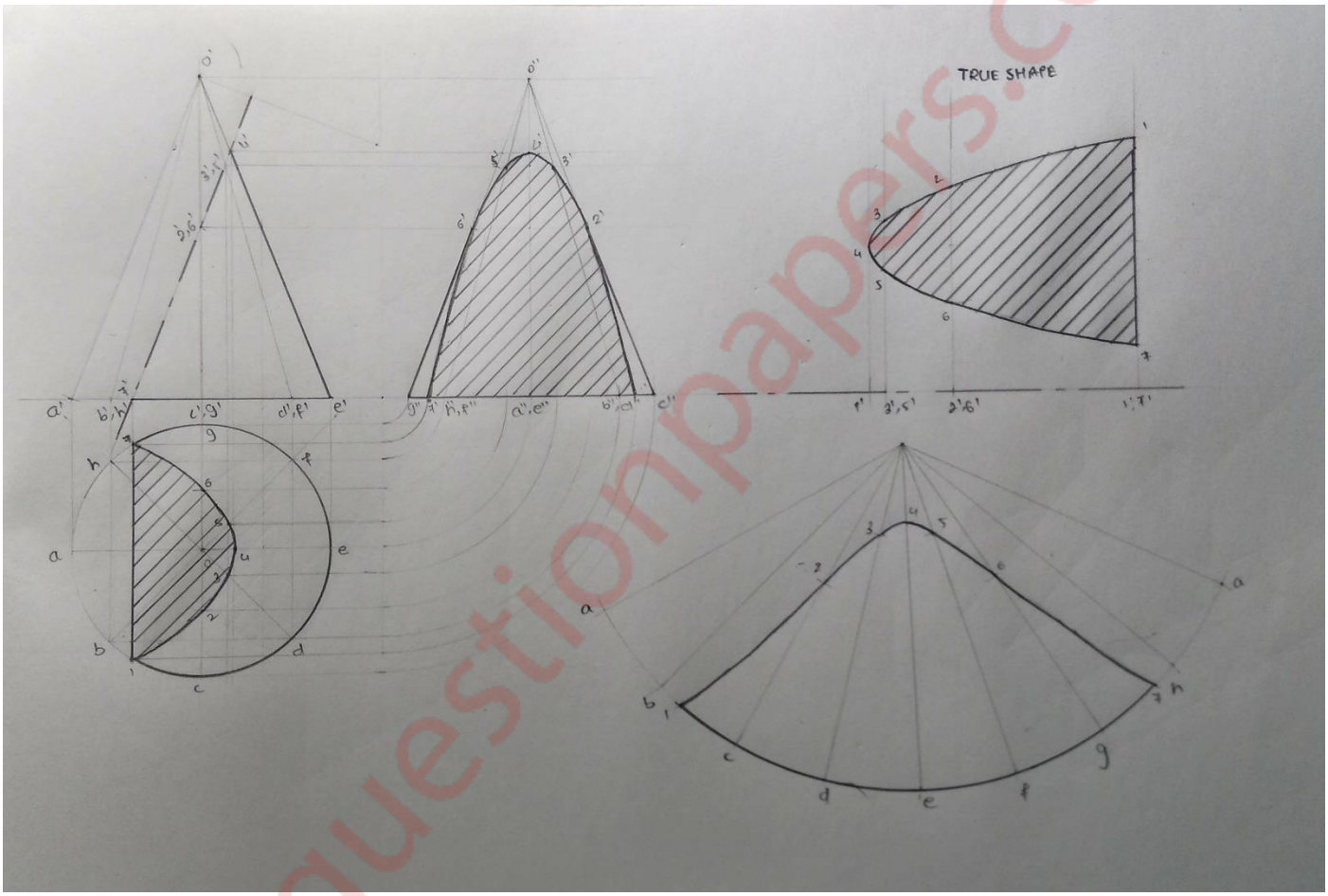


SOL:



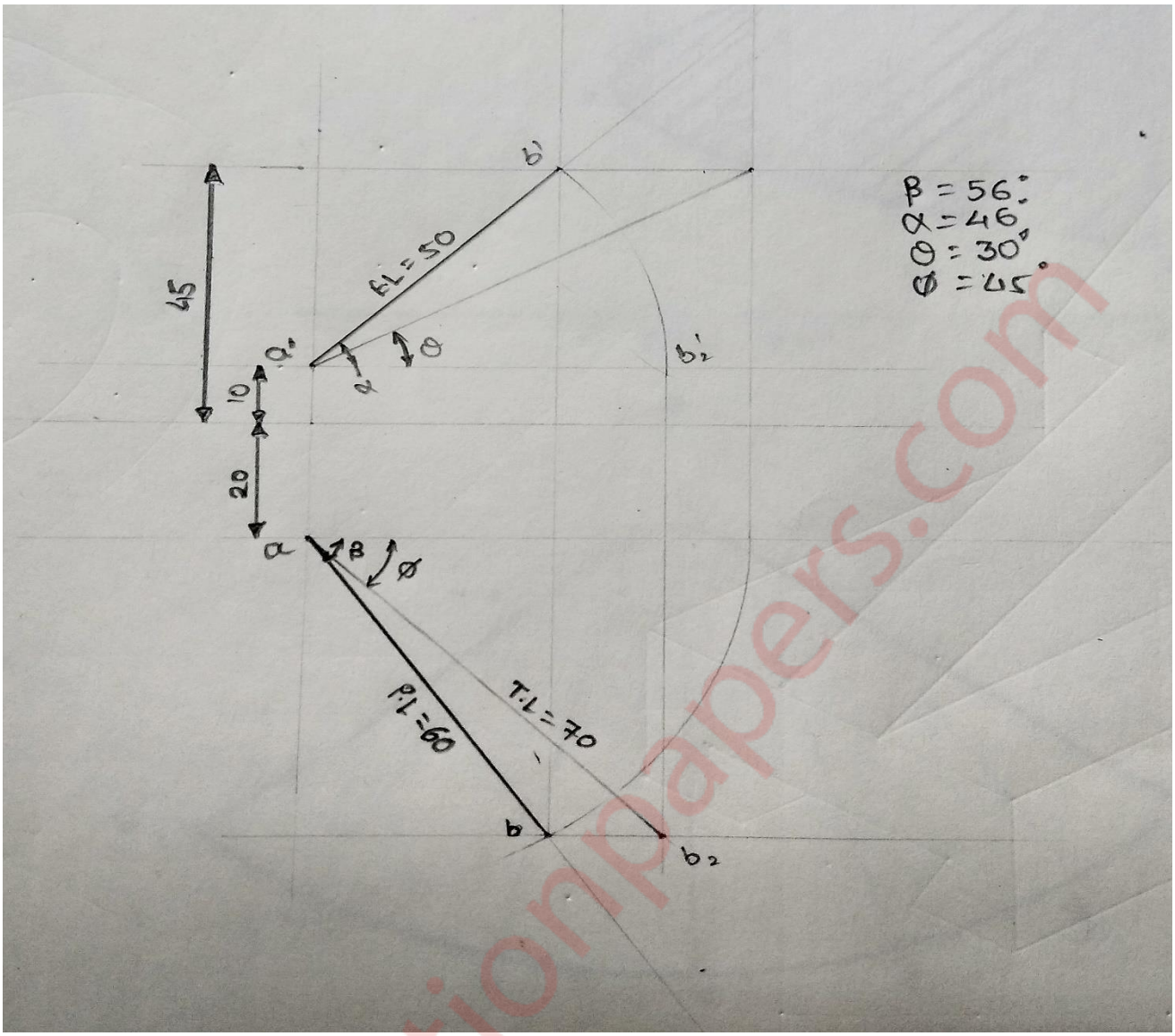
Q.5 A cone of base 70 mm diameter and axis 90 mm long is resting on its base on HP. It is cut by a section plane perpendicular to the VP and parallel to and 15 mm away from one of its end generators. Draw the sectional top view, front view & sectional side view. Also draw the true shape of the section. Also draw development of the lateral surface of the cone. (15)

