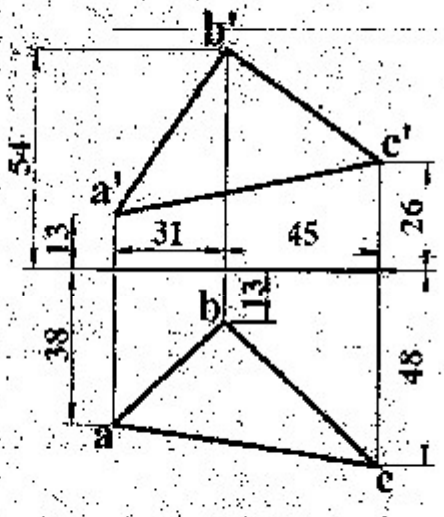
02. TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2072 Kartik

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.

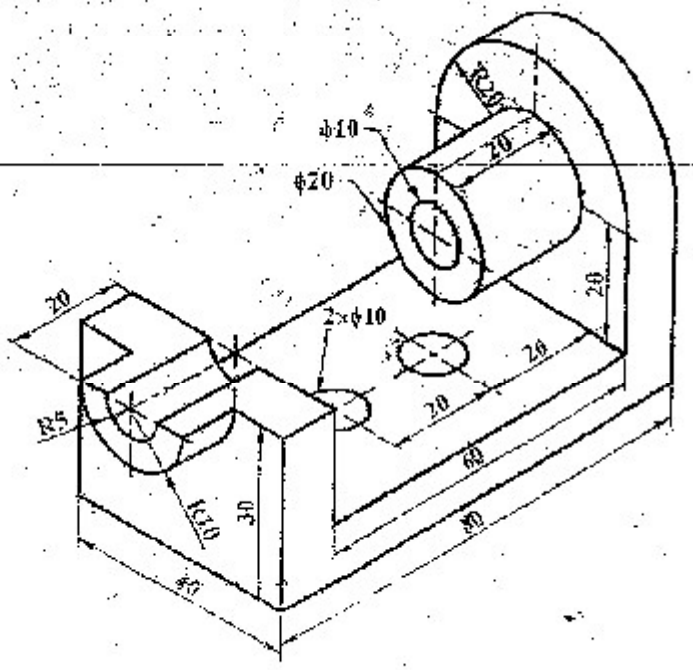
Subject: - Engineering Drawing I *(ME401)*

- ✓ 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.*

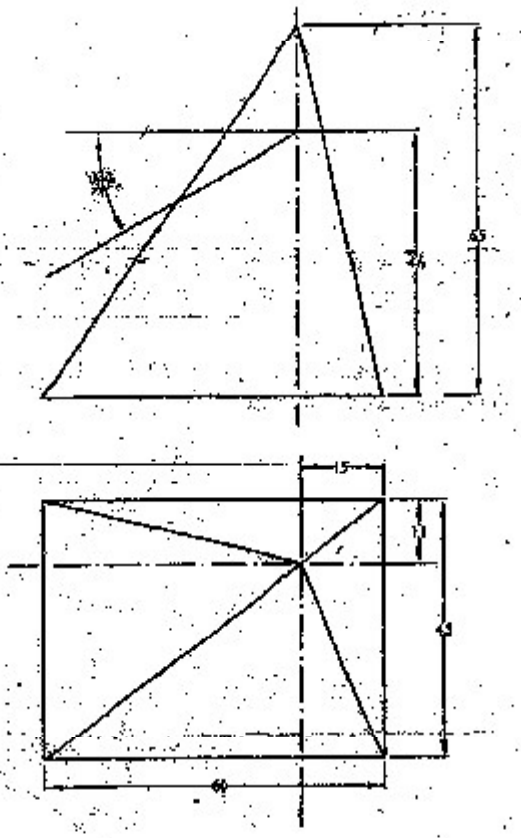
1. Draw two circles with radii 15 mm and 20 mm respectively with their centers lying on a horizontal line and 60 mm apart. Draw an arc tangent of radius 40 mm outside to both the circles. [3]
2. Reproduce the given views of the plane shown in figure below. Determine its true perimeter and true inclination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



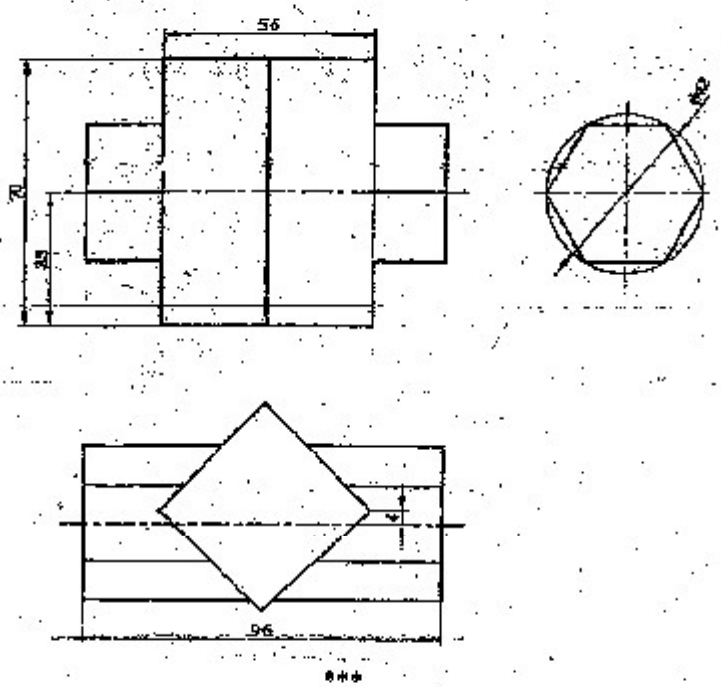
3. Pictorial view of an object is shown in figure below. Draw (with dimension) its (a) sectional front view, (b) side view and (c) top view. [15]



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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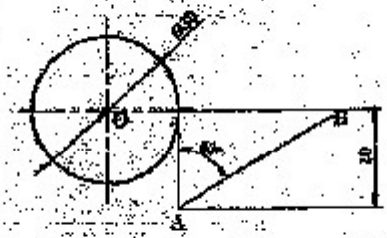
02 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2071 Shawan

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.

