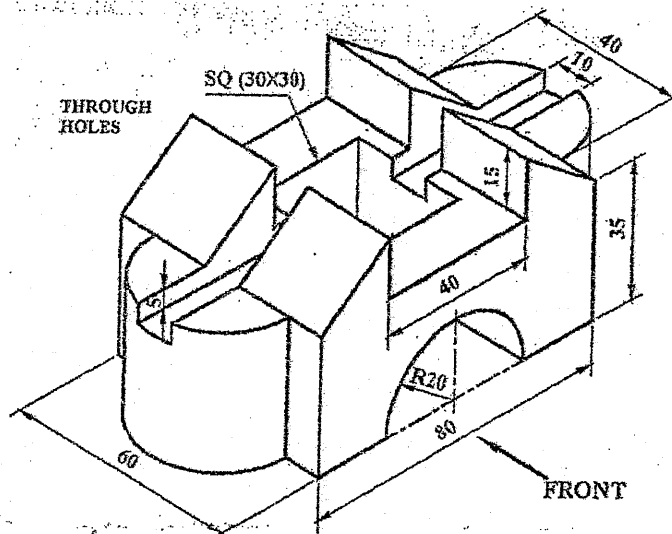


Exam.	Regular		
Level	BE	Full Marks	40
Programme	All except BAR	Pass Marks	16
Year / Part	I / I	Time	3 hrs.

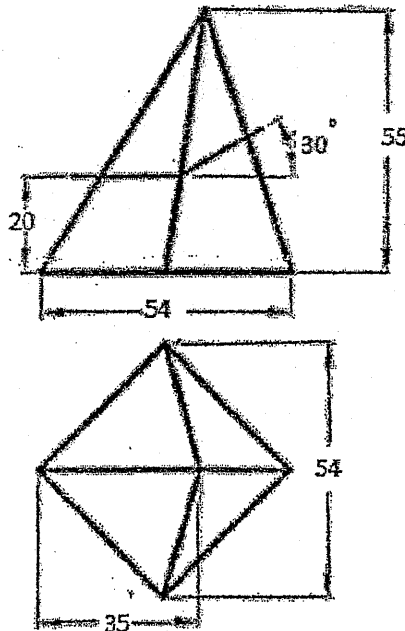
**Subject: - Engineering Drawing I (ME 401)**

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. Draw a parabola with axis length of 70mm and double ordinate of 90mm. [5]
2. The front view  $p'q'$  of a line PQ 94mm long measures 60mm and its top view  $pq$  is 72mm. Its end Q is 24mm from both the planes. Draw its projections and find inclinations with VP and HP. [5]
3. Draw orthographic projections with full sectional front view, side view and top view of the pictorial drawing as shown in figure below. [14]

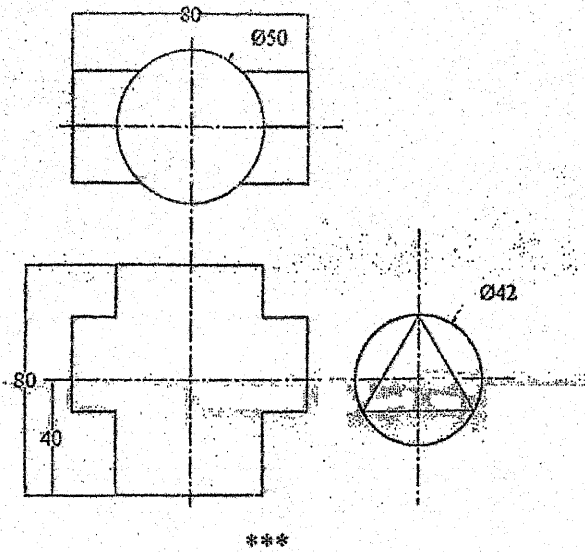


4. Complete the given orthographic drawing and develop its surfaces of figure given below: [10]



5. Draw the intersection curve for vertical cylinder and horizontal triangular prism shown in figure below.

[6]

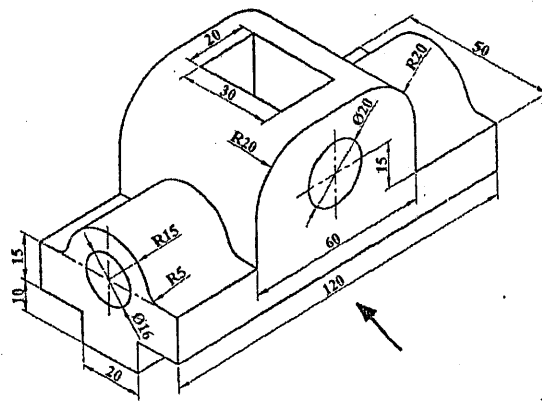


Exam.	Regular / Back		
Level	BE	Full Marks	40
Programme	All (Except BAE)	Pass Marks	16
Year / Part	I / I	Time	3 hrs.

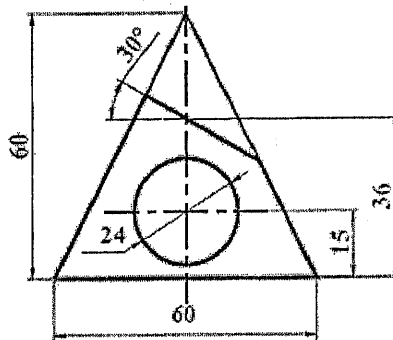
**Subject:** - Engineering Drawing I (ME 401)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt **All** questions.
- ✓ The figures in the margin indicate **Full Marks**.
- ✓ Assume suitable data if necessary.

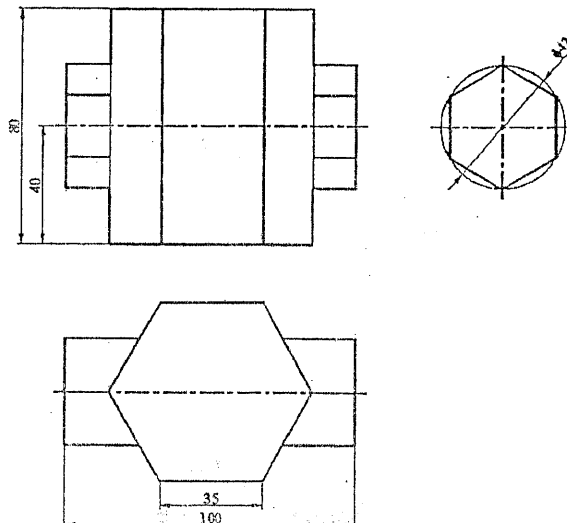
1. Draw an ellipse of Major axis 90 mm and minor axis 66 mm. [4]
2. A regular pentagon ABCDE, of 25 mm side, has its side BC in HP. Its plane is perpendicular to the HP and inclined at 45° to the VP. Draw the projections of the pentagon when its corner nearest to VP is 10 mm from it. [5]
3. Draw orthographic projections with full sectional front view, side view and top view of the pictorial drawing as shown in figure below. [15]



4. A right circular cone is cut as shown in given figure. Develop its lateral surface. [10]



5. Draw the lines of intersection of the surfaces of geometrical solids shown in figure below. [6]



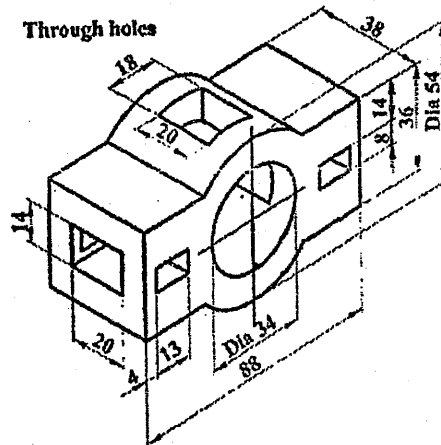


Exam.	Back		
Level	BE	Full Marks	40
Programme	All (Except BAR)	Pass Marks	16
Year / Part	I / I	Time	3 hrs.

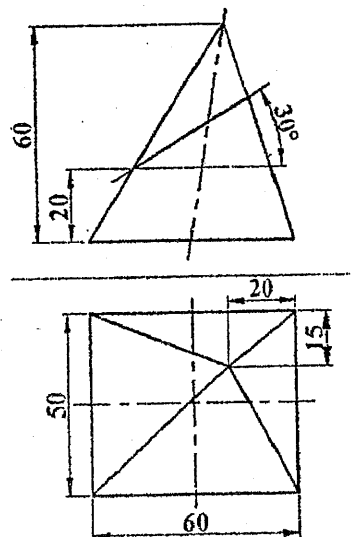
*Subject: - Engineering Drawing I (ME 401)*

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. Draw an Archimedean Spiral for 1.5 convolutions with pitch equal to 50 mm. [4]
2. A regular hexagon ABCDEF of 25 mm side rests on one of its corner on the HP. Its plane is perpendicular to the VP and inclined to the HP at 30°. Draw its projections when its corner nearer to the VP is 15 mm in front of it. [5]
3. Draw complete Orthographic views with sectional front view of the figure below. [14]