SOL:

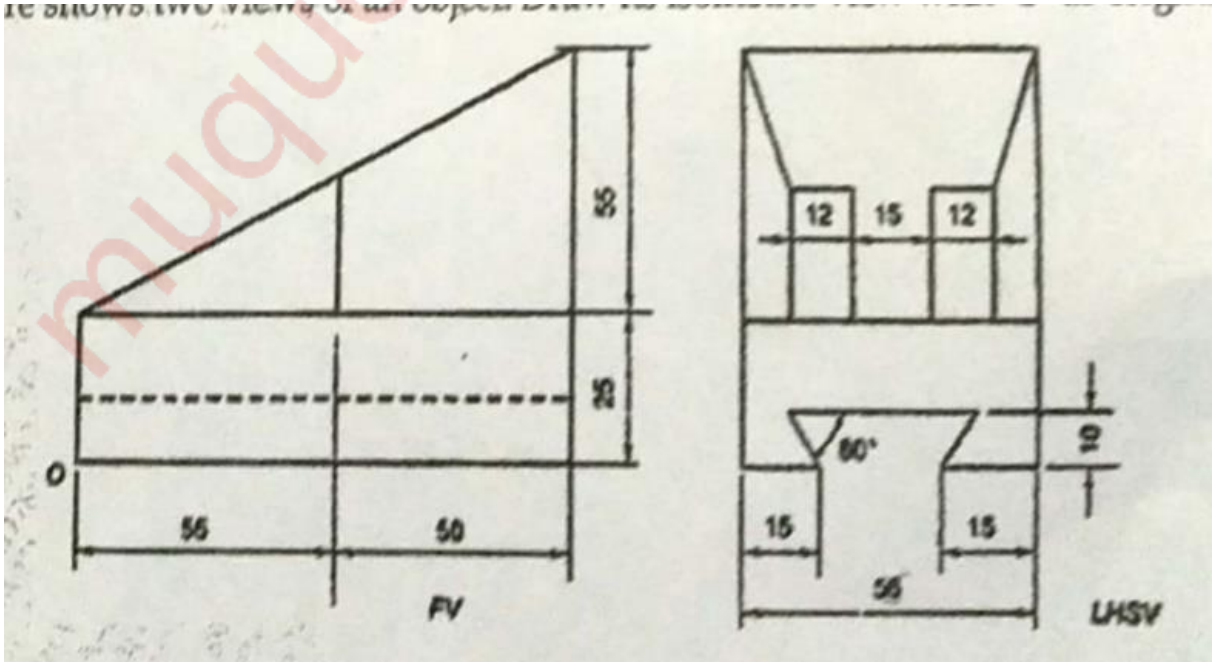


Q.6 (a) The T.V. of the line AB measures 60 mm and is inclined at 56˚ to the XY line. Point A is 10mm above the H.P. and 20 mm in front of the V.P. Point B is 45 mm above H.P. and in front of the V.P. Draw the projection of line AB. (09)

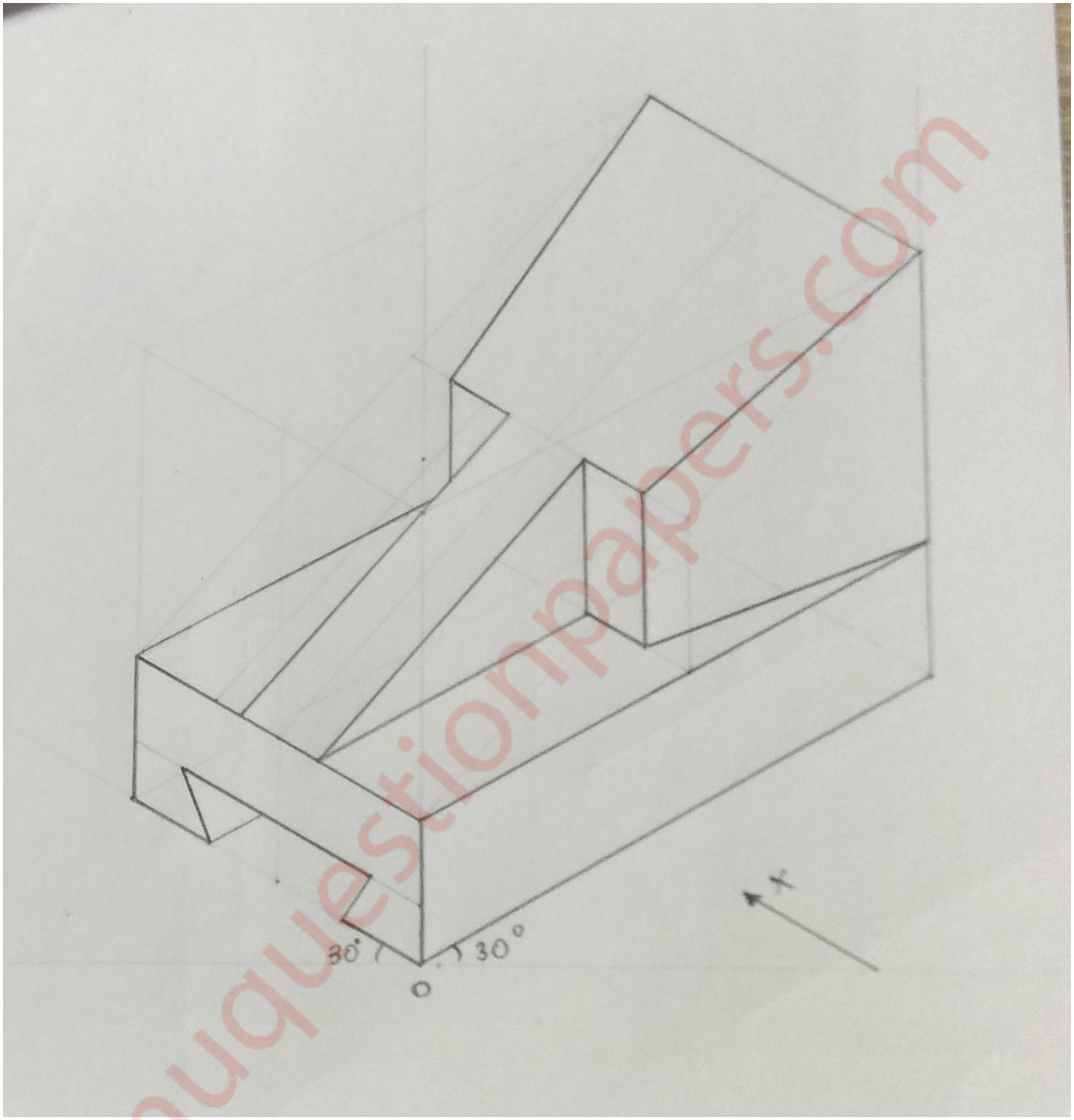
SOL:



Q.6 (b) Figure shows two views of an object. Draw its isometric view with 'O' as origin. (06)



SOL:



Q.P.Code:72656

ENGINEERING DRAWING

DEC 19

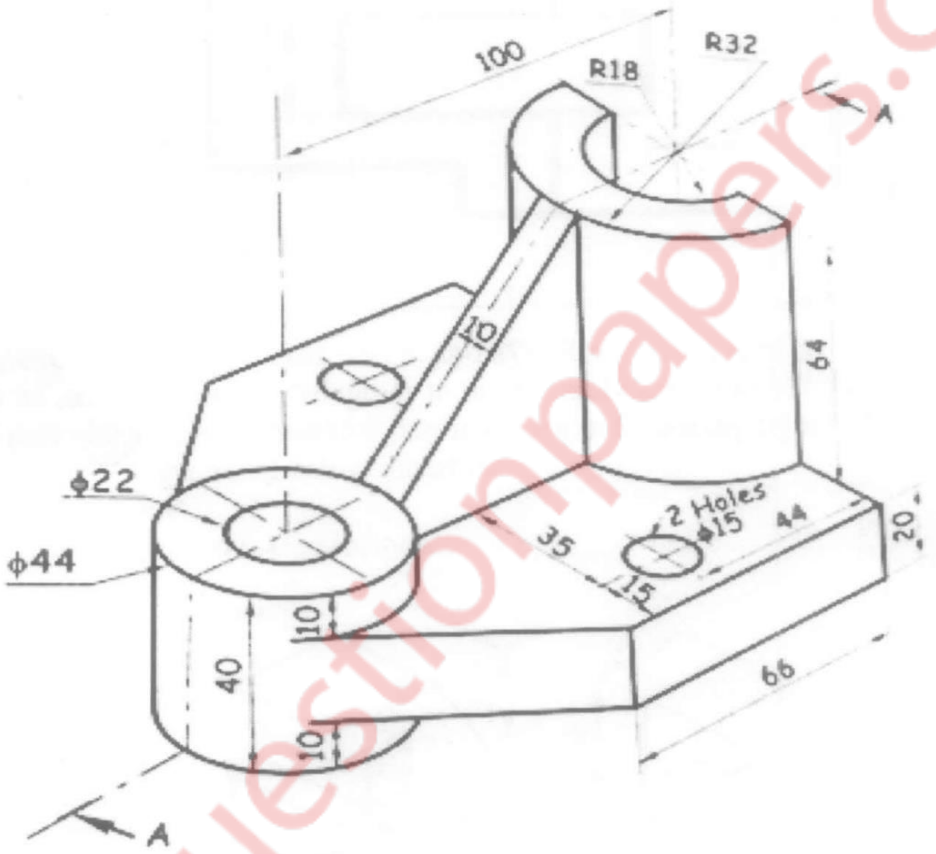
Q.1 Following figure shows the pictorial view of an object, draw

i) Sectional front view along section A-A [05]