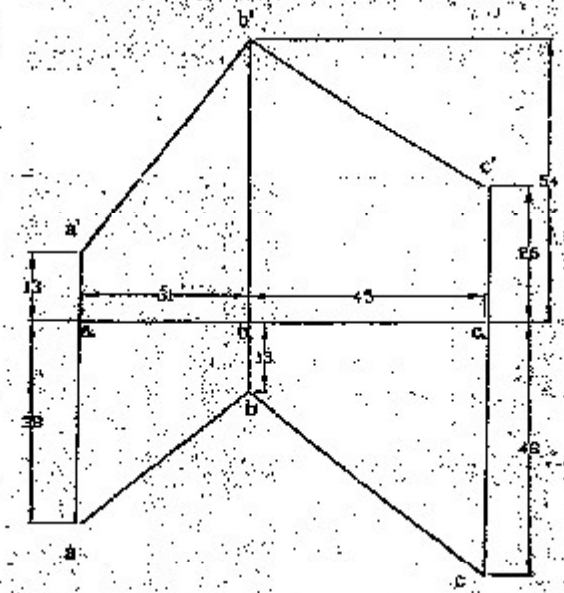
Subject: - Engineering Drawing I *(ME401)*

- ✓ 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.*

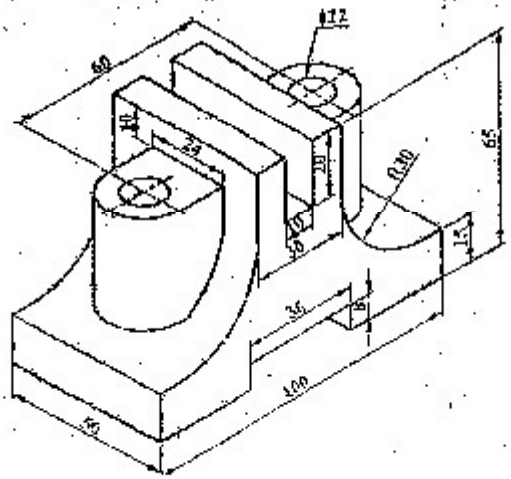
1. Figure below shows a straight line and a circle. Draw an arc of radius 18 mm tangent to both the given line and circle and outside to the given circle. [3]



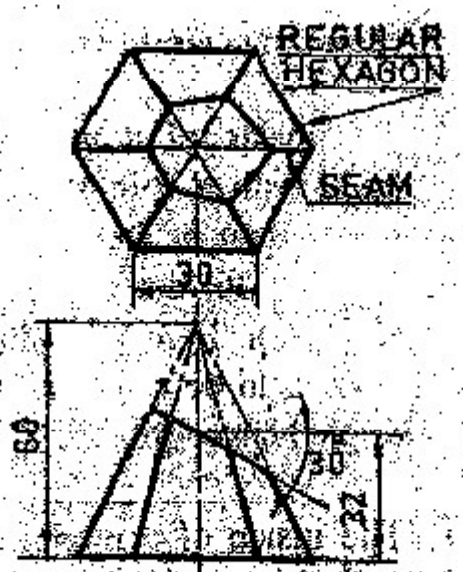
2. Find the true angle between line AB and BC. [5]



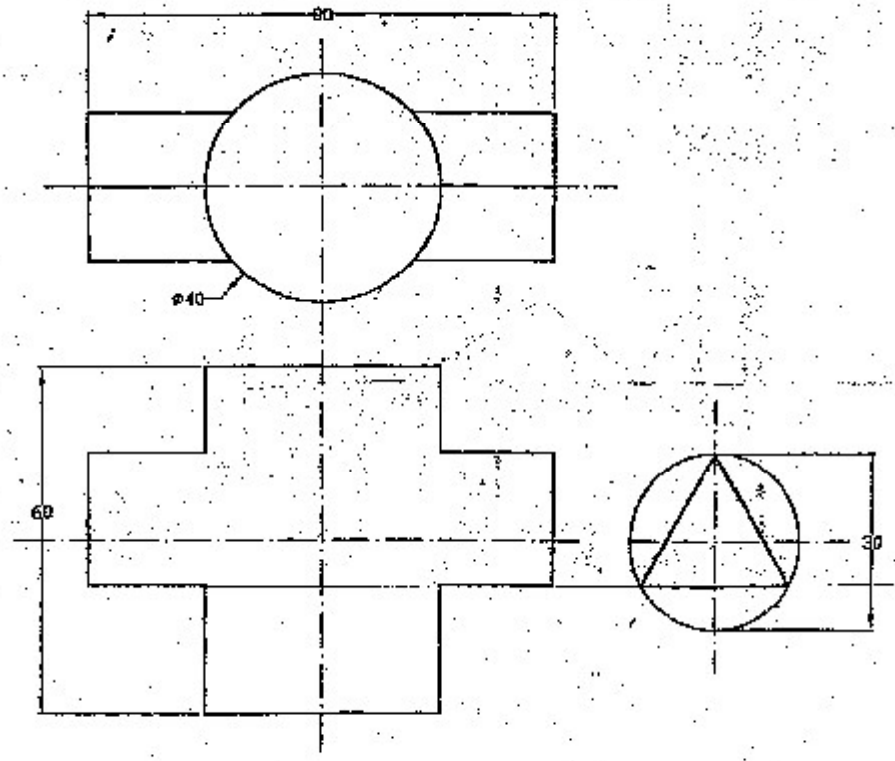
3. Pictorial view of an object is shown in figure below. Draw (with dimension) its (a) sectional front view, (b) sectional side view and (c) top view. [15]



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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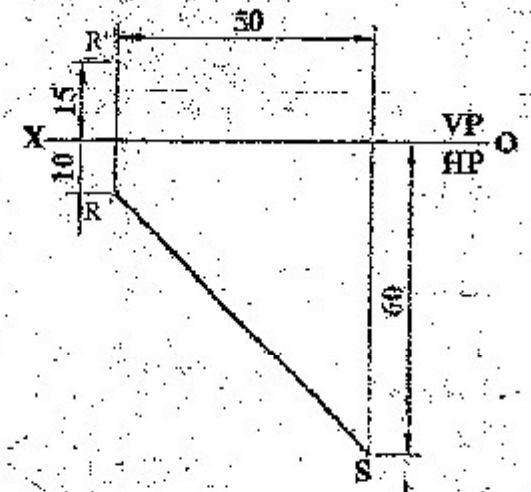
62 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2071 Chaitra

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

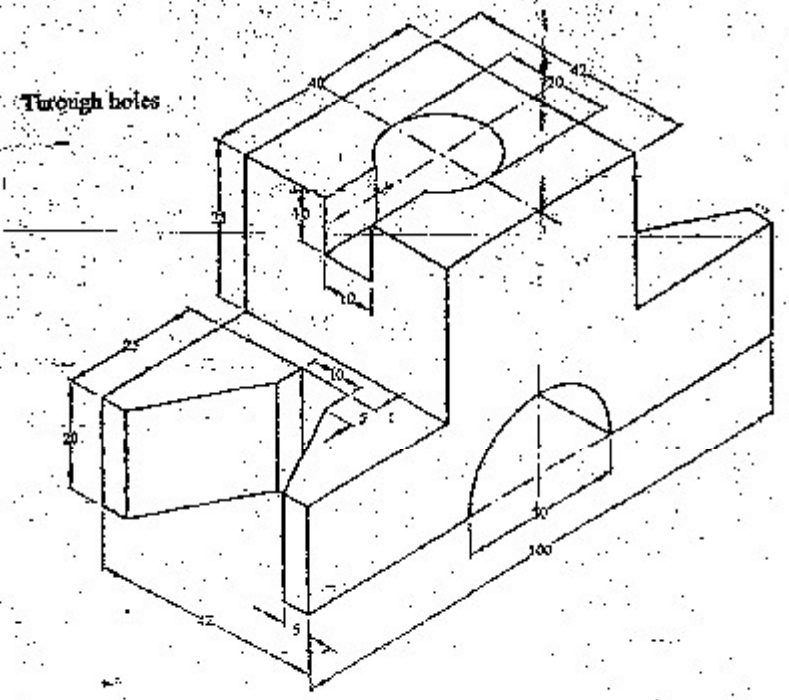
Subject: - Engineering Drawing I *(ME401)*