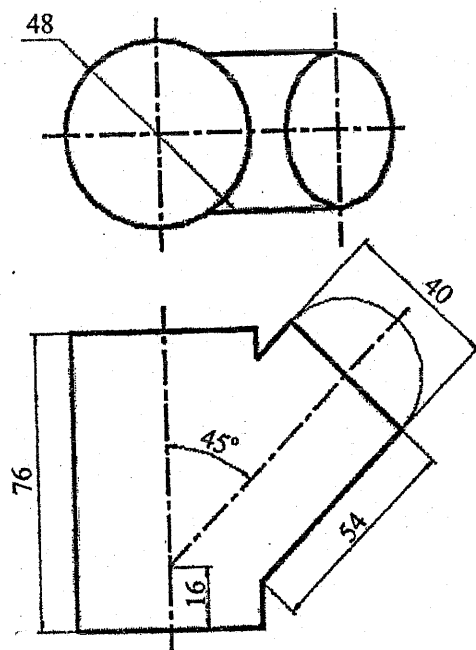


4. Make a complete orthographic drawing of a solid cut by a plane as shown in figure below. Find the true shape of the section. Construct the development of surfaces of the solid. [10]



5. Draw orthographic projection of given geometrical figure by showing curve of intersection.

[7]



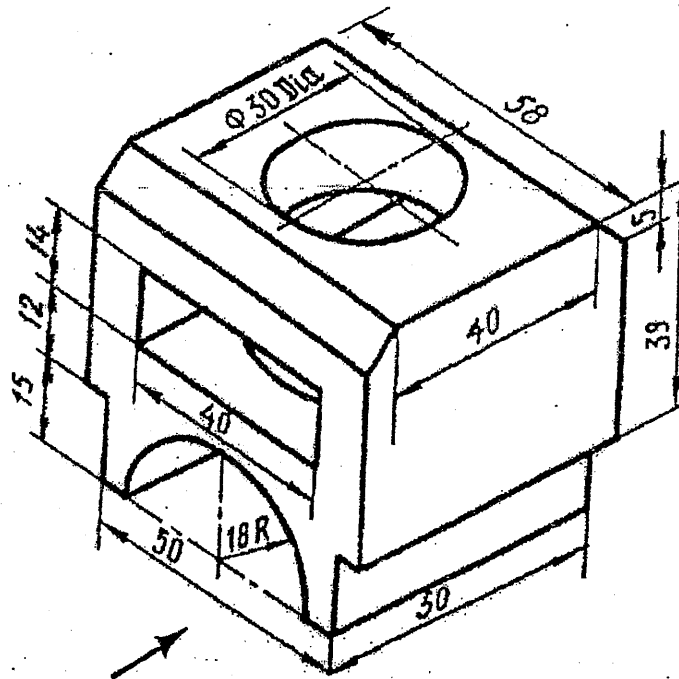
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Exam.	Back		
Level	BE	Full Marks	40
Programme	All (Except B. Arch)	Pass Marks	16
Year / Part	I / I	Time	3 hrs.

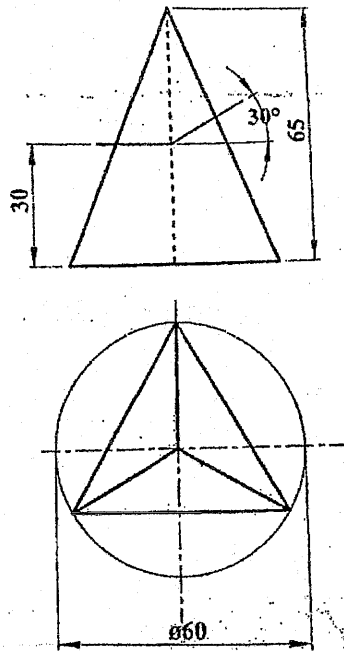
**Subject: - Engineering Drawing I (ME401)**

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

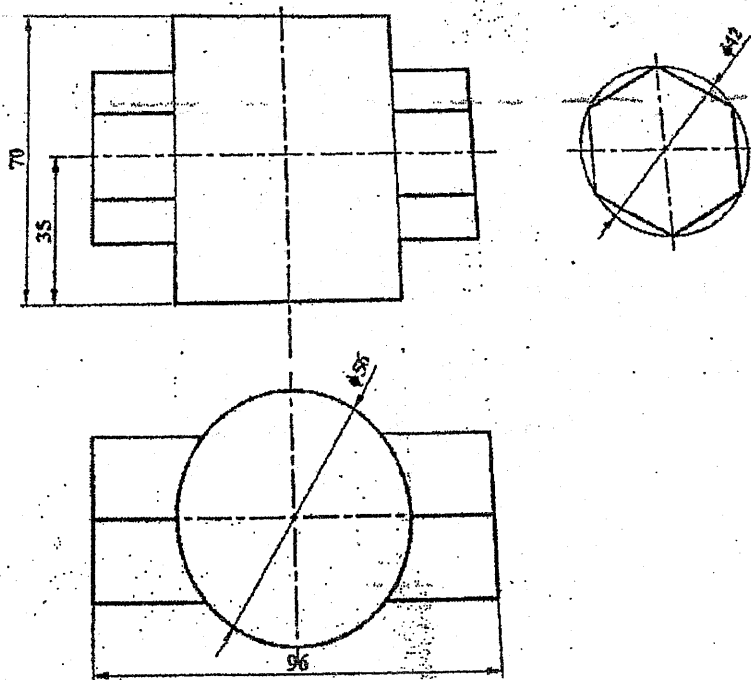
1. Draw helix having a pitch of 50 mm on a cylinder with the diameter of 40 mm and height of 75 mm. [5]
2. ABC is a triangular plane with side AB = 30 mm and sides BC = CA = 50 mm. Side AB is contained by HP and is perpendicular to VP. Draw its projections when its top view is an equilateral triangle and the nearest point A is 15 mm away from VP. Also find its inclination with the HP. [5]
3. Draw and dimension orthographic projections with full sectional side view, front view and top view of the pictorial drawing as shown in figure below. [14]



4. Make complete orthographic projections of a solid cut by planes as shown in figure below. Find the true shapes of the sections. Construct the development of all the surfaces of the solid. [10]



5. Draw the effects of intersection of the surfaces of geometrical solids shown in figure below. [6]



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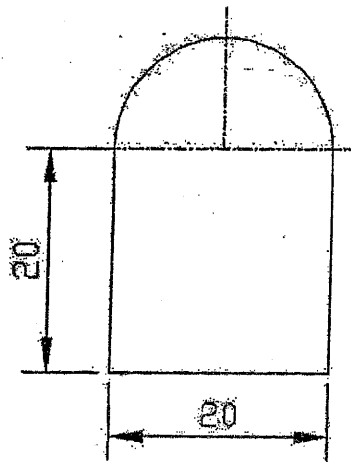


Exam.	Regular		
Level	BE	Full Marks	40
Programme	All (Except B. Arch.)	Pass Marks	16
Year / Part	I / I	Time	3 hrs.

**Subject: - Engineering Drawing I (ME401)**

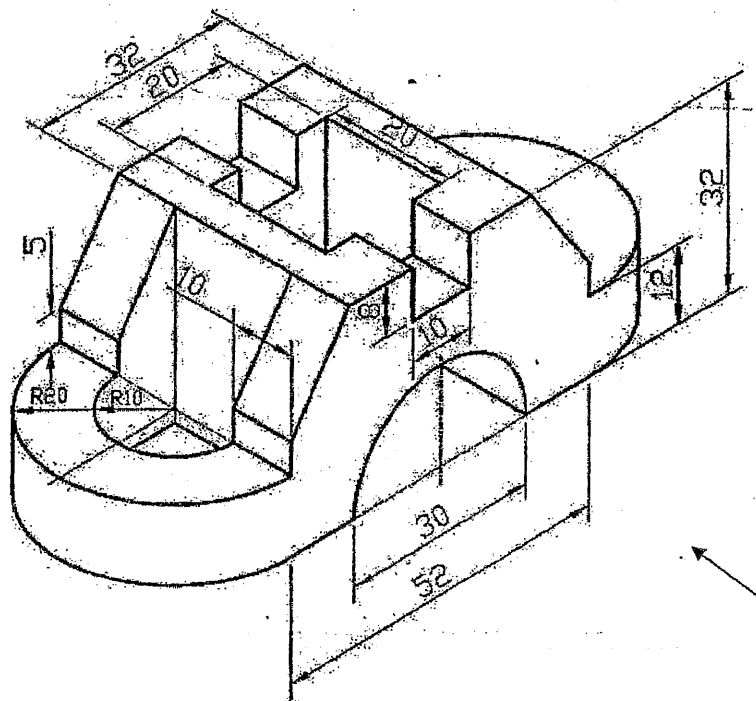
- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. Geometrically construct one complete rotation of an involute curve on the solid with cross sectional shape as given in figure below. [5]

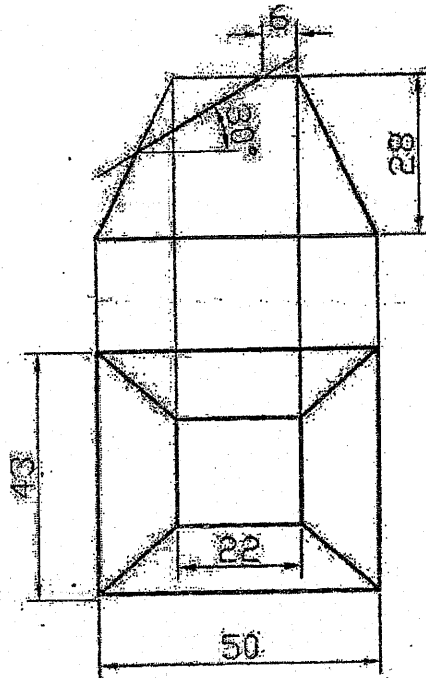


2. A regular pentagonal plane ABCDE of 20mm side has its edge BC resting on the HP. Its plane is perpendicular to the HP and inclined to the VP at 50°. Draw its projections when its corner nearer to the VP is 20 mm in front of the VP. [5]