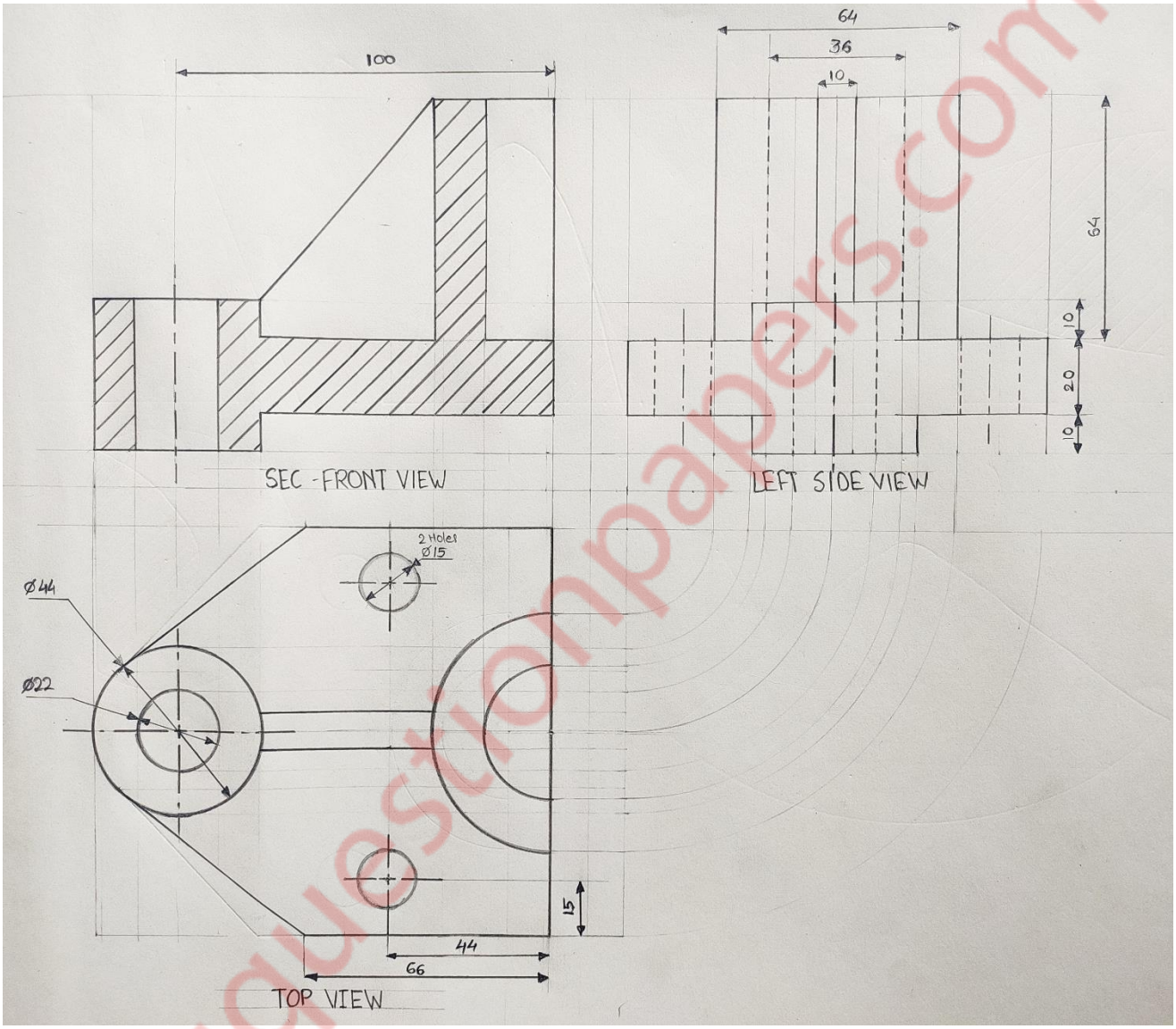
ii) Top view. [04]

iii) Left Hand Side view [04]

iv) Insert 10 major dimensions. [02

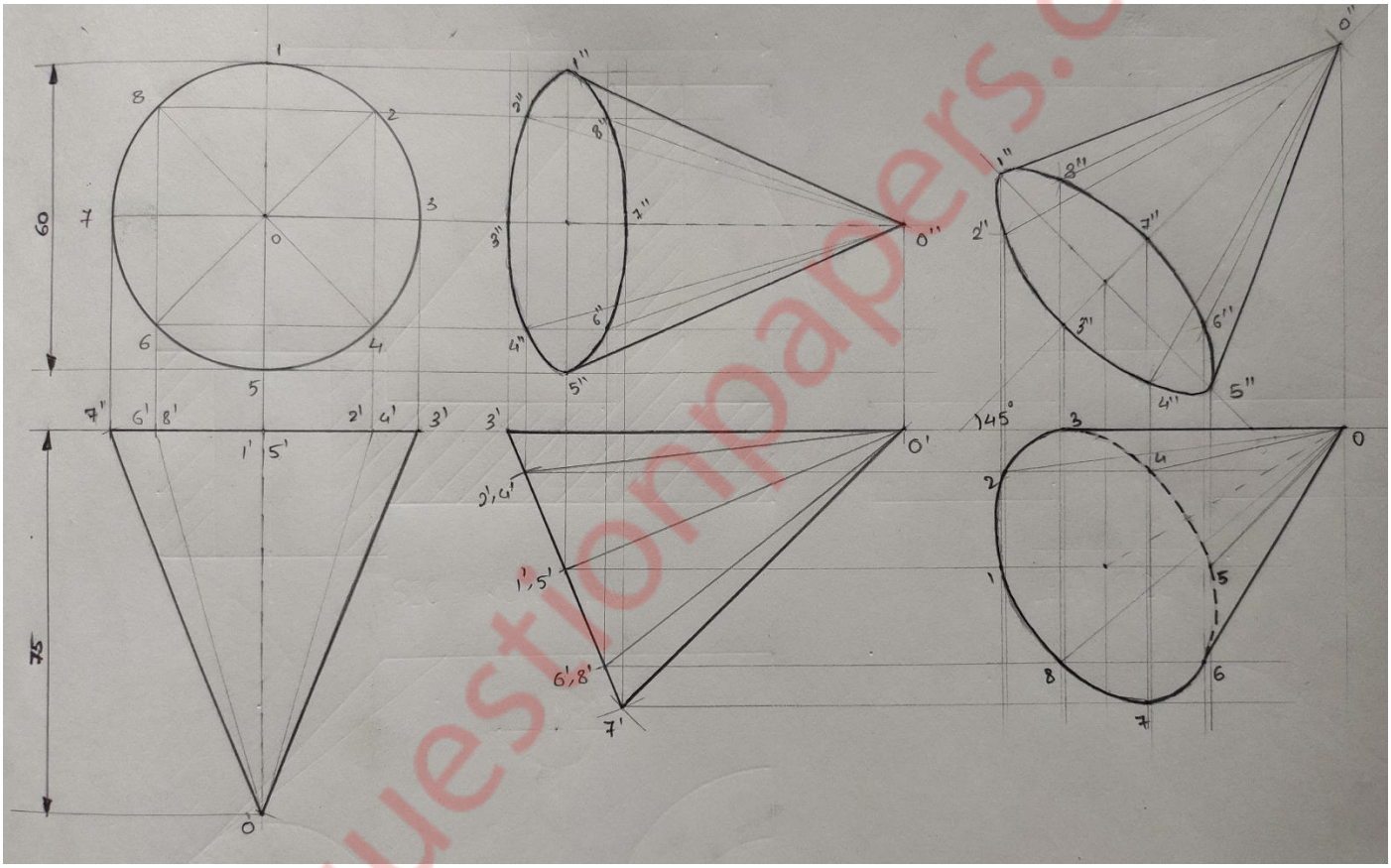


Sol:

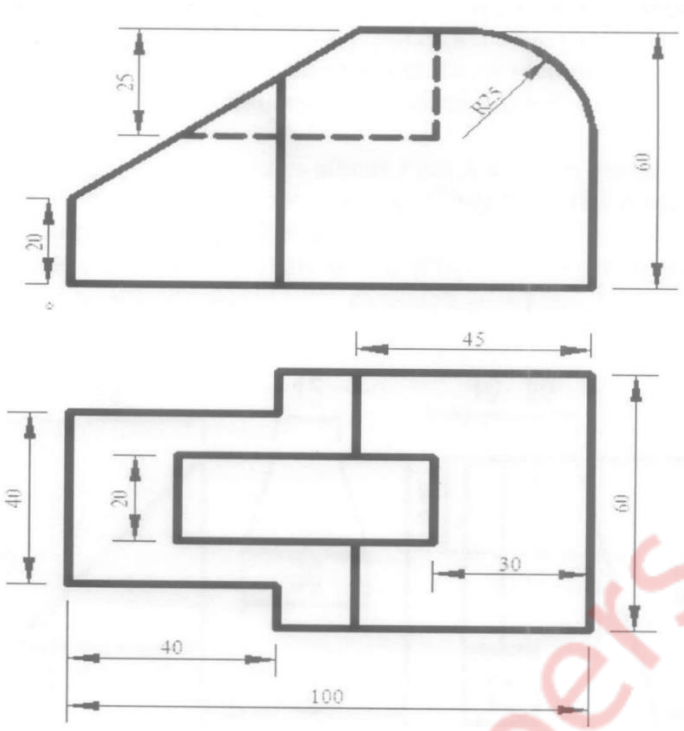


Q.2 A right circular cone of base 60mm diameter and axis 75mm long is lying on VP on one of its end generator. Draw projections of the cone when FV of the axis inclined 45˚ with HP and base nearer to observer. [15]

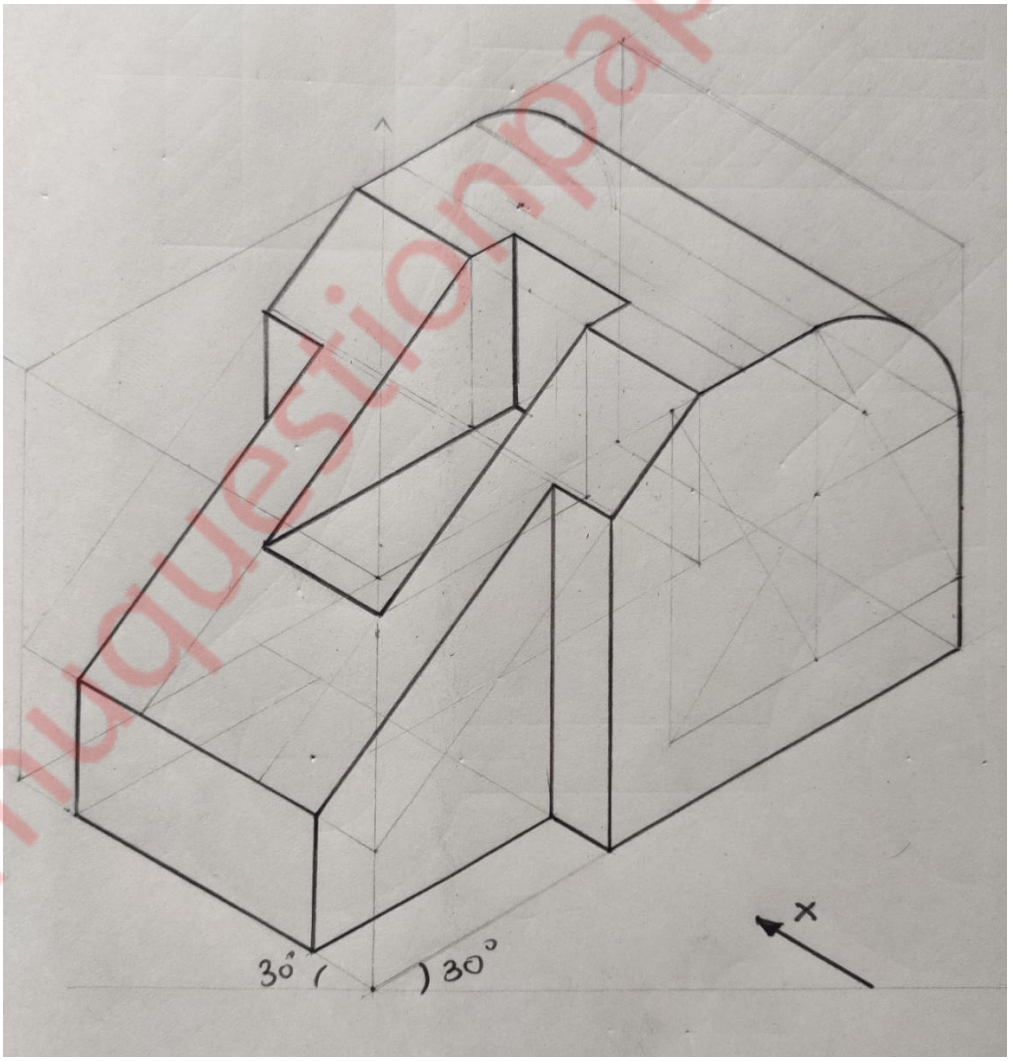
Sol:



Q.3. (a) Front view and top view of an object is shown in figure, draw an Isometric View. [09]