- ✓ 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.*

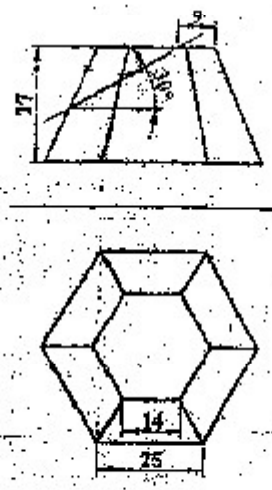
1. Construct an ellipse having a major axis 80 mm and minor axis 60 mm. [3]
2. Top view of a straight line RS and the front view of its end R are shown in figure below. Complete its projection if it is inclined at 30° to the HP. Also determine its true length and true inclination with the VP. [5]



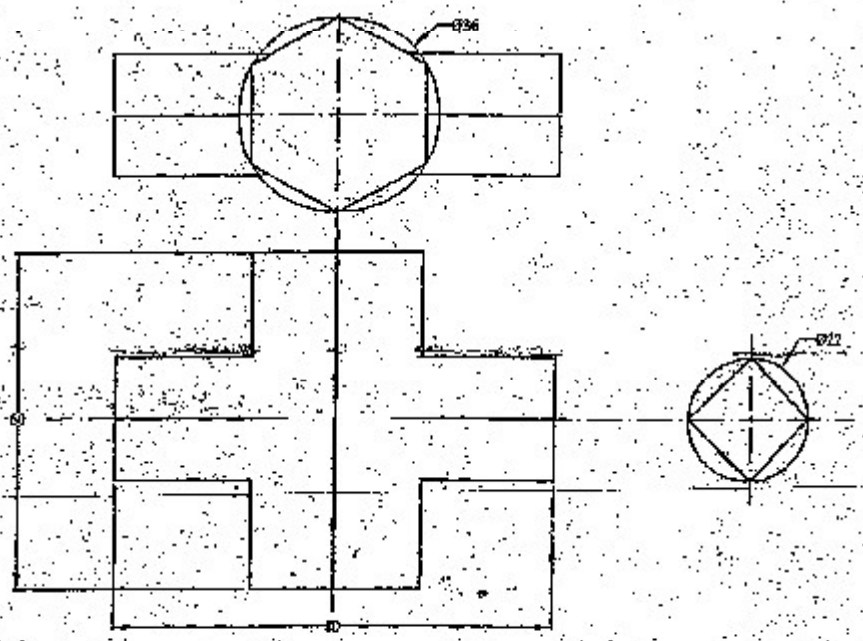
3. Draw orthographic projections with full sectional front view, top view and side view of the given object shown in figure below. [15]



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]



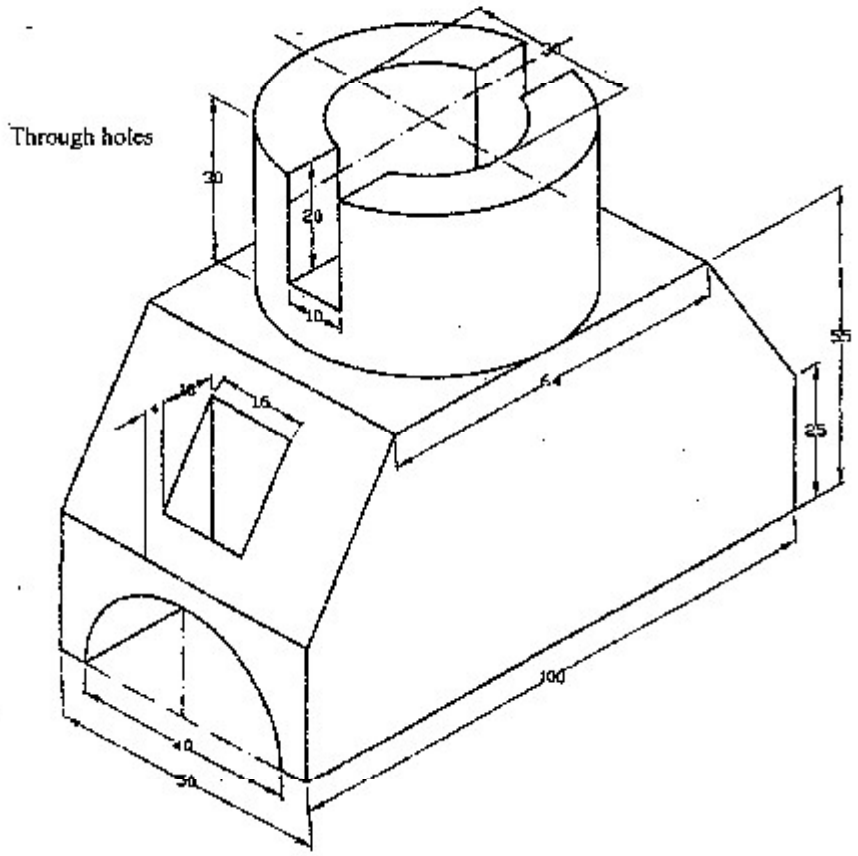
02 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2070 Chaitra

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

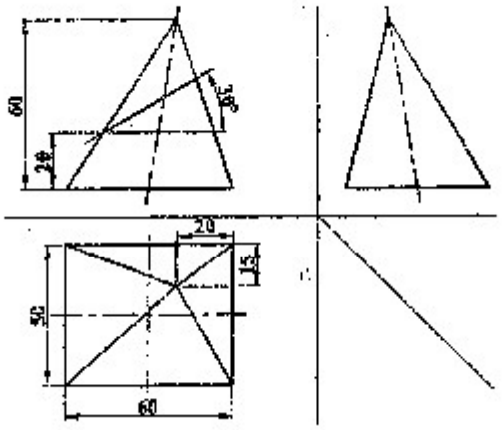
Subject: - Engineering Drawing I *(ME401)*