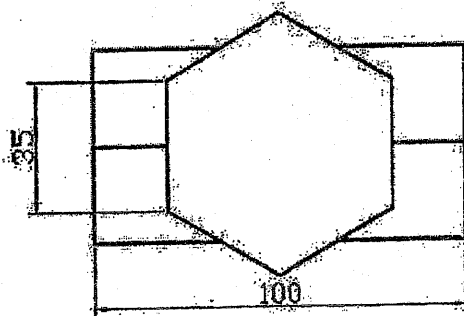
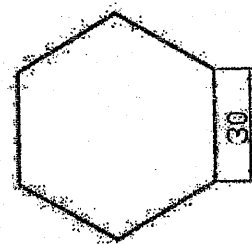
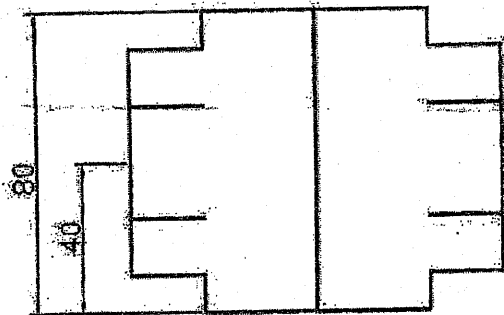
3. Draw orthographic projections with Sectional Side View, Top View and Front View of pictorial drawing as shown in figure below. [14]



4. Make a complete orthographic drawing of a pyramid cut by a plane as shown in figure below. Find the true shape and construct the surface development of the surface of the solid. [10]



5. Draw the complete orthographic drawing for the intersection of hexagonal prisms as shown in figure below and complete the intersections. [6]



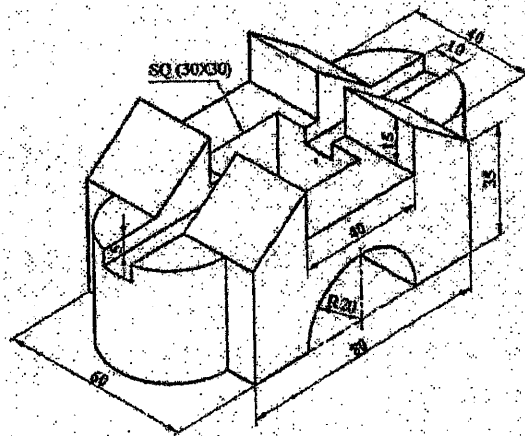
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Exam.	Regular		
Level	BE	Full Marks	40
Programme	All (Except B.Arch)	Pass Marks	16
Year / Part	I / I	Time	3 hrs.

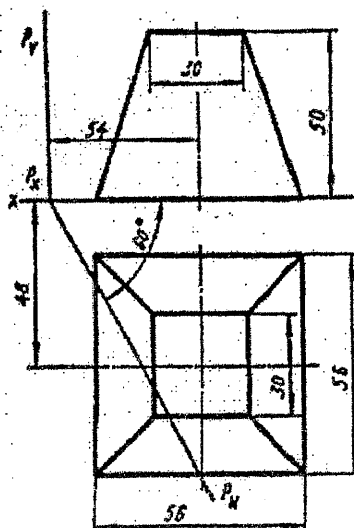
**Subject:** - Engineering Drawing I (ME401)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. Construct an ellipse of major axis 120mm and minor axis 80mm. [3]
2. A regular hexagon ABCDEF of 25 mm side rests on one of its corner on the HP. Its plane is perpendicular to the VP and inclined to the HP at 30°. Draw its projections when its corner nearer to the VP is 15 mm in front of it. [5]
3. Draw orthographic projections with full sectional front view, side view and top view of pictorial drawing as shown in figure below. [14]

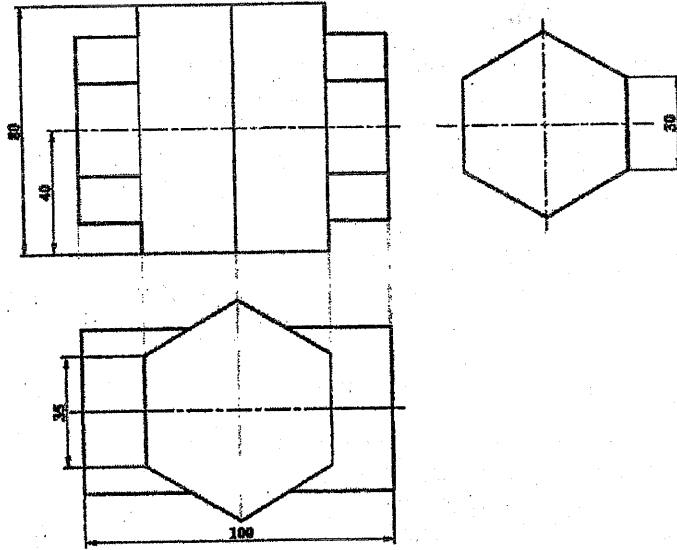


4. Make a complete orthographic drawing of a solid cut by a plane as shown in below figure. Find the true shape of the section. Construct the development of surfaces of the solid. [12]



5. Draw the lines of intersection of the surfaces of geometrical solids in below figure.

[6]



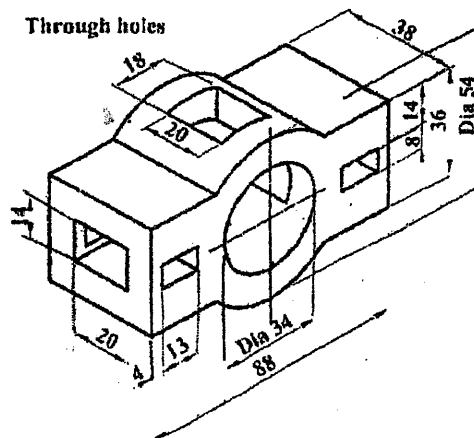
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Exam.	Back		
Level	BE	Full Marks	40
Programme	All (Except B.Arch)	Pass Marks	16
Year / Part	I / I	Time	3 hrs.

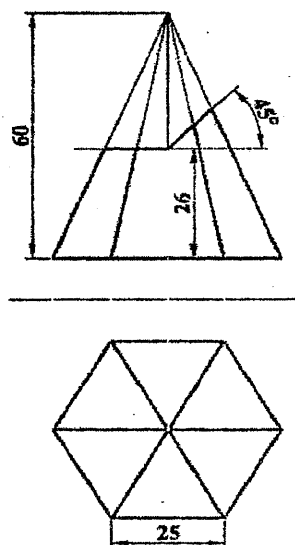
**Subject: - Engineering Drawing I (ME401)**

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. Draw an involute of an regular square of side 20mm. [3]
2. A straight line AB 80mm long is inclined at  $30^\circ$  to the HP and  $45^\circ$  to the VP. Its midpoint is 30mm above the HP and 35mm in front of VP. Draw its projection. [5]
3. Draw complete Orthographic views with sectional front view of the figure below. [14]

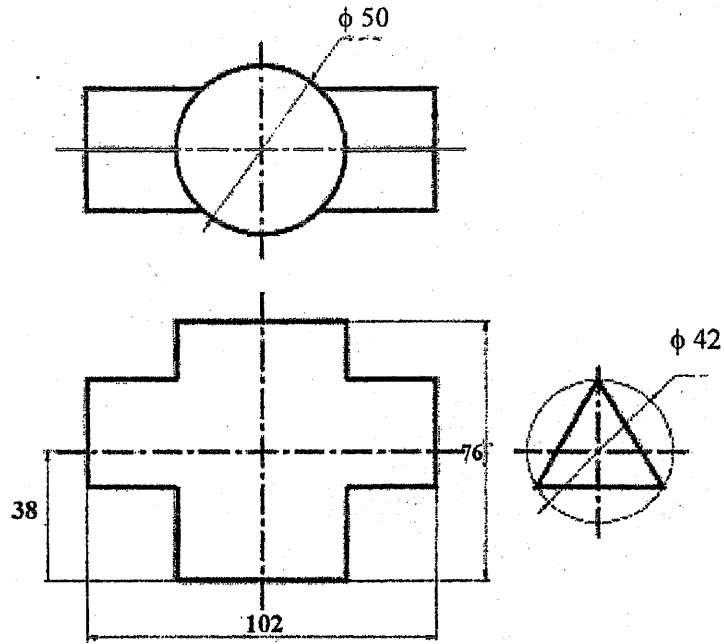


4. Make a complete orthographic drawing of geometrical solid cut by a plane as shown in figure below. Find the true shape of the section. Construct the development of the surfaces of the solid. [12]



5. Draw the line of intersection of the surfaces of the solids shown in figure below.

[6]



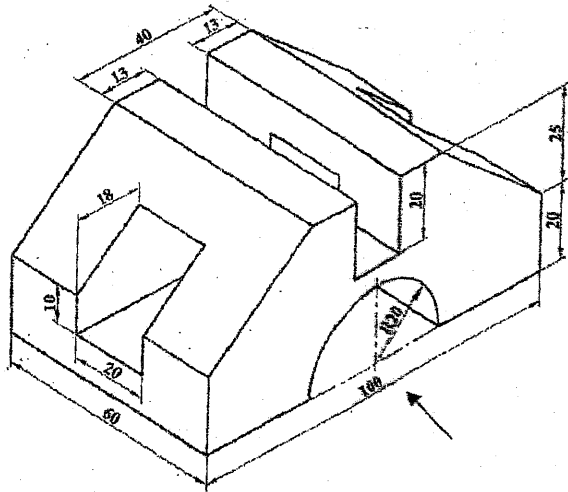
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Exam.	Regular		
Level	BE	Full Marks	40
Programme	All (Except B. Arch)	Pass Marks	16
Year / Part	I / I	Time	3 hrs.