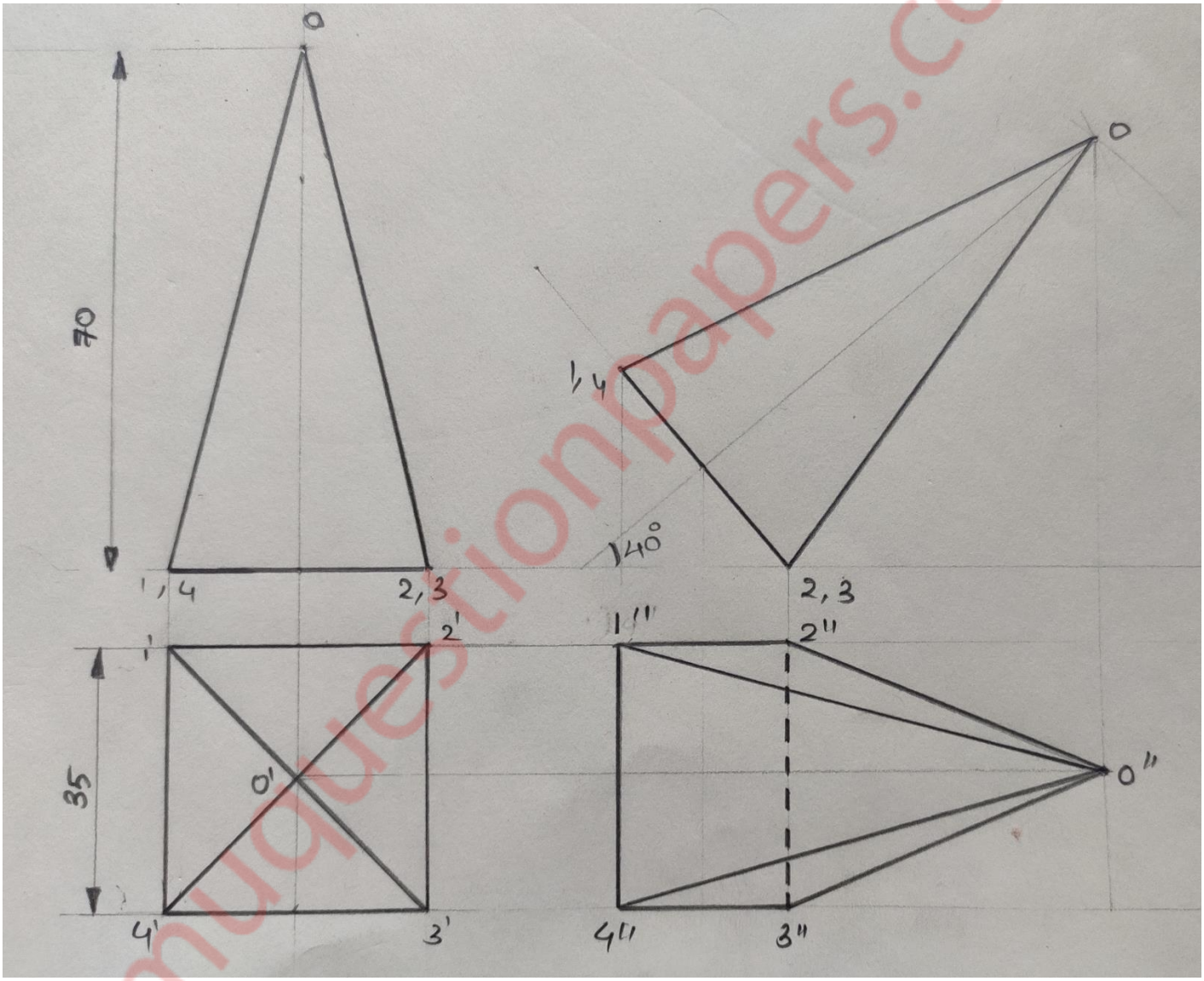


Sol:



Q.3.(b) A square prism edge of base 35mm and axis 70mm has one of its base edges in the HP with its axis inclined at 40 degrees to the HP and parallel to VP. Draw its Projections. [06]

Sol:

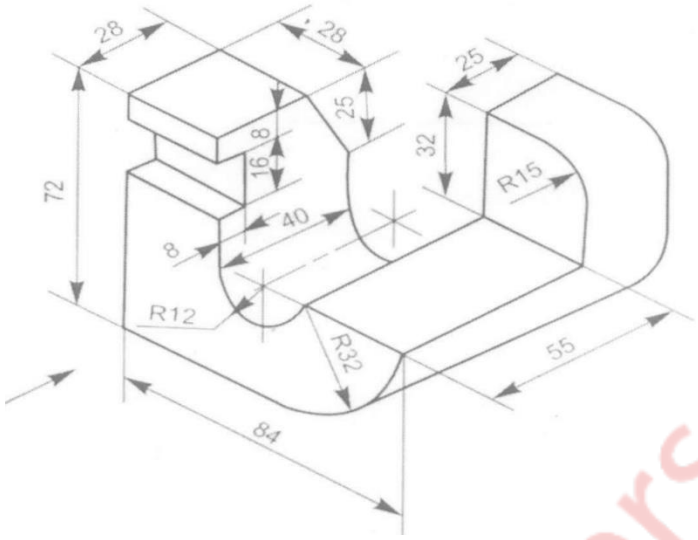


Q.4.(a) The pictorial view of a machine part is shown in the following figure. Draw

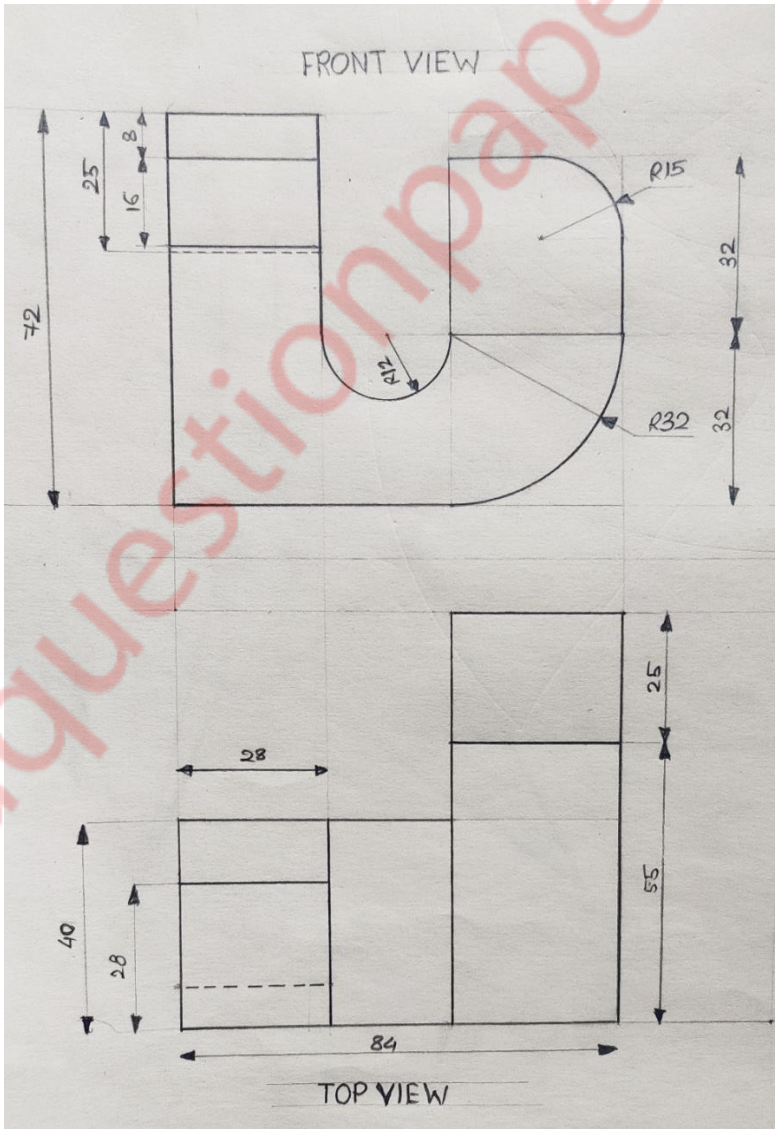
i) Front view along arrow direction [04]

ii) Top view [04]

iii) Insert at least 6 Dimensions. [01]