- ✓ 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.*

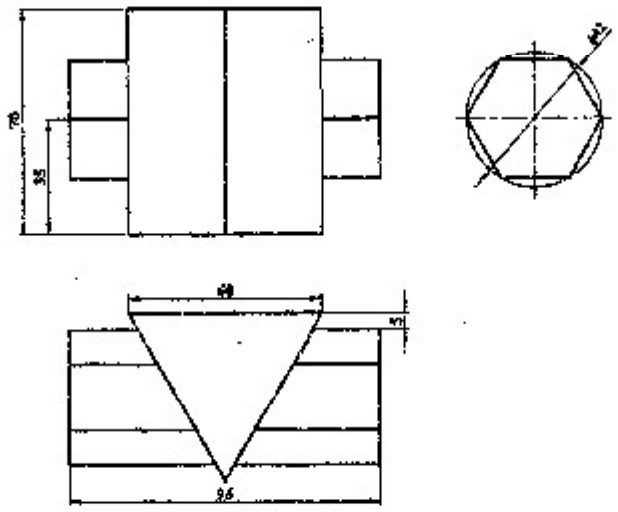
1. Draw an involute of circle having diameter of 40 mm. [3]
2. A regular pentagonal plane ABCDE of 20 mm side has its edge BC resting on the HP. Its plane is perpendicular to the HP and inclined to the VP at 45°. Draw its projections when its corner nearer to the VP is 18 mm in front of the VP. [5]
3. 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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02 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division

2069 Chaitra

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]

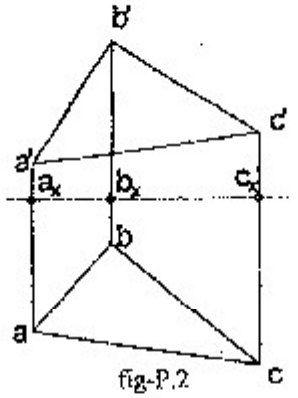

fig-P.2

$a'a_x = 5mm$
$aa_x = 30mm$
$b'b_x = 45mm$
$bb_x = 5mm$
$c'c_x = 18mm$
$cc_x = 40mm$
$a_1b_x = 31mm$
$b_1c_x = 45mm$

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]

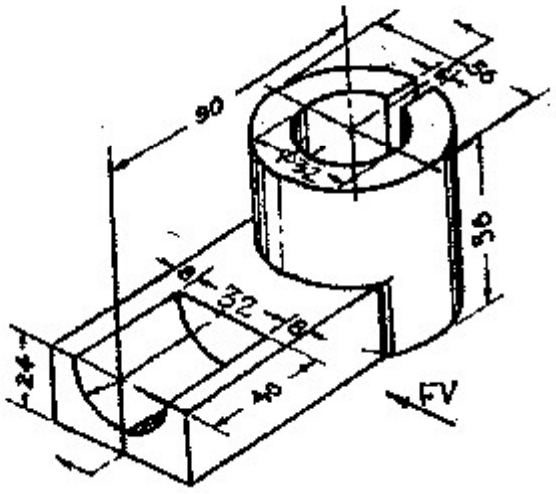

fig-P.3

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]

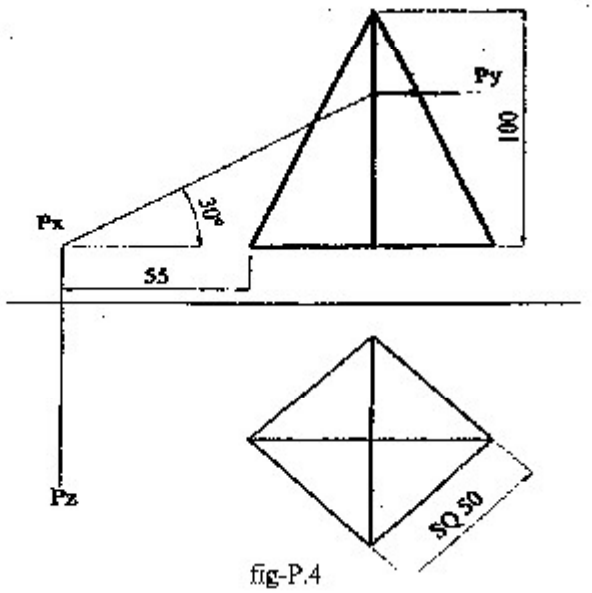

fig-P.4

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

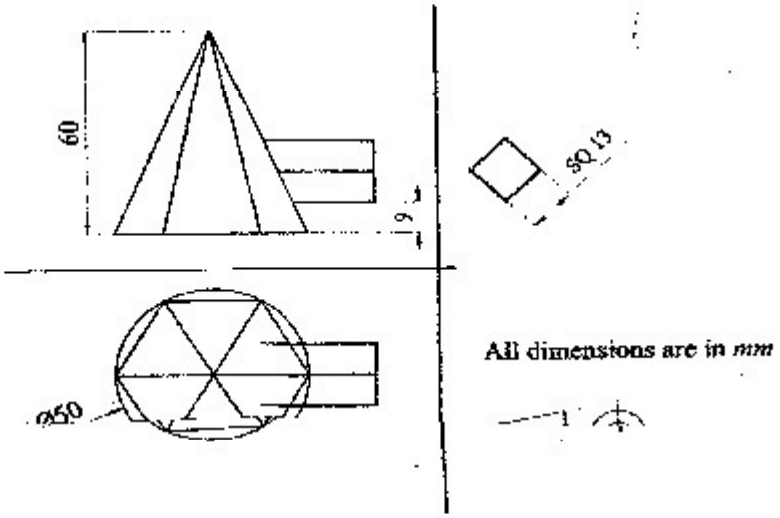

fig-P.5

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02 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2068 Baishakh

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

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

1. Draw a cycloid with the diameter of the generating circle as 50mm. [4]
2. A line AB, 90mm long is inclined at 45° to H.P. and its top view makes an angle of 60° with V.P. The end A is in the H.P. and 12mm in front of V.P. Draw its front view and find its true inclination with V.P. [6]
3. Draw orthographic projections with Full Sectional Front View, Side View and Top View of pictorial drawing as shown in Figure P.3: [14]