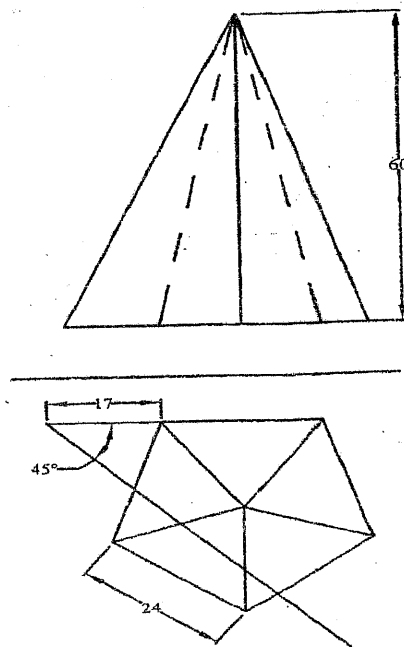
**Subject: - Engineering Drawing I (ME401)**

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. Draw an involute of the regular hexagon having side length 15 mm. [4]
2. A square lamina ABCD of 30 mm side is perpendicular to VP and inclined to HP at 45°. Its side BC lies in HP. Draw its projection when the nearest side is 15 mm in front of VP. [5]
3. Draw the views of the objectives given in figure below with full sectional front view, full sectional side view and top view. Also dimension the views. [14]

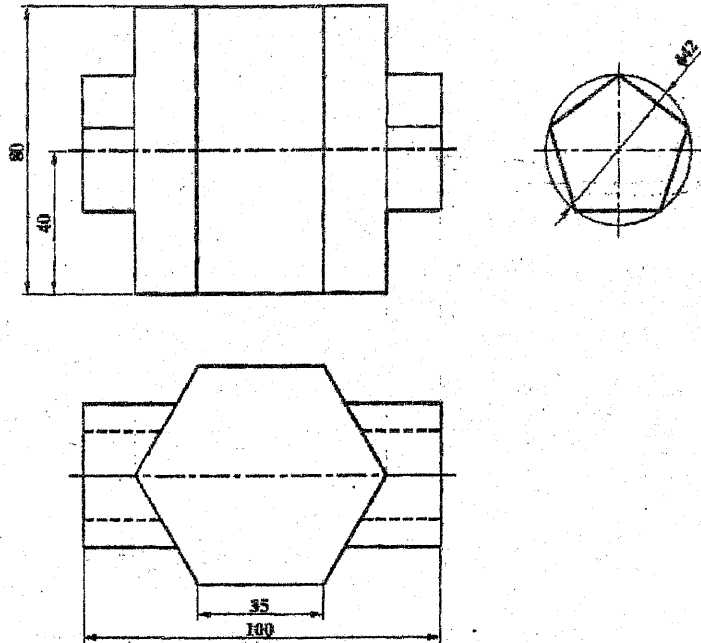


4. Complete orthographic views of the right solids shown in figure below cut by the plane. Find the true shape of the section. Then draw development of surface. [12]



5. Draw the intersection profile of intersecting solid objects in figure below.

[5]



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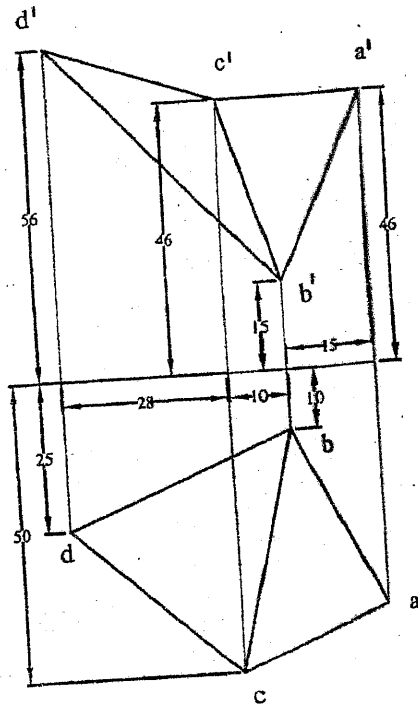


New Back (2066 & Later Batch)			
Exam.	BE	Full Marks	40
Level	ALL (Except B.Arch)	Pass Marks	16
Programme	I / I	Time	3 hrs.

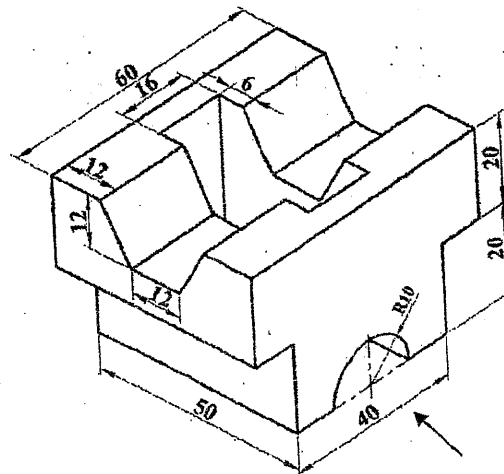
**Subject: - Engineering Drawing I (ME401)**

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt **All** questions.
- ✓ The figures in the margin indicate **Full Marks**.
- ✓ Assume suitable data if necessary.

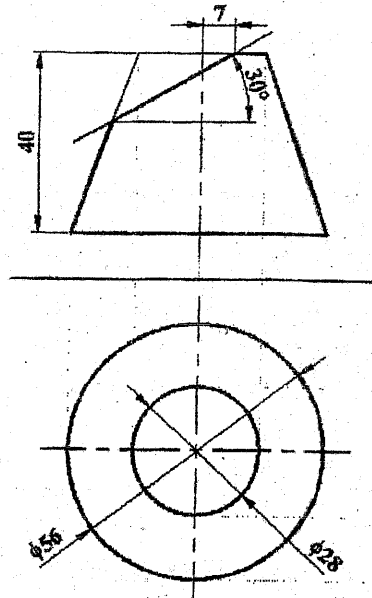
1. The distances between the focii and between the vertices of a hyperbola are 100 mm and 60 mm respectively. Construct the hyperbola. [4]
2. Determine the true size of the angle formed by the planes ABC and BCD shown in figure below. [5]



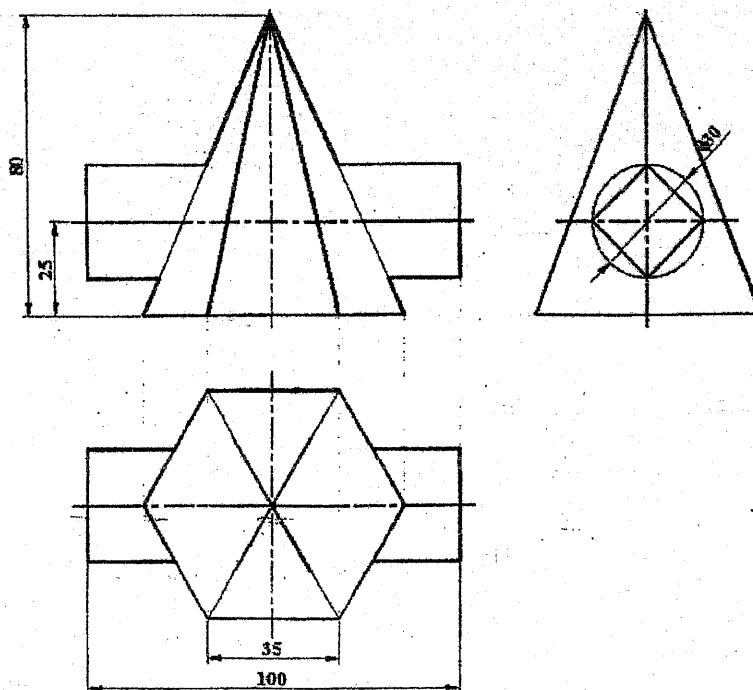
3. Draw orthographic projection with full sectional front view and full sectional side view of solid object shown in figure below. [14]



4. Make a complete orthographic drawing of the solid frustum cone cut by a plane as shown in given figure. Find the true shape of the section and draw the lateral surface development of the lower portion of the solid. [12]



5. Draw the lines of intersection of the surfaces for given orthographic drawing in figure below. [5]



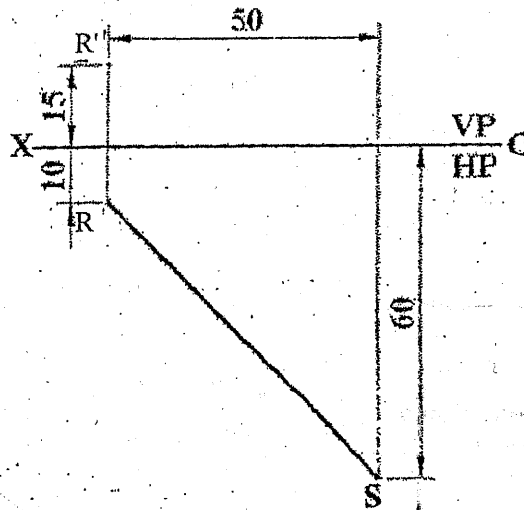
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Exam.	Regular		
Level	BE	Full Marks	40
Programme	All (Except B.Arch)	Pass Marks	16
Year / Part	I / I	Time	3 hrs.

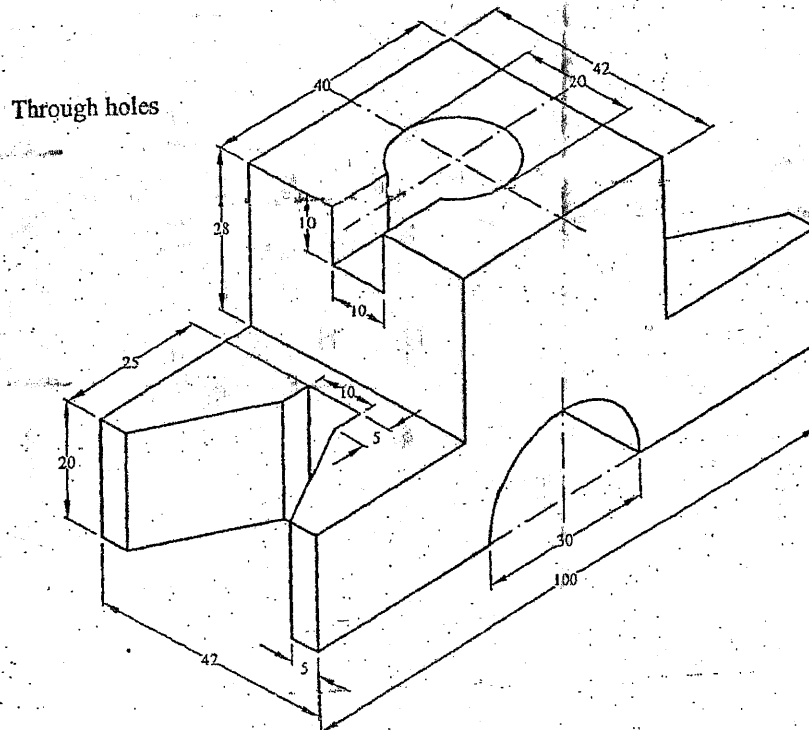
*Subject: - Engineering Drawing I (ME401)*

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

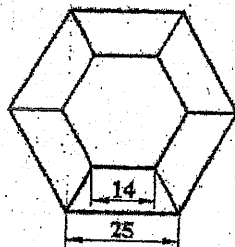
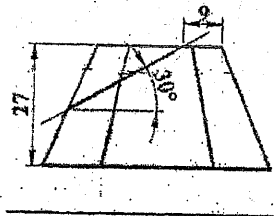
1. Construct an ellipse having a major axis 80 mm and minor axis 60 mm. [3]
2. Top view of a straight line RS and the front view of its end R are shown in figure below. Complete its projection if it is inclined at  $30^\circ$  to the HP. Also determine its true length and true inclination with the VP. [5]



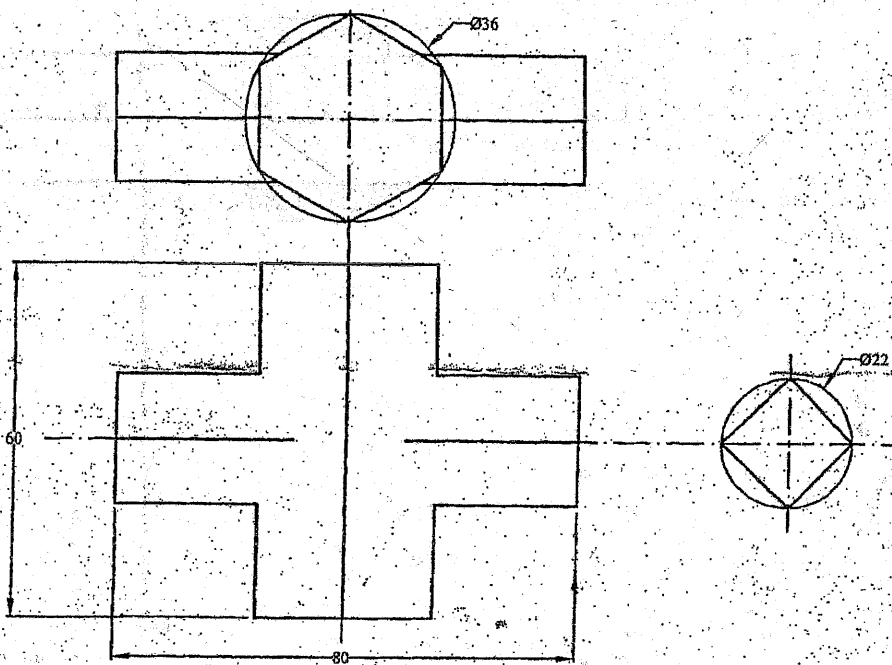
3. Draw orthographic projections with full sectional front view, top view and side view of the given object shown in figure below. [15]



4. Draw a complete orthographic drawing of a solid cut by a plane as shown in figure below. Find the true shape of the section. Then develop the surface of the solid. [12]



5. Draw the given views assigned and complete the intersection for figure below. [5]



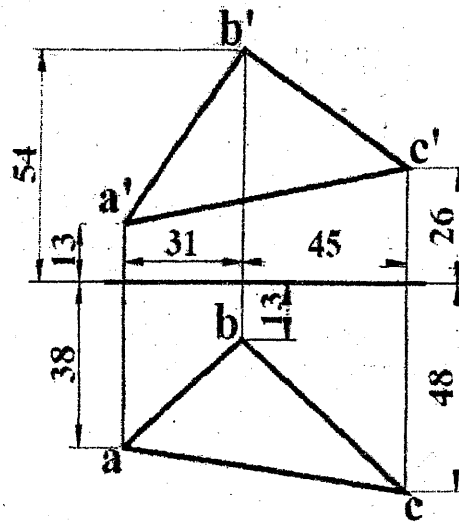
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Exam.	New Back (2066 & Later Batch)		
Level	BE	Full Marks	40
Programme	All (Except B. Arch)	Pass Marks	16
Year / Part	I / I	Time	3 hrs.

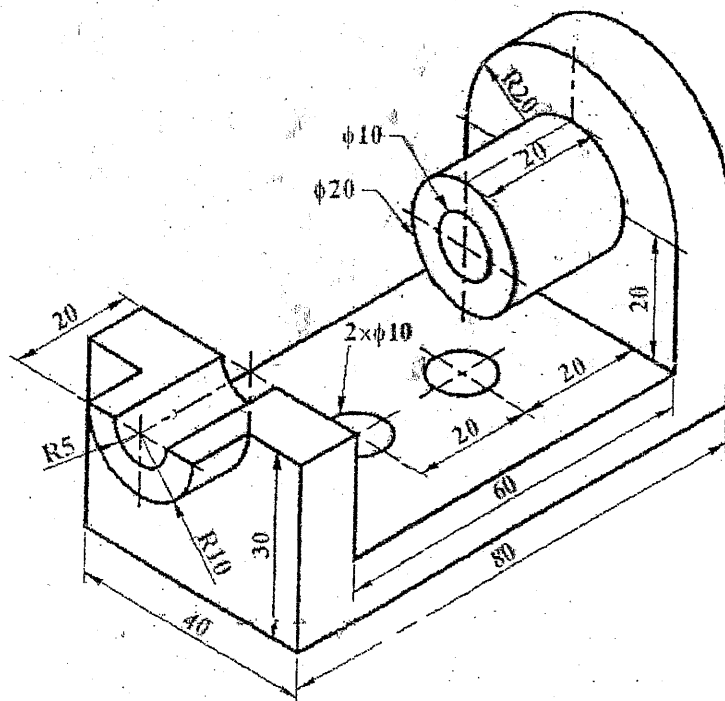
**Subject:** - Engineering Drawing I (ME401)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

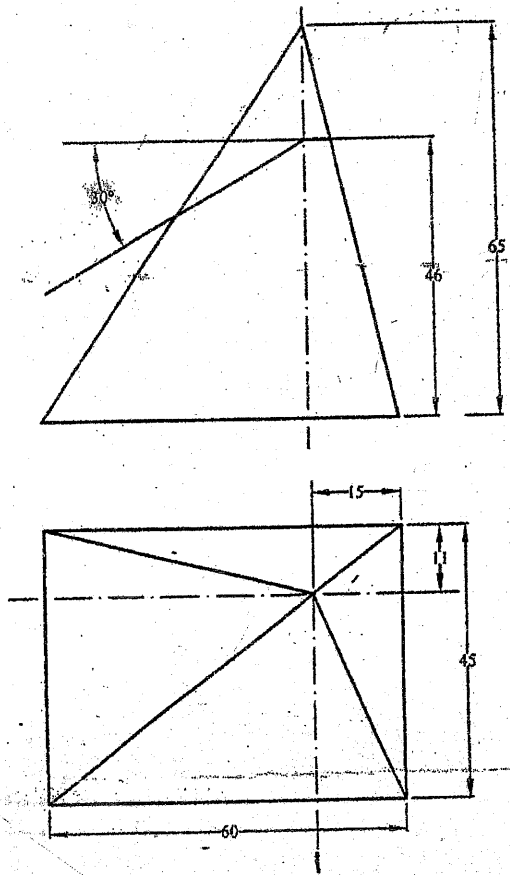
1. Draw two circles with radii 15 mm and 20 mm respectively with their centers lying on a horizontal line and 60 mm apart. Draw an arc tangent of radius 40 mm outside to both the circles. [3]
2. Reproduce the given views of the plane shown in figure below. Determine its true perimeter and true inclination with the HP. [5]



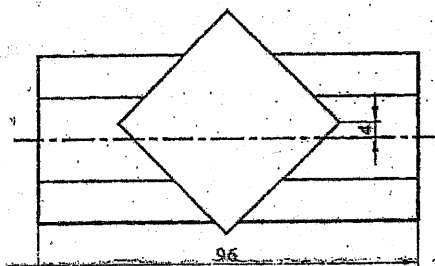
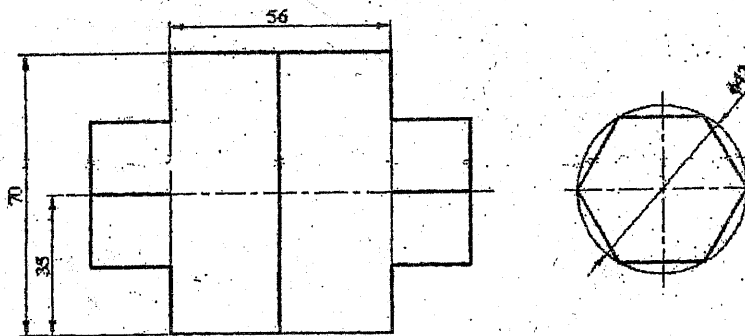
3. Pictorial view of an object is shown in figure below. Draw (with dimension) its (a) sectional front view, (b) side view and (c) top view. [15]



4. Complete the given orthographic views of geometrical solid cut by plane shown in figure below and develop the complete surfaces. [10]



5. Draw the lines of intersection of the surfaces of geometrical solids shown in figure below. [5]



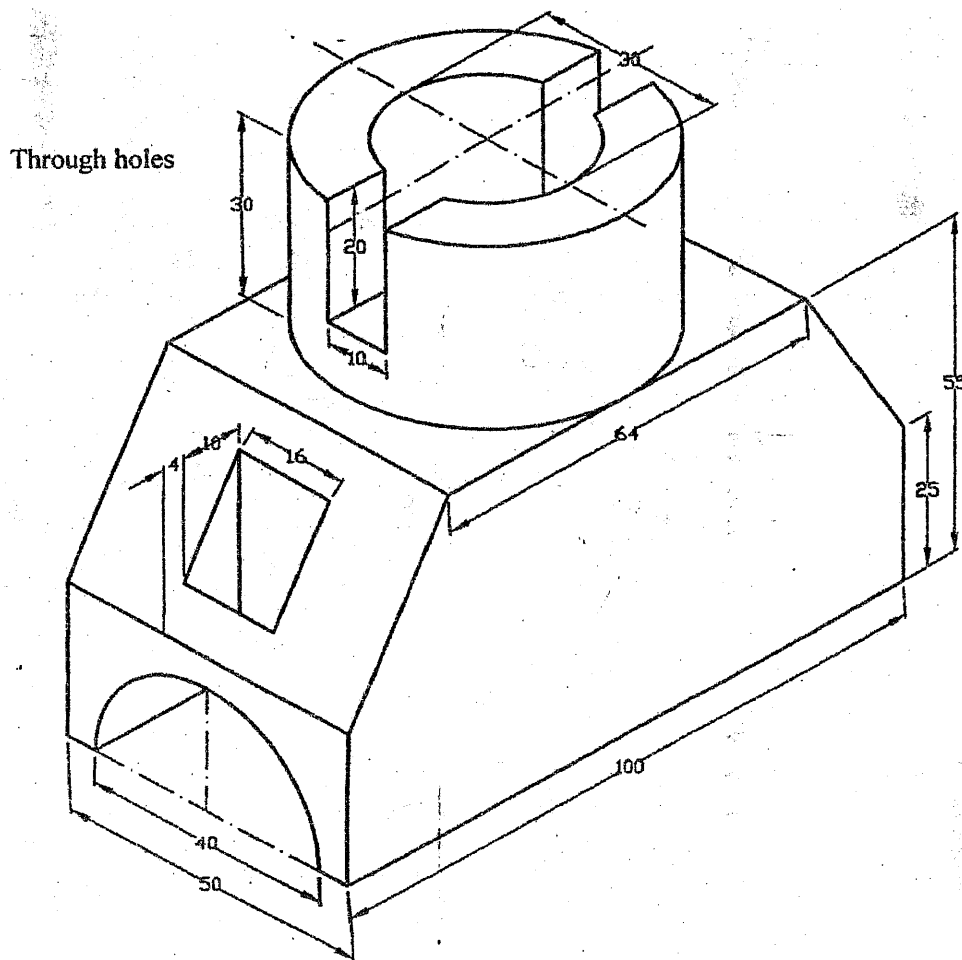
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Exama.	Regular		
Level	BE	Full Marks	40
Programme	All (Except B.Arch)	Pass Marks	16
Year / Part	I / I	Time	3 hrs.

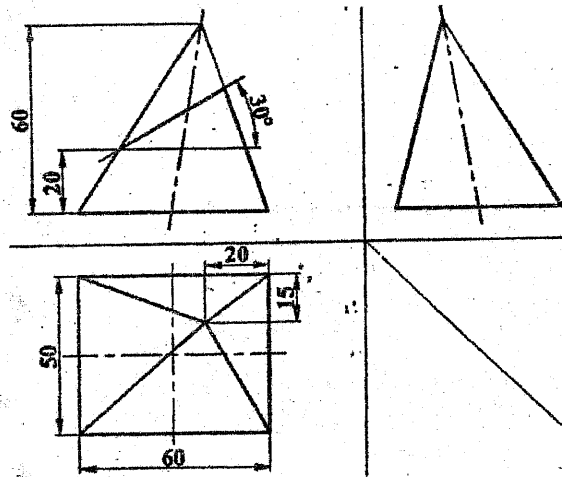
**Subject:** - Engineering Drawing I (ME401)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

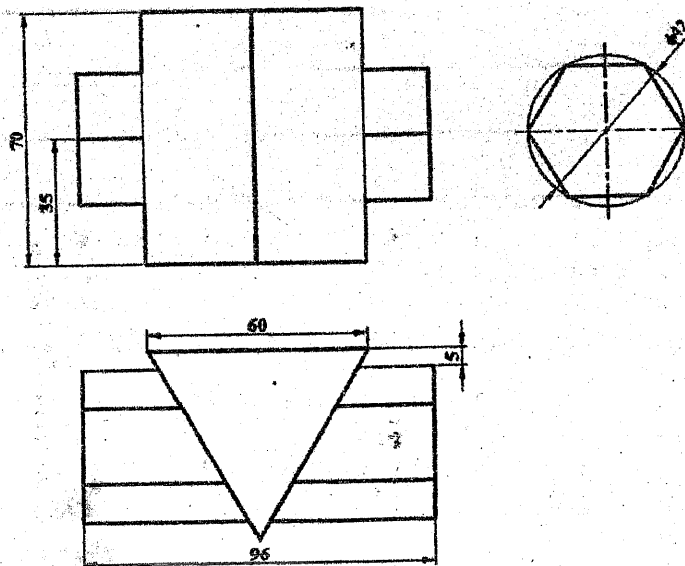
1. Draw an involute of circle having diameter of 40 mm. [3]
2. A regular pentagonal plane ABCDE of 20 mm side has its edge BC resting on the HP. Its plane is perpendicular to the HP and inclined to the VP at  $45^\circ$ . Draw its projections when its corner nearer to the VP is 18 mm in front of the VP. [5]
3. Draw orthographic projections with full sectional front view, top view and side view of the given isometric drawing in figure below. [15]



4. Draw a complete orthographic drawing of a solid cut by a plane as shown in figure below. Find the true shape of the section. Then develop the surface of the solid. [12]



5. Draw the lines of intersection of the surfaces of geometrical solids shown in figure below. [5]



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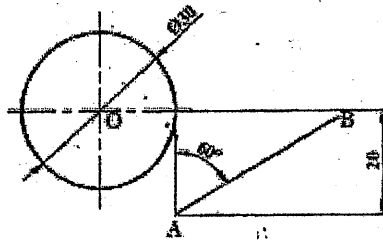


Exam.	New Back (2066 & Later Batch)		
Level	BE	Full Marks	40
Programme	All (Except B.Arch)	Pass Marks	16
Year / Part	I / I	Time	3 hrs.

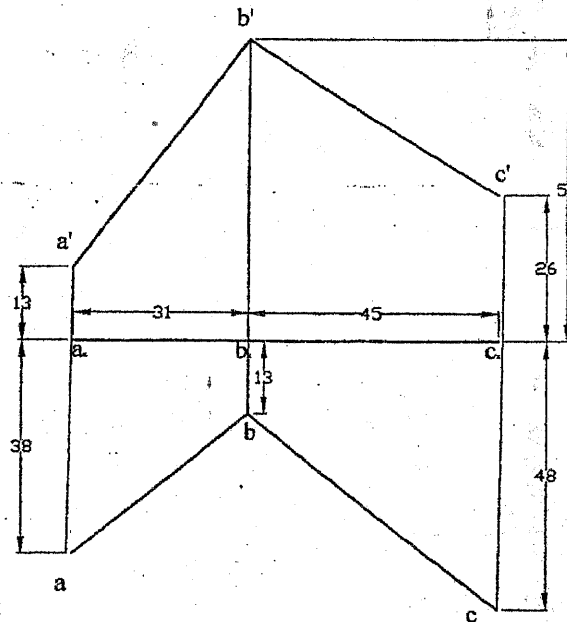
**Subject:** - Engineering Drawing I (ME401)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

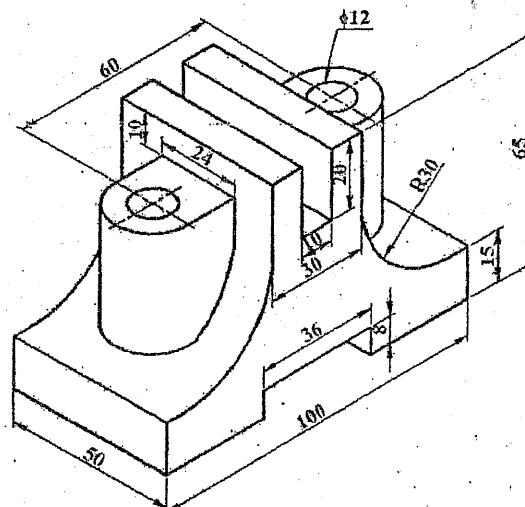
1. Figure below shows a straight line and a circle. Draw an arc of radius 18 mm tangent to both the given line and circle and outside to the given circle. [3]



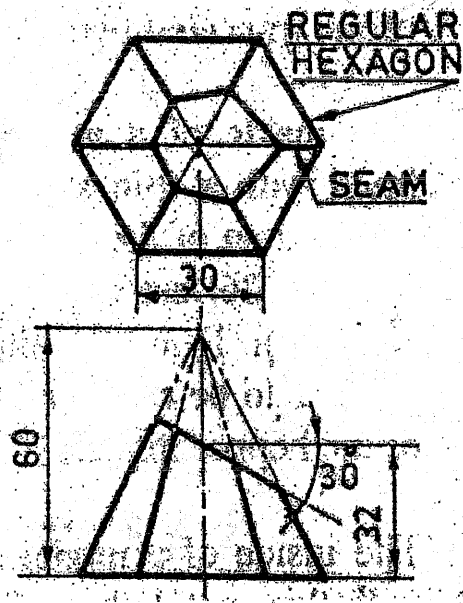
2. Find the true angle between line AB and BC. [5]



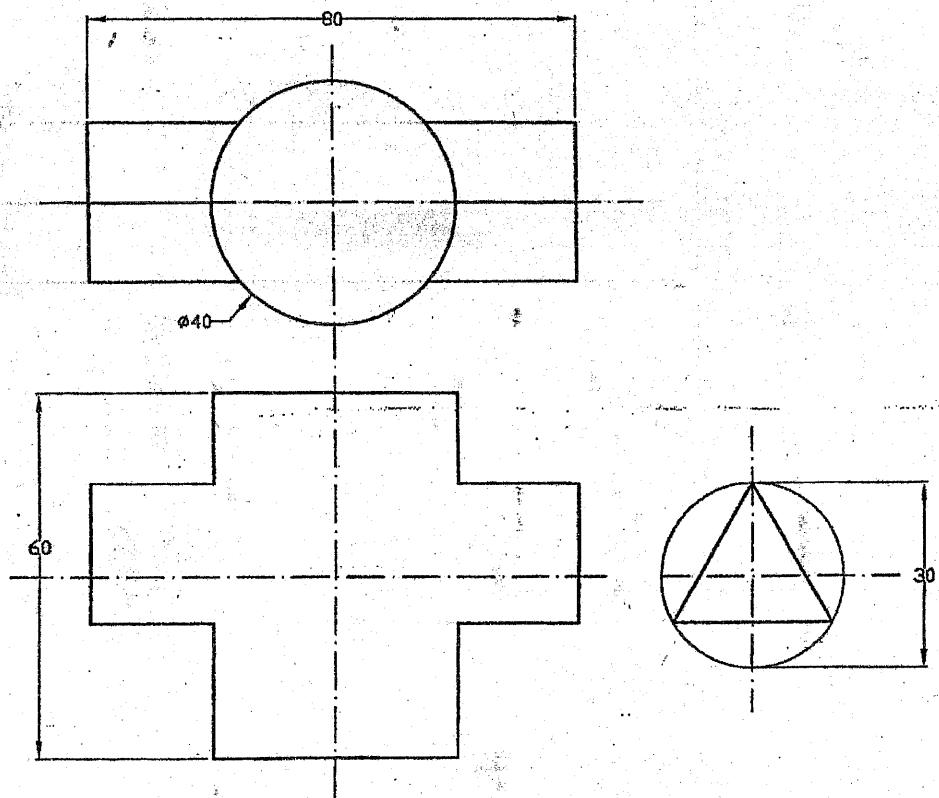
3. Pictorial view of an object is shown in figure below. Draw (with dimension) its (a) sectional front view, (b) sectional side view and (c) top view. [15]



4. Draw a complete orthographic drawing of a solid cut by a plane as shown in figure below. Find the true shape of the section. Then develop lateral surface of the solid. [12]



5. Draw the given views assigned and complete the intersection figure below. [5]



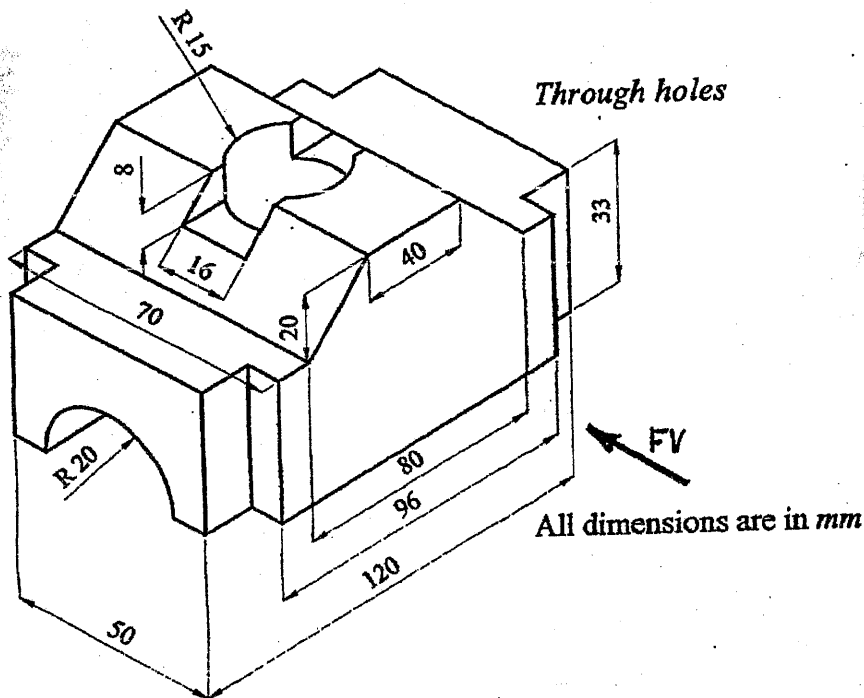
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Exam.	New Back (2066 & Later Batch)		
Level	BE	Full Marks	40
Programme	All (Except B.Arch)	Pass Marks	16
Year / Part	I / I	Time	3 hrs.

**Subject:** - Engineering Drawing I (ME401)

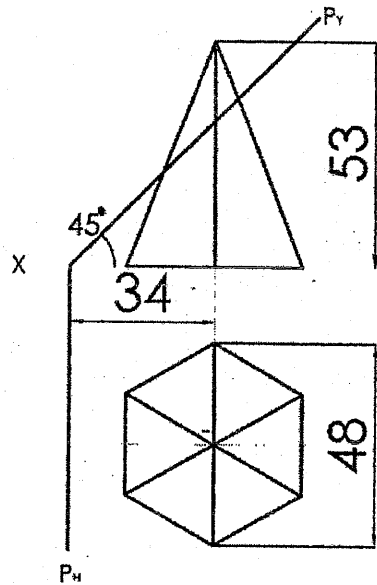
- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. Construct an Archimedian's spiral curve of one convolution of diameter 120mm. [4]
2. Draw three orthographic projections of a rectangular lamina 60mm×40mm, which is parallel to H.P with one of its side inclined at 30 degree to V.P. The corner nearer to V.P is 25mm in front of V.P and 30mm above H.P. [5]
3. Pictorial view of an object is shown in figure below. Draw the views with sectional front view. [14]



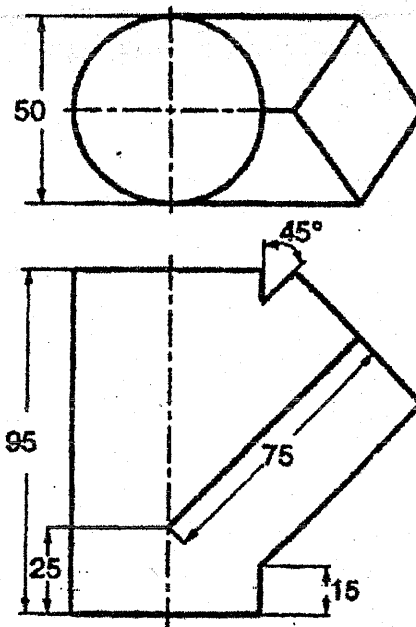
4. Make complete the orthographic view of geometrical solid cut by plane as shown in figure below. Find the true shape of the section. Construct the development of the surfaces of the solid.

[12]



5. Draw the common curve of intersection of a prism with a cylinder as shown in figure below.

[5]



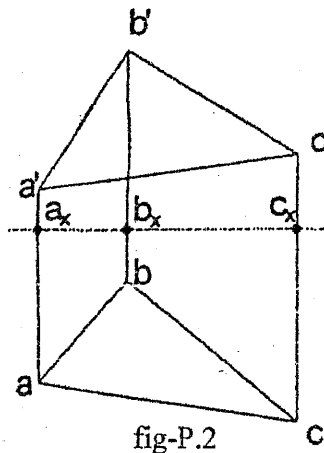
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Exam.	Regular		
Level	BE	Full Marks	40
Programme	All (Except B.Arch)	Pass Marks	16
Year / Part	I / I	Time	3 hrs.

*Subject: - Engineering Drawing I (ME401)*

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. Draw one turn of a helix of pitch 60 mm on a cylinder of diameter of 40 mm [4]
2. Reproduce the given views of the plane and find out its indination with HP and the true shape of the plane. Refer figure P.2 [6]



- $a'a_x = 5\text{ mm}$
- $a a_x = 30\text{ mm}$
- $b'b_x = 45\text{ mm}$
- $b b_x = 5\text{ mm}$
- $c'c_x = 18\text{ mm}$
- $c c_x = 40\text{ mm}$
- $a b_x = 31\text{ mm}$
- $b c_x = 45\text{ mm}$

fig-P.2

3. Pictorial view of an object is shown in figure P.3. Draw its (a) Sectional front view (b) Side view from the left and (c) Top view. Also dimension the views. [14]

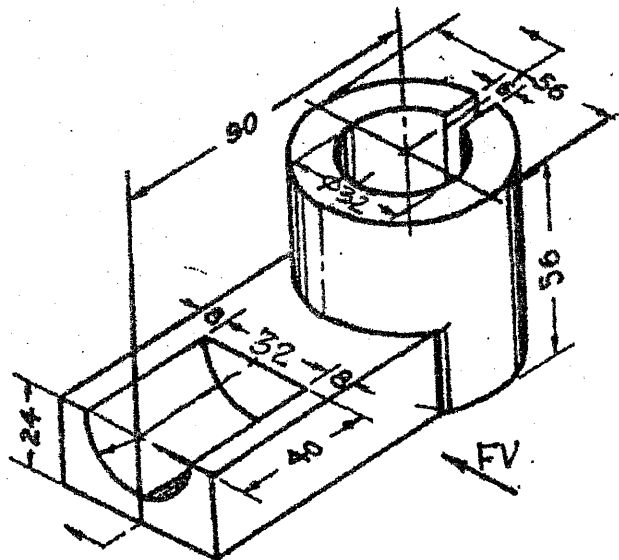


fig-P.3

4. A square base pyramid is cut by an inclined cutting plane  $p_x$  and horizontal plane  $p_4$  as shown in figure p.4. Draw the lateral surface development of the lower portion of solid. [10]

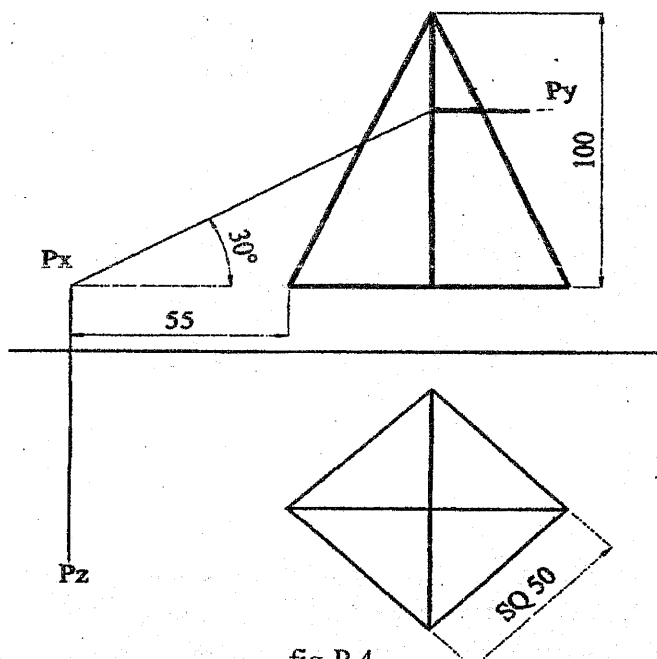


fig-P.4

5. Draw lines of intersection of the surfaces of geometrical solids as shown in figure P.5 [6]

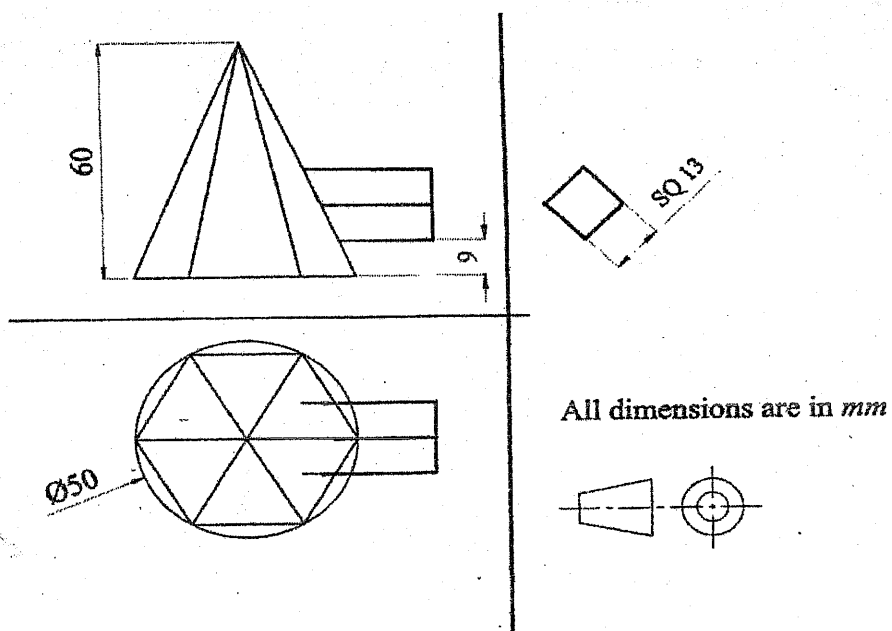


fig-P.5

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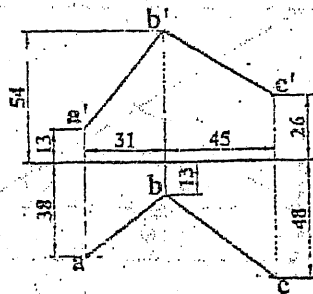
02 TRIBHUVAN UNIVERSITY  
 INSTITUTE OF ENGINEERING  
 Examination Control Division  
 2068 Chaitra

Exam.	BE	Full Marks	40
Level	BE	Pass Marks	16
Programme	All (Except B, Arch.)	Time	3 hrs.
Year / Part	I / I		

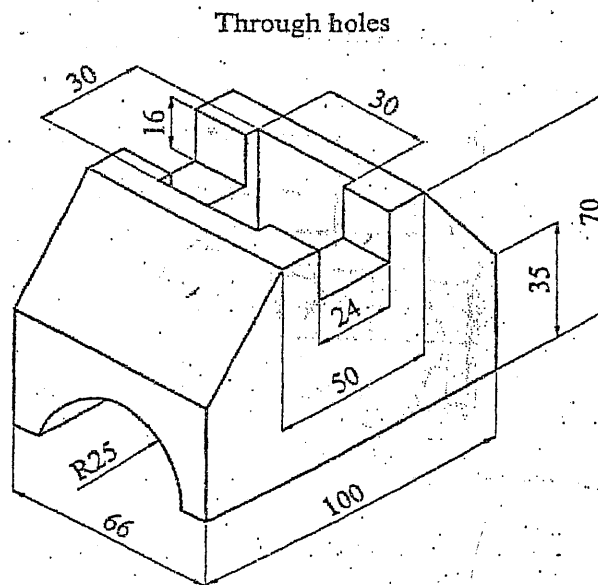
*Subject: - Engineering Drawing (ME 401)*

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ Necessary figures are attached herewith.
- ✓ Assume suitable data if necessary.

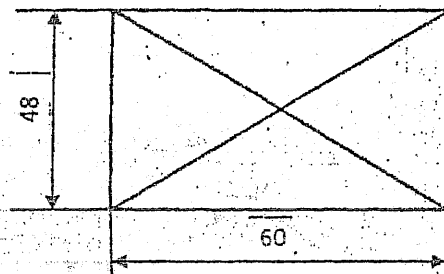
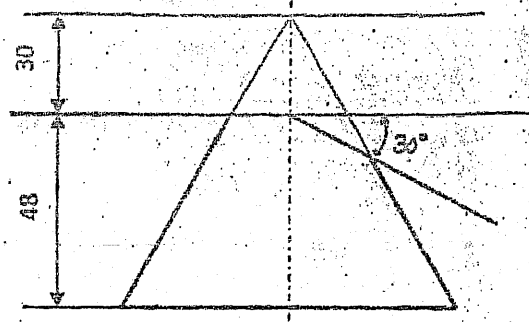
1. Draw a parabola with double ordinate 80mm and axis length 60mm. [3]
2. Find the true angle between lines AB and BC. [5]



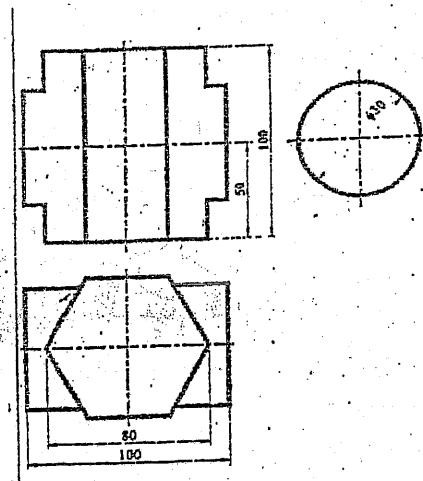
3. Draw orthographic projections with full sectional front view, side view and top view of pictorial drawing shown in figure below. [15]



4. Make complete the orthographic view of geometrical solid cut by plane as shown in figure below. Find the true shape of the section. Construct the development of the solid surface. [12]



5. Draw the lines of intersection of the surfaces of geometrical solids shown in figure below. [5]



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