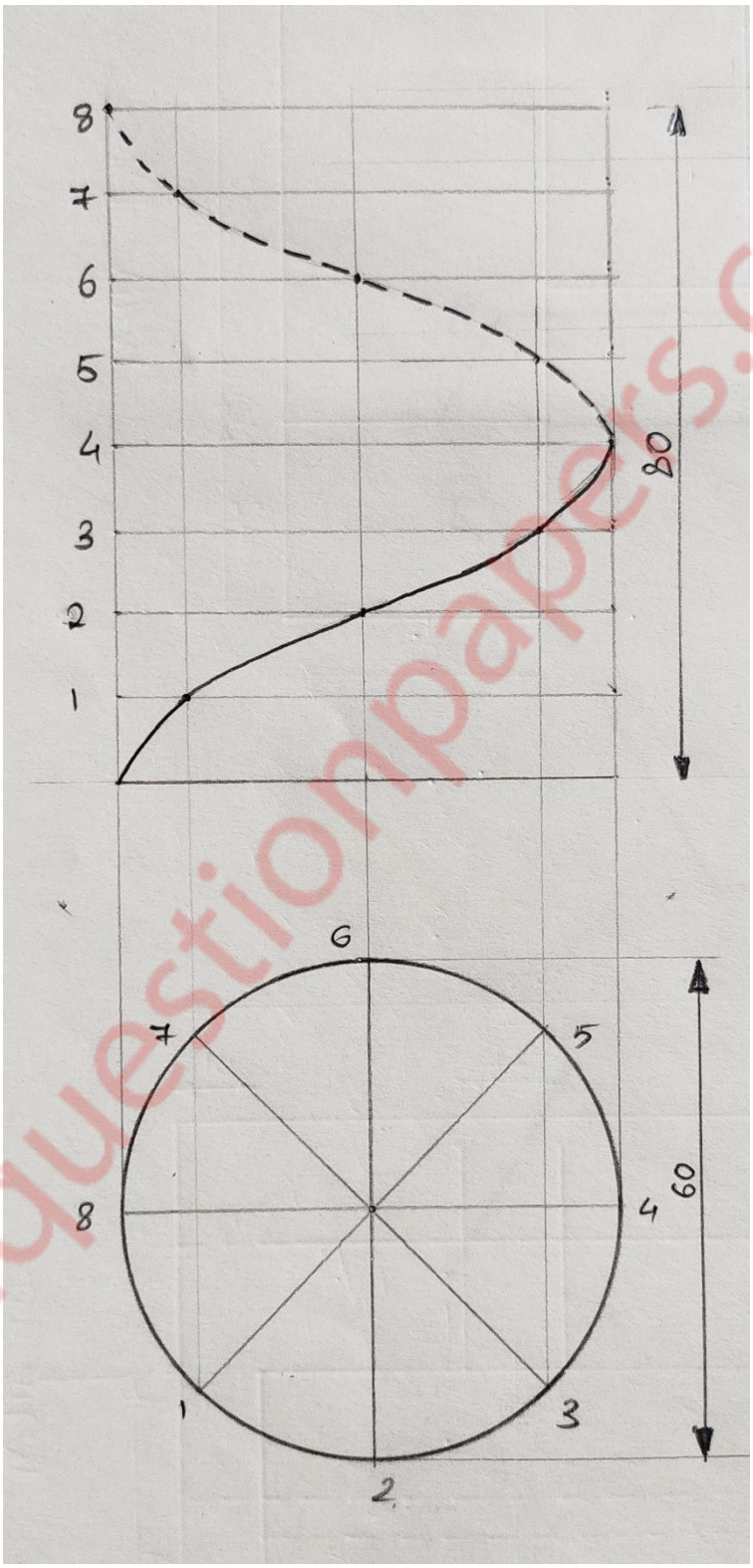


Sol:



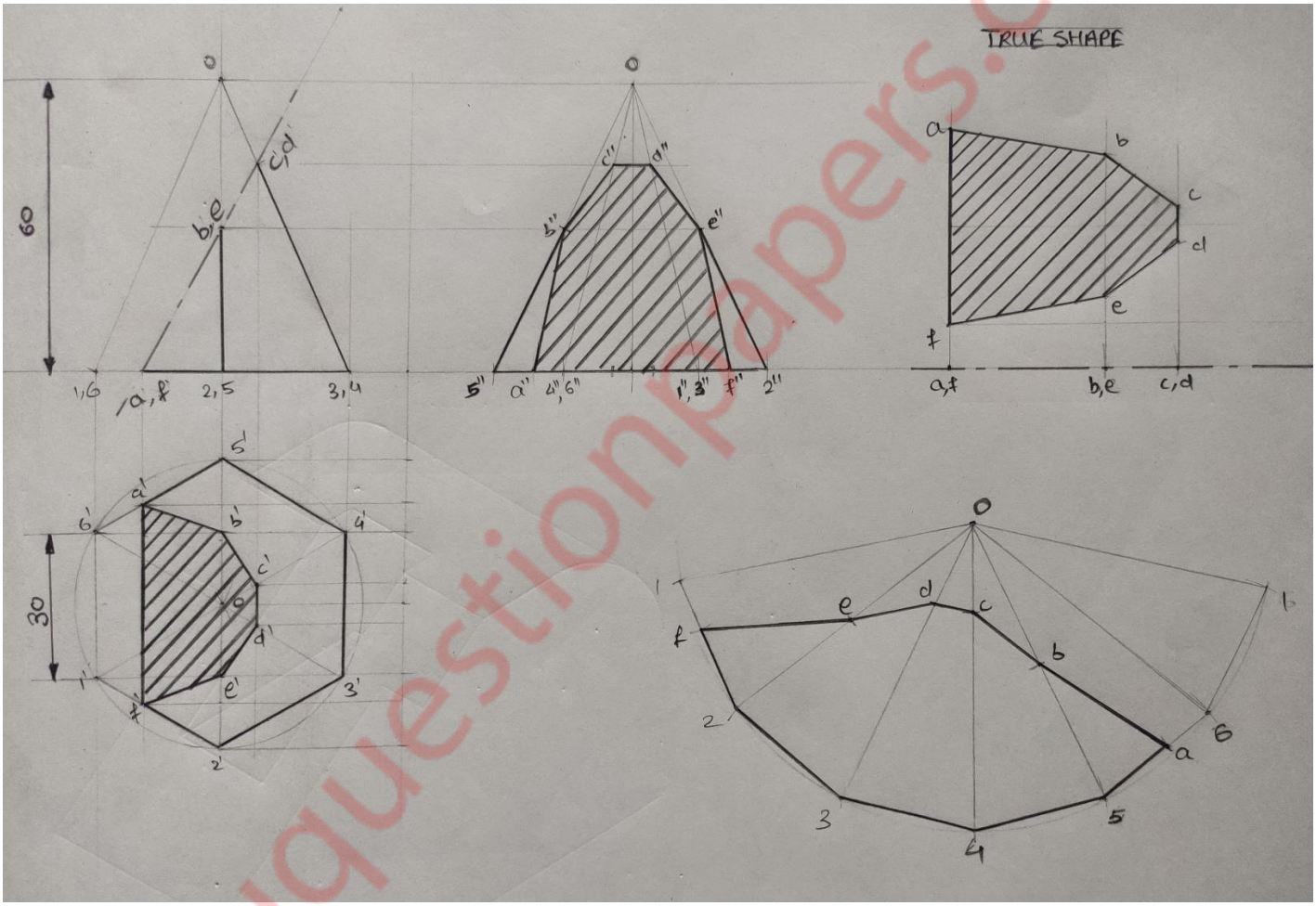
Q.4.(b) Draw a helix of pitch 80mm on a cylinder of 60mm diameter. [06]