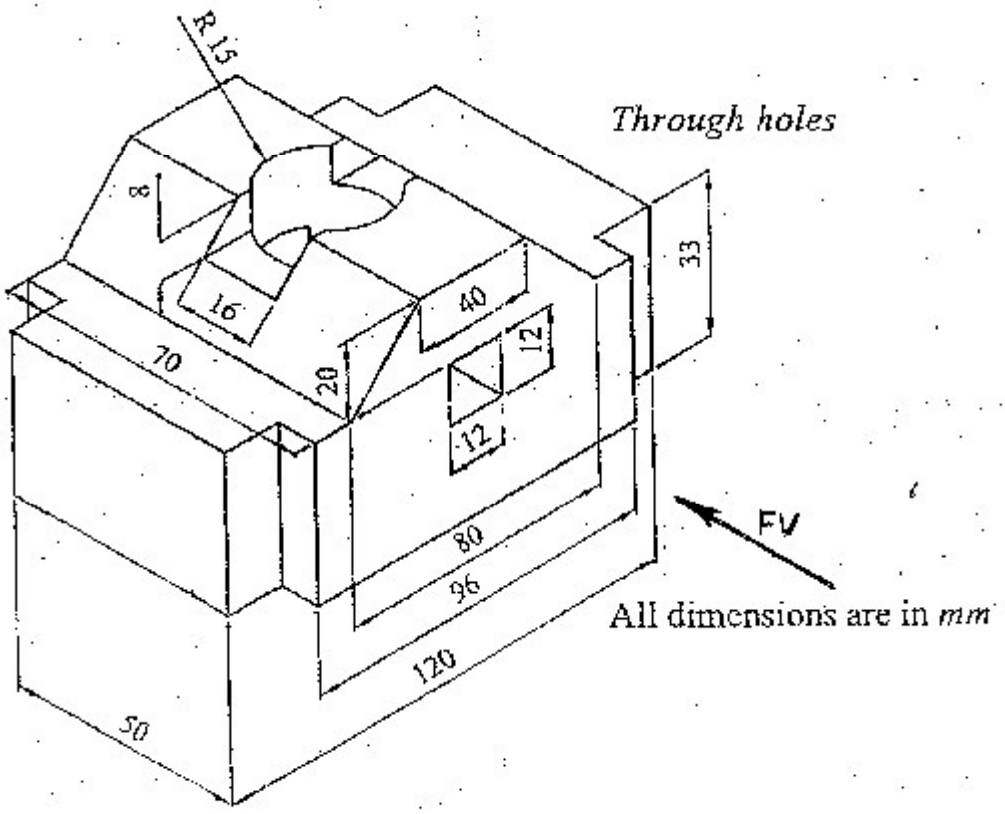
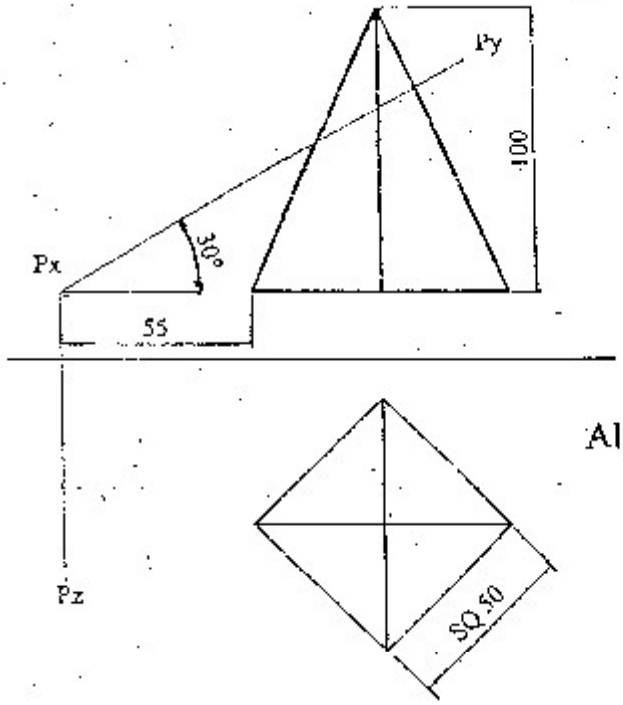


Figure P.3.

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



All dimensions are in *mm*.

Figure P.4

5. Draw the given figure as shown in Figure P.5 and complete the intersections. [6]

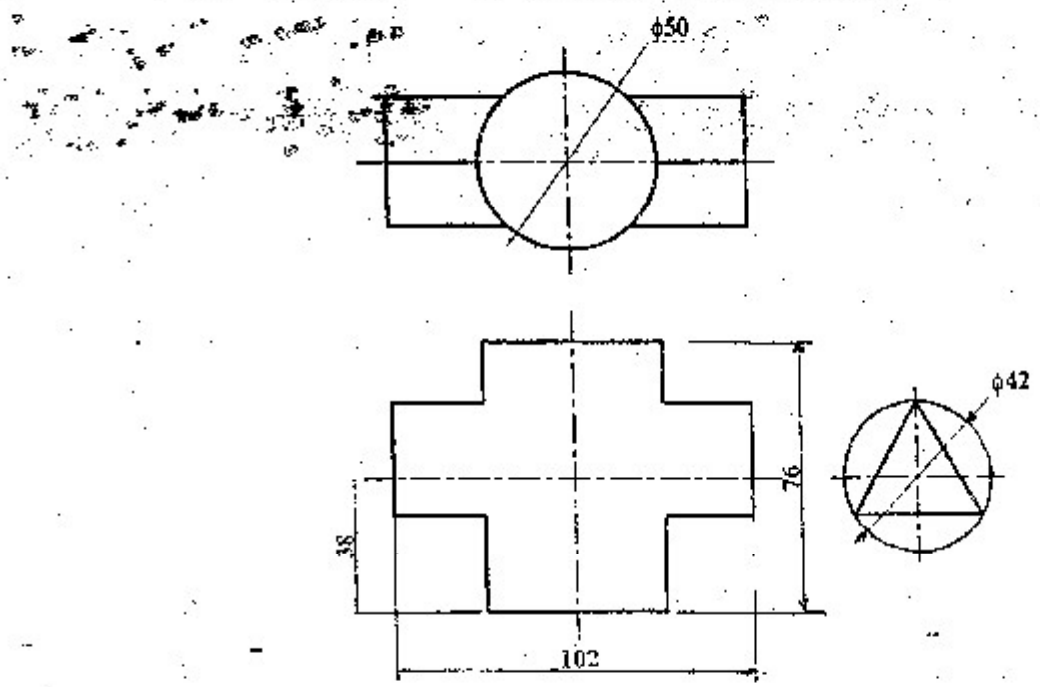


Figure P.5

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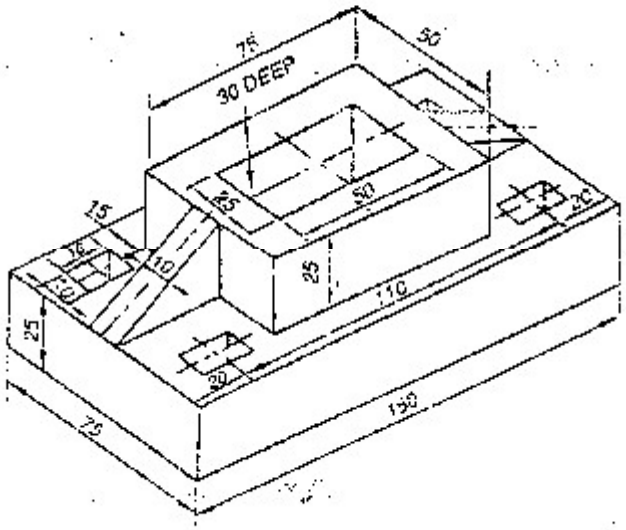
02 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2067 [illegible]

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

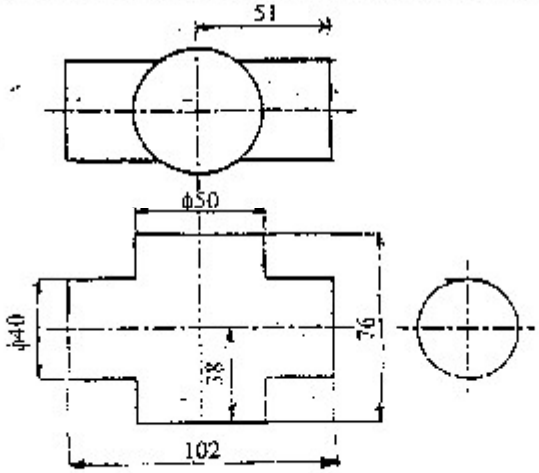
Subject: - Engineering Drawing I

- ✓ 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 double ordinate 100mm and axis 60mm. [4]
2. A regular hexagonal lamina, of 20mm side, rests on one of its sides on horizontal plane. It is parallel to and 11mm away from vertical plane and it is in first quadrant. Draw its projections. [7]
3. Draw the views with dimensions of the object given below with full sectional front view, half sectional side view and top view. [15]



4. A square pyramid of base 30mm and height 55mm is resting on its base on H.P. with edges of the base making an angle of 45° with V.P. It is cut by an auxiliary inclined plane inclined at 30° to the H.P. and passing through the mid-point of the axis. Draw the views and develop the lateral surface of the pyramid. [8]
5. Draw the given views of assigned form and complete the intersection. [6]



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02 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2066 Jestha

Exam.	Back		
Level	BE	Full Marks	40
Programme	BCE, B.Agri.	Pass Marks	16
Year / Part	I / I	Time	3 hrs.

Subject: - Engineering Drawing I

- ✓ 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**.*
- ✓ ***Necessary figures are attached herewith.***
- ✓ *Assume suitable data if necessary.*

1. Draw an involute of a rectangle 30 mm × 20 mm. [3]

2. A thin sheet of shape as shown in *Figure P.2* is resting on its side AB on the HP such that it is perpendicular to the VP and inclined to the HP at 45°. Draw its projections when the corner nearest to the VP is 20 mm in front of the VP. [5]

3. Pictorial view of an object is shown in *Figure P.3*. Draw the sectional front view, top view and side view for the object and dimension it. [8+4+4]

4. Draw a complete orthographic drawing of a pyramid cut by two planes (horizontal plane and plane inclined to HP at 45° and perpendicular to VP) as shown in *Figure P.4*. Find the true shape of the section. Then develop the surfaces of the solid. [4+4+8]

OR

(a) Draw the lines of intersection of the surfaces of geometrical solids shown in *Figure P.5(a)*. [10]

(b) Top views and front views of line AB and BC are shown in *Figure P.5(b)*.Determine true angle between two line **AB** and **BC**. [6]

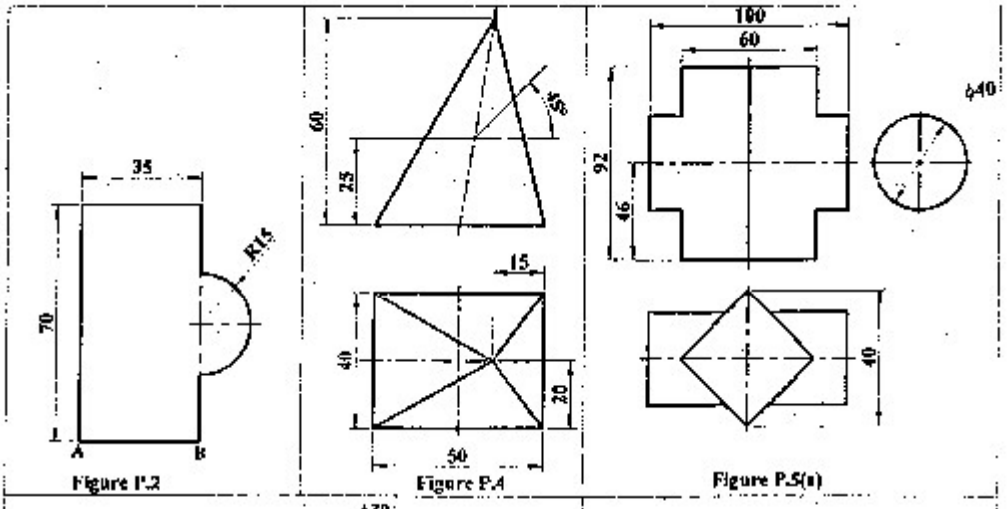

Figure P.2 Figure P.4 Figure P.5(a)

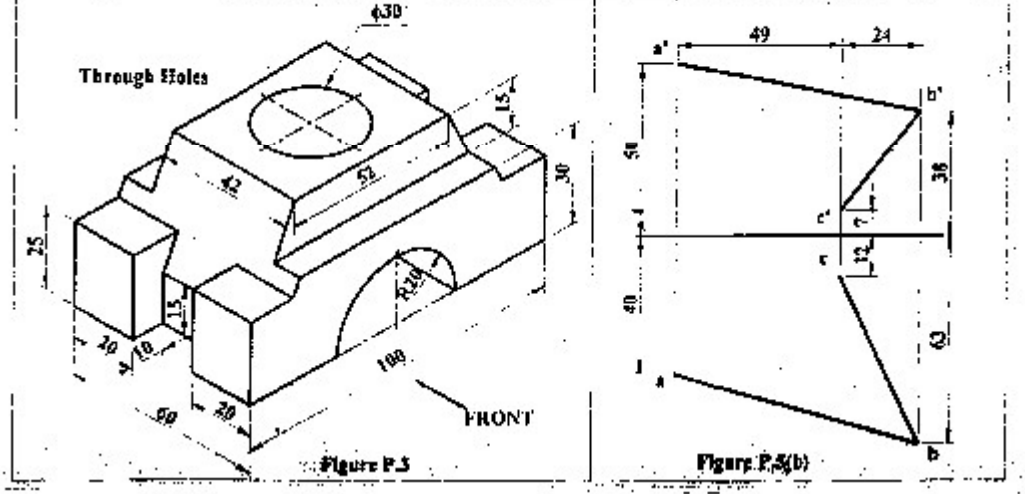

Figure P.3 Figure P.5(b)

25 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division

2066 Shrawan

Exam.	Regular / Back		
Level	BE	Full Marks	40
Programme	BEI., BEX, BCE, BME, BIE	Pass Marks	16
Year / Part	I / I	Time	3 hrs.

Subject: - Engineering Drawing I

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

1. Draw a parabola with double ordinate 100mm and axis length 80mm. [3]
2. The front view of a 75mm long line measures 55mm. The line is parallel to the HP and one of its ends is in the VP and 25mm above the HP. Draw the projections of the line and determine its inclination with the VP. [3]
3. Pictorial view of an object is shown in Figure P.3. Draw (with dimension) its (a) sectional front view, (b) side view and (c) top view. [16]

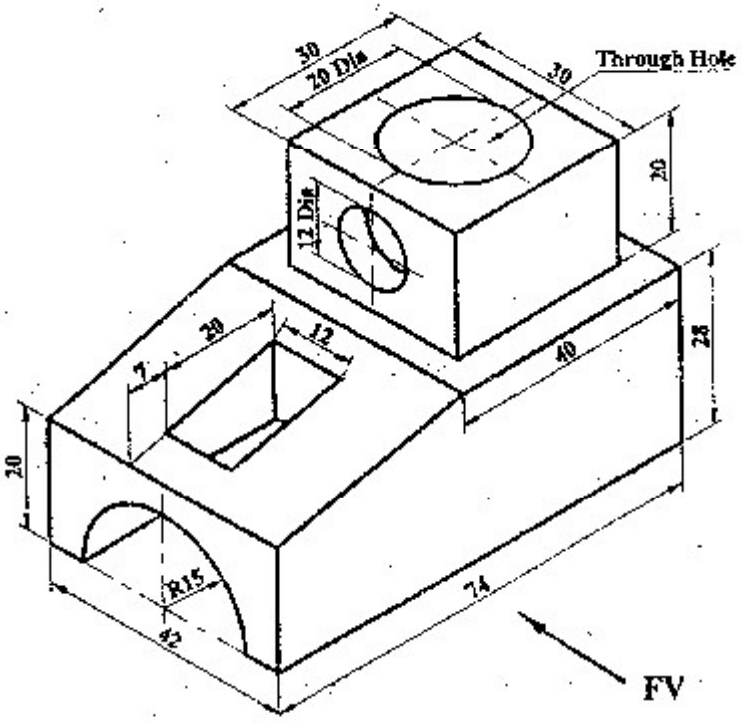

Figure P.3

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

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

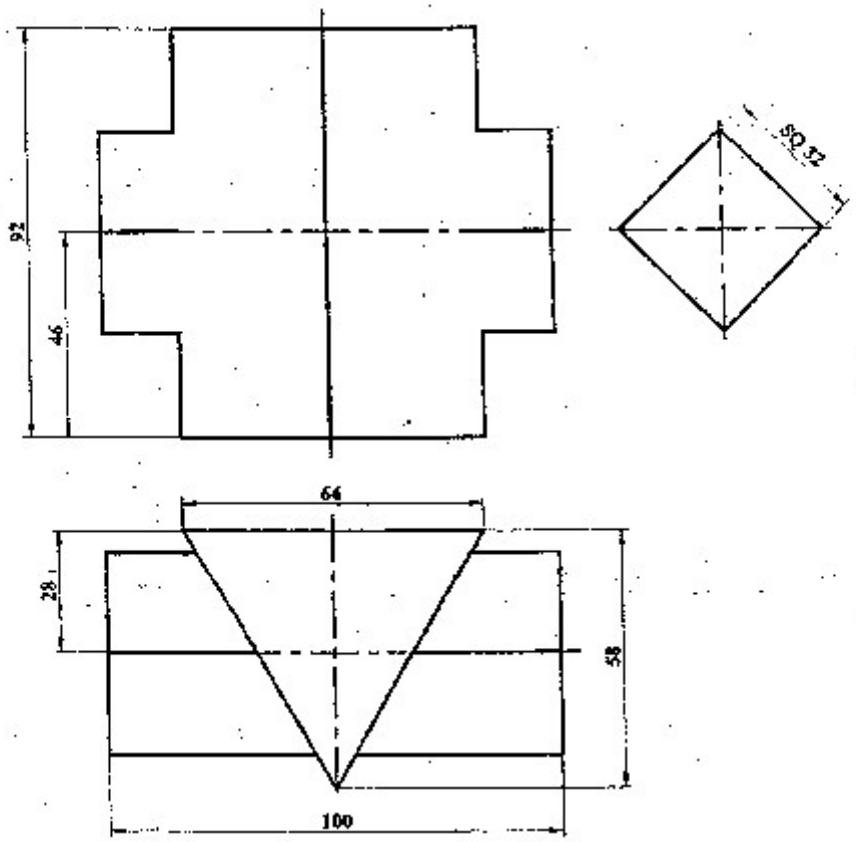

Figure P.5

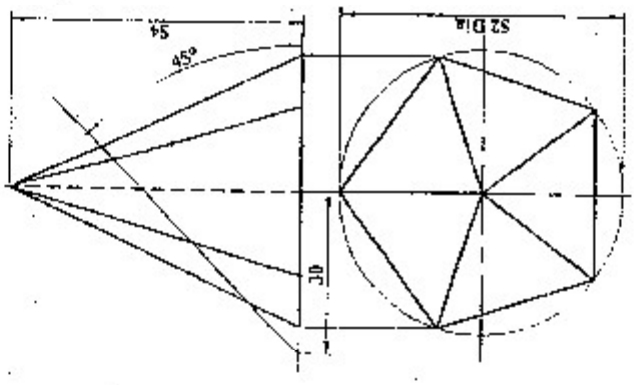

Figure P.4

25 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division

2066 Jestha

Exam.		Back	
Level	BE	Full Marks	40
Programme	BEL, BEX, BCT, BME, BIE	Pass Marks	16
Year / Part	I / I	Time	3 hrs.

Subject: - Engineering Drawing 1

- ✓ 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 50mm. [4]
2. A line 65mm long has its one end 15mm above the horizontal plane and 20mm in front of the vertical plane. The other end is 35mm above the horizontal plane and 60mm in front of the vertical plane. Draw the projections of the line and determine its inclination with both the planes. [6]
3. Pictorial view of an object is shown in figure 1. Draw (with dimension) it's sectional front view, side view and top view. [12]

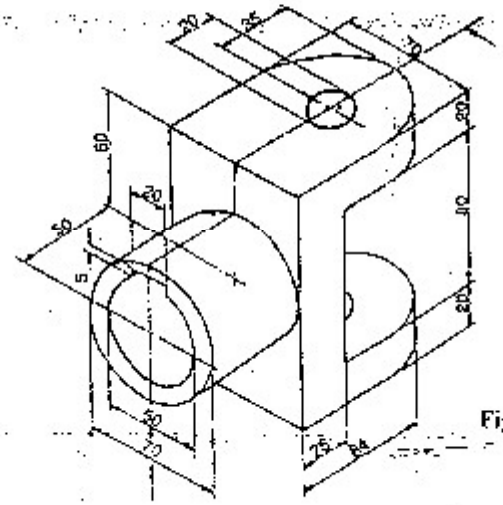

Figure 1

4. Draw a complete orthographic drawing of a hexagonal prism cut by a plane as shown in figure 2. Find the true shape of the section and develop the surfaces of the solid. [12]
5. Draw the lines of intersections of the surfaces of geometrical solids shown in figure 3. [6]

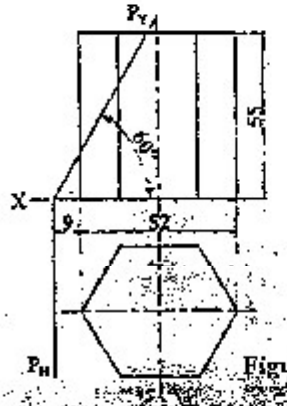

Figure 2

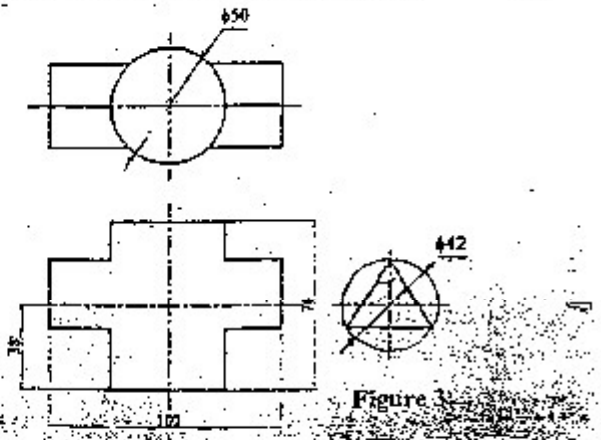

Figure 3

02 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2066 Shrawan

Exam.	Regular / Back		
Level	BE	Full Marks	40
Programme	BCE, B.Agri.	Pass Marks	16
Year / Part	I / I	Time	3 hrs.

Subject: - Engineering Drawing I

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

1. Draw a regular pentagon on a circumscribing circle of 60mm diameter. [4]
2. A line AB 80mm long is inclined at 30° to the H.P. The plan of the line is inclined at 50° to the V.P. Draw the projections of the line when end A is 10mm above H.P. and 20mm in front of V.P. [5]
3. Pictorial view of an object is shown in Figure 1. Draw its (a) Sectional front view (b) Side view and (c) Top view. Also dimension the views. **[4+4+4]**

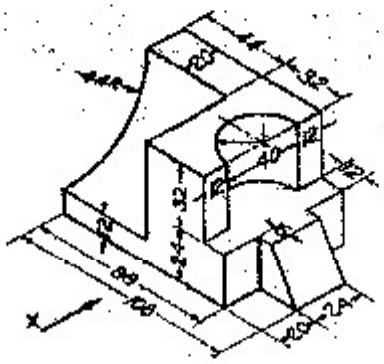

Figure 1

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

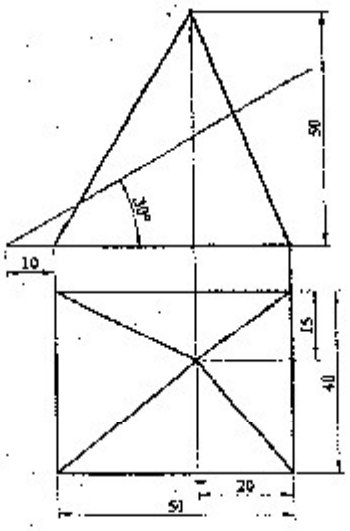

Figure P.4

5. Draw the lines of intersection of the surfaces of geometrical solids shown in Figure P.5. [7]

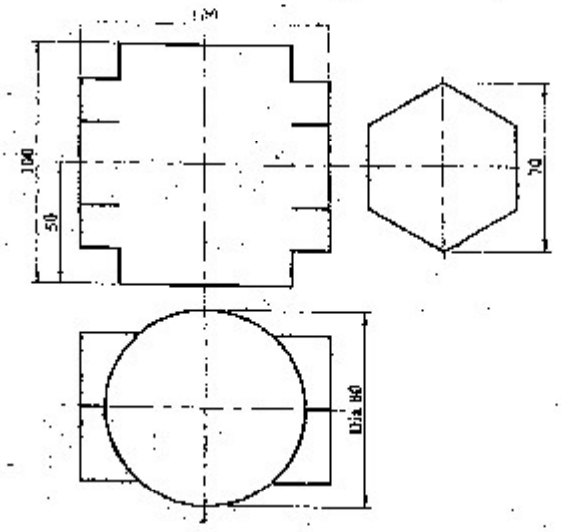

Figure P.5

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25 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2065 Shrawan

Exam.	Regular/Back		
Level	BE	Full Marks	40
Programme	BEL, BEX, BCT, BME, BIE	Pass Marks	16
Year / Part	I / I	Time	3 hrs.

Subject: - Engineering Drawing I

- ✓ 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 regular pentagon on a circumscribing circle of 60mm diameter. [5]
2. A straight line AB 55mm long makes an angle of 30° to the H.P. and 45° to the V.P. the end A is 12mm in front of V.P. and 15mm above H.P. Draw the projections of the line AB. [5]
3. Pictorial view of an object is shown in fig-1. Make a complete orthographic drawing and dimension it. [14]

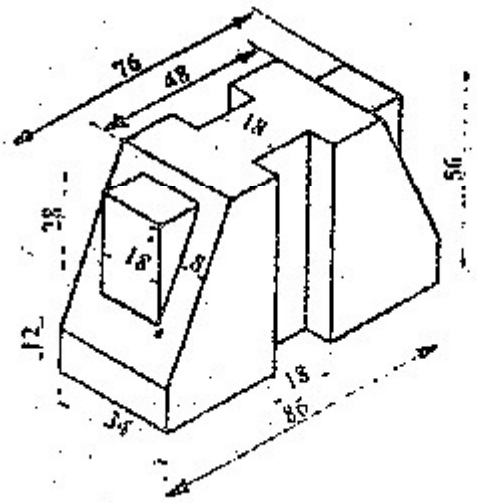

Fig-1

4. A right circular cone is cut as shown in fig-2. Develop its lateral surface. [16]

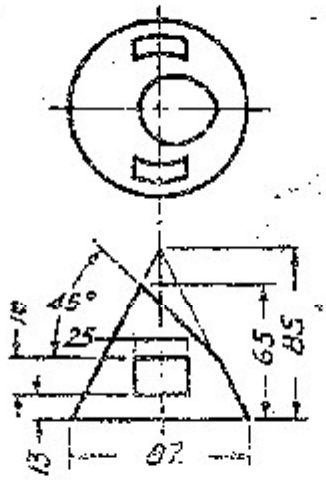

Fig-2

OR

OR

a) Draw the given view of assigned form and complete the intersection. Refer fig-3. [10]

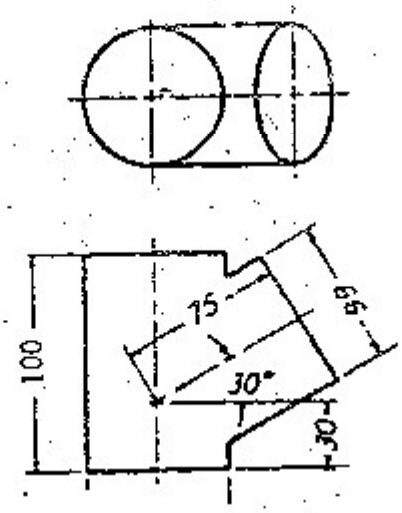

Fig-3

b) A square lamina ABCD of 25mm side is perpendicular to V.P. and inclined to H.P. at 45°. It rests on its side BC in HP. Draw its projections when corner C is 12mm in front of the V.P. [6]

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