Sol:



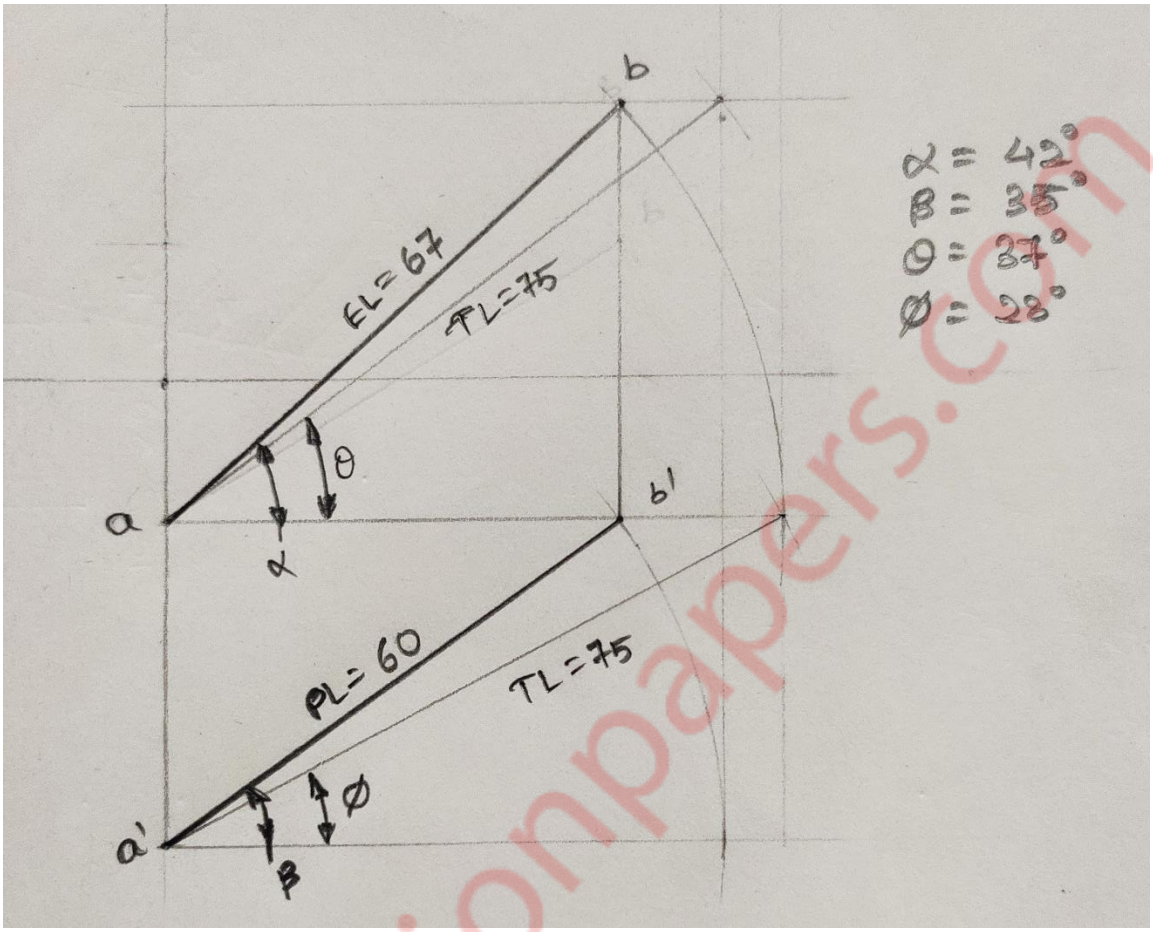
Q.5 A hexagonal pyramid of 30mm edge of base, 60mm axis length rests on its base on HP with an edge of base perpendicular to VP. It is cut by a section plane normal to VP and 60˚ inclined to HP bisects the axis of the pyramid. Draw sectional FV, sectional TV , True shape of section and Development of Lateral surface of the pyramid after removing apex. [15]

Sol:

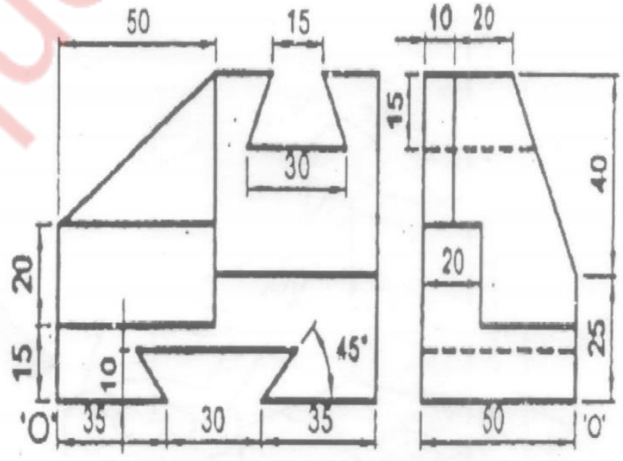


Q.6(a) The TV of 75mm long line AB measures 60mm. Point A is 15 mm below HP and 50mm in front of VP. Point B is 15mm in front of VP and above HP. Draw projections of line and determine its inclination with HP and VP. [08]

Sol:



Q.6.(b) Front view and side view of an object are shown in figure, draw an isometric view [07]



Sol: