TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2079 Baishakh

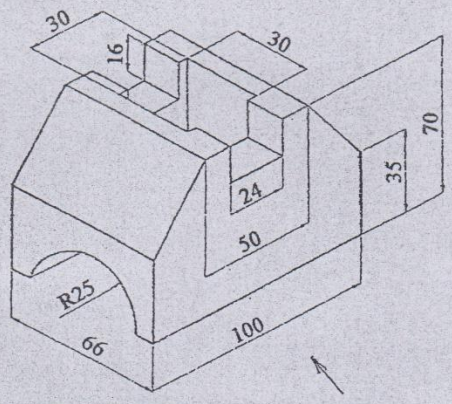
Exam.	Back		
Level	BE	Full Marks	40
Programme	All (Except BAR)	Pass Marks	16
Year / Part	I / I	Time	3 hrs.

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

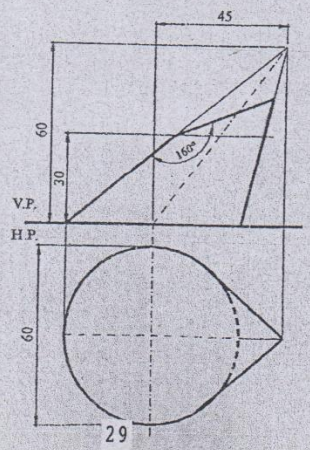
- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ *Attempt **All** questions.*
- ✓ *The figures in the margin indicate **Full Marks**.*
- ✓ *Assume suitable data if necessary.*

1. Draw an ellipse with major and minor axes of 80 mm and 60 mm respectively. [4]
2. A line AB has its end A 15 mm above the HP and 10 mm in front of the VP and its end B 40 mm above the HP and 35 mm infront of the VP. The distance between its end projectors is 45 mm. Draw the projections of the line and determine the its true length and inclination with the HP and VP. [5]
3. Draw a complete orthographic projection of an object shown in figure below with a sectional front view. [14]

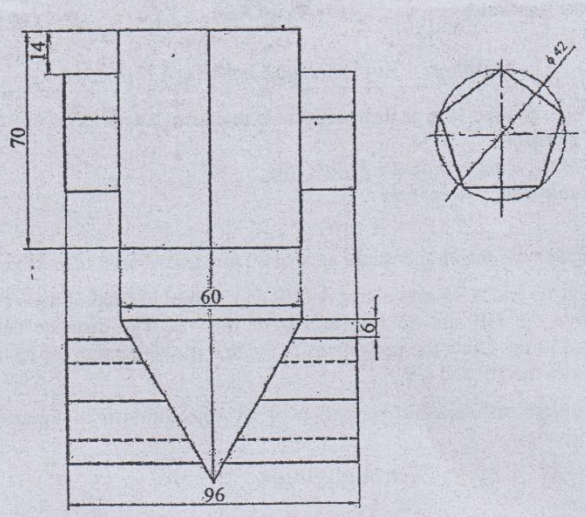
Through holes



4. Make a complete top view of orthographic drawing of a solid cut by a plane as shown in the figure below. Find the true shape of the section. Construct the development of whole surfaces 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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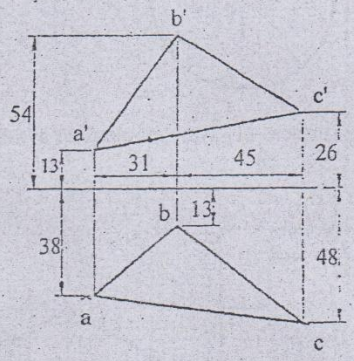
TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2078 Kartik

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

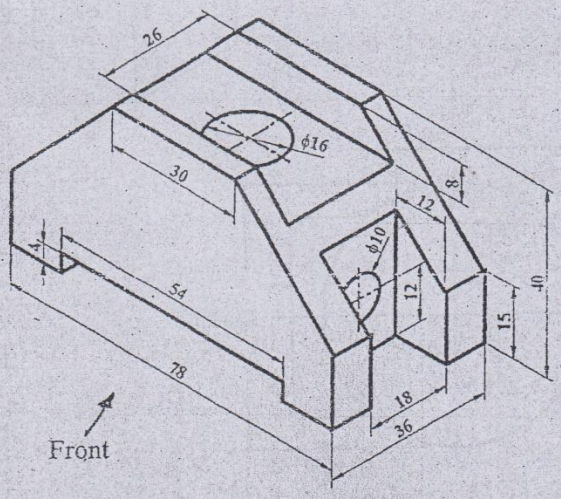
Subject: - Engineering Drawing I *(ME 401)*

- ✓ 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.*

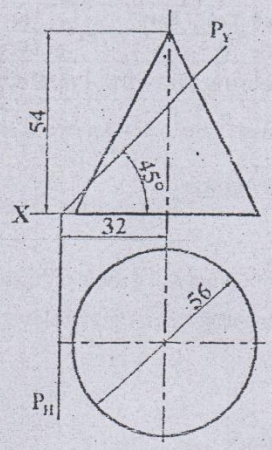
1. Construct a parabola with axis length of 60mm and double ordinate of 40mm. [4]
2. Top and front views of a triangular plane is given in figure below. Draw its true shapes. [5]



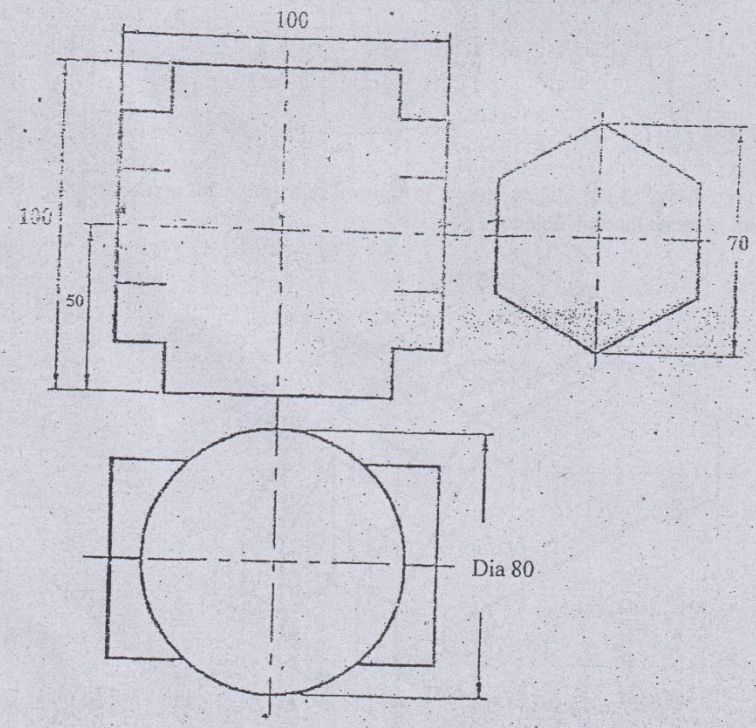
3. Draw orthographic views of the objects shown in figure below with full sectional front view. Assume all holes as through holes. [15]



4. Draw a complete orthographic drawing of the right solids shown in figure below cut by the planes. Find the true shape of the section. Then draw development of the solid. [10]



5. Find the line of intersection of the surfaces of given geometrical solids shown in figure below. [6]



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2-72/06/19

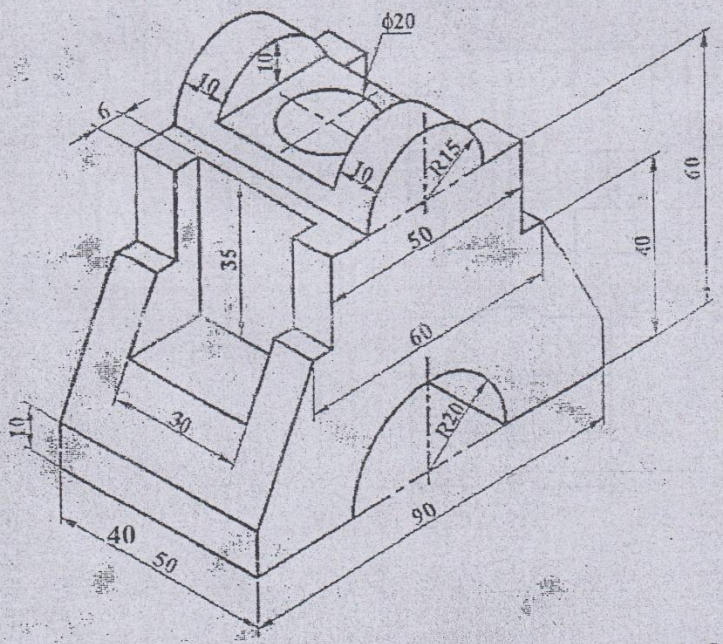
TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2078 Bhadra

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

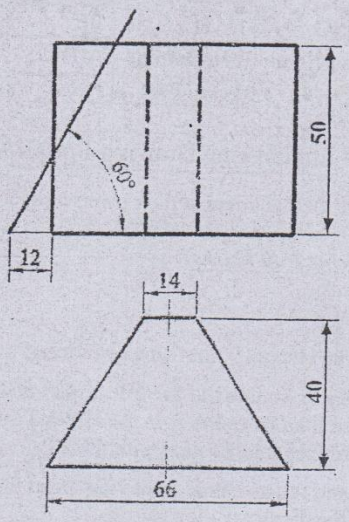
Subject: - Engineering Drawing I *(ME 401)*

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

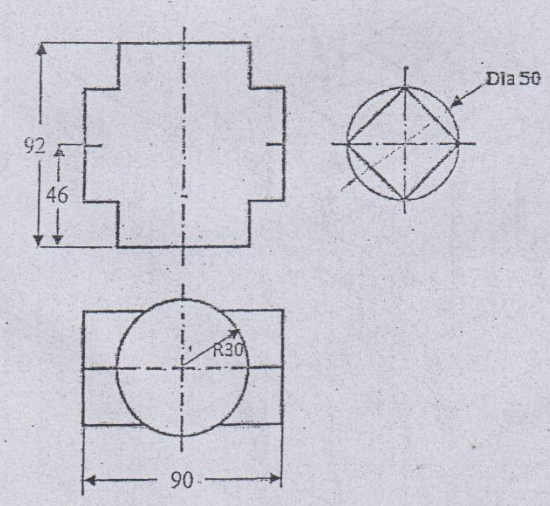
1. Draw an helix of pitch 60mm and height 90mm on a cylinder of diameter 44mm. [5]
2. A straight line AB 60mm long is inclined to the HP at 45° and its top view makes an angle of 60° with the reference line. Its end A is in the HP and 10 mm in front of the VP. Draw its projections and determine its inclination with the VP. [5]
3. Draw the top view side view and full sectional front view from the given pictorial view in figure given below. Show all the necessary dimensions. [14]



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



5. Draw a line intersection of the solids given in figure given below. [6]



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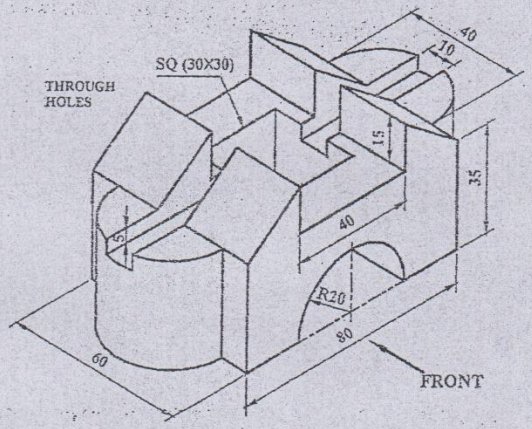
TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2076 Chaitra

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

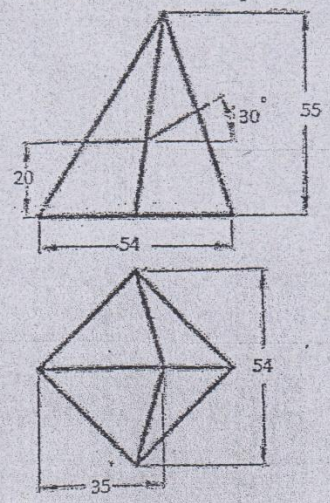
Subject: - Engineering Drawing I *(ME 401)*

- ✓ 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.*

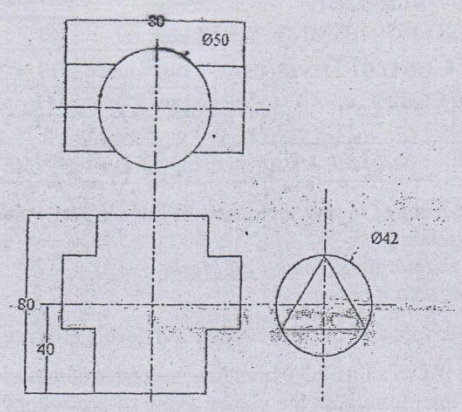
1. Draw a parabola with axis length of 70mm and double ordinate of 90mm. [5]
2. The front view p'q' of a line PQ 94mm long measures 60mm and its top view pq is 72mm. Its end Q is 24mm from both the planes. Draw its projections and find inclinations with VP and HP. [5]
3. Draw orthographic projections 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]



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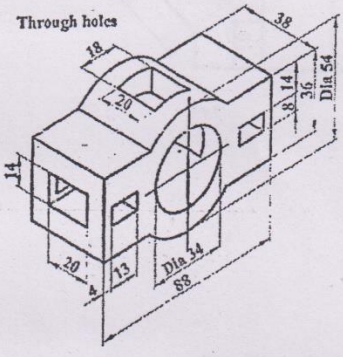
TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2076 Ashwin

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

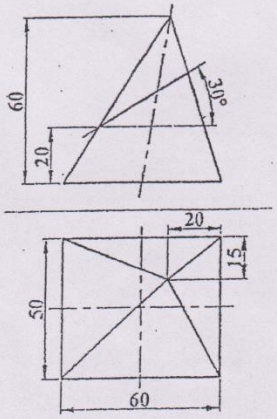
Subject: - Engineering Drawing I *(ME 401)*

- ✓ 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.*

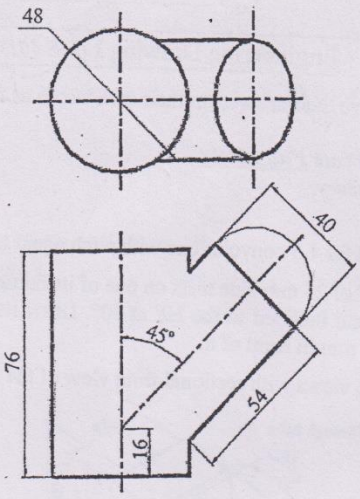
1. Draw an Archemedian Spiral for 1.5 convolutions with pitch equal to 50 mm. [4]
2. A regular hexagon ABCDEF of 25 mm side rests on one of its corner on the HP. Its plane is perpendicular to the VP and inclined to the HP at 30°. Draw its projections when its corner nearer to the VP is 15 mm in front 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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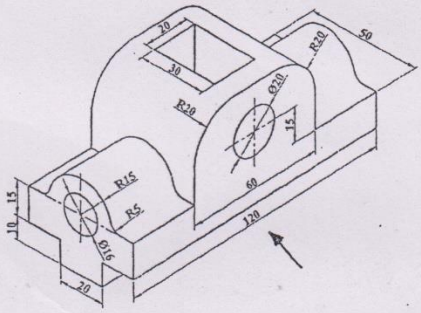
TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2075 Chaitra

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

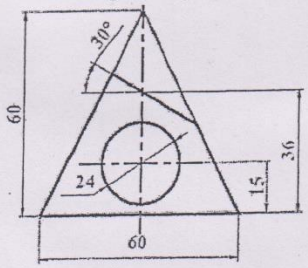
Subject: ~~Engineering Drawing I *(ME 401)*~~

- ✓ 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.*

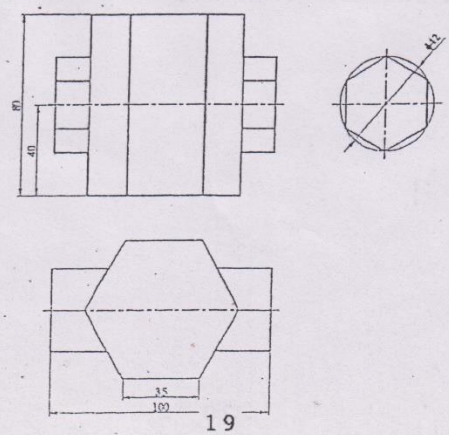
1. Draw an ellipse of Major axis 90 mm and minor axis 66 mm. [4]
2. A regular pentagon ABCDE, of 25 mm side, has its side BC in HP. Its plane is perpendicular to the HP and inclined at 45° to the VP. Draw the projections of the pentagon when its corner nearest to VP is 10 mm from it. [5]
3. Draw orthographic 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]



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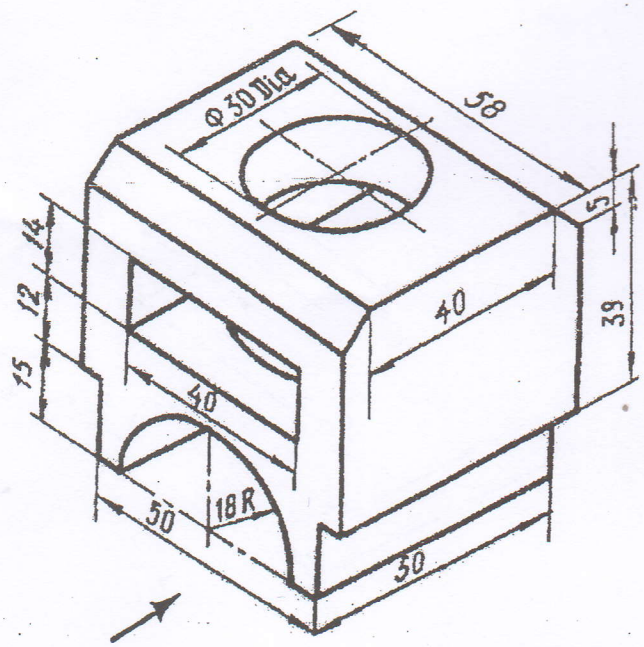
05 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2075 Ashwin

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

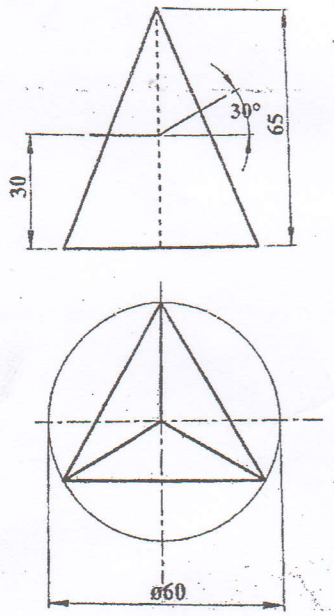
Subject: - Engineering Drawing I *(ME401)*

- ✓ 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.*

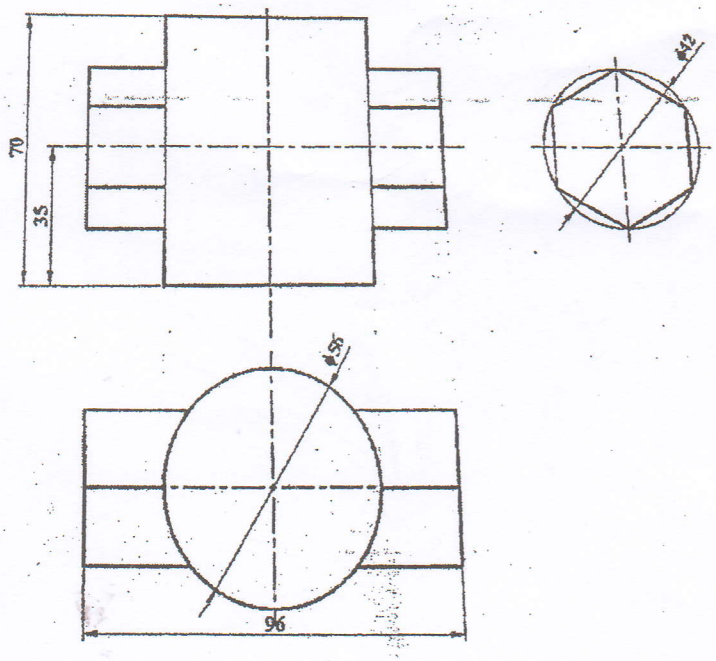
1. Draw helix having a pitch of 50 mm on a cylinder with the diameter of 40 mm and height of 75 mm. [5]
2. ABC is a triangular plane with side AB = 30 mm and sides BC = CA = 50 mm. Side AB is contained by HP and is perpendicular to VP. Draw its projections when its top view is an equilateral triangle 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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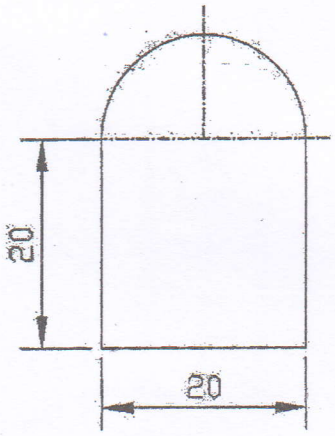
05 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2074 Chaitra

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

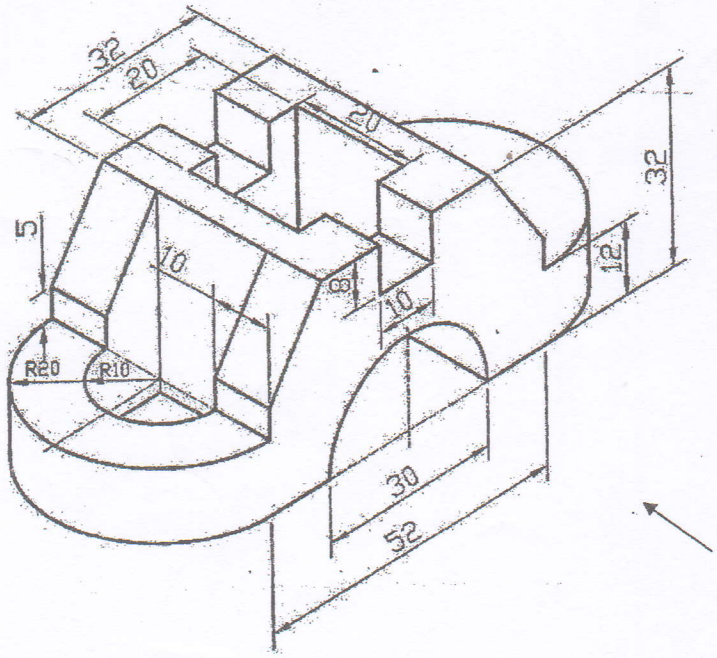
Subject: - Engineering Drawing I *(ME401)*

- ✓ 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.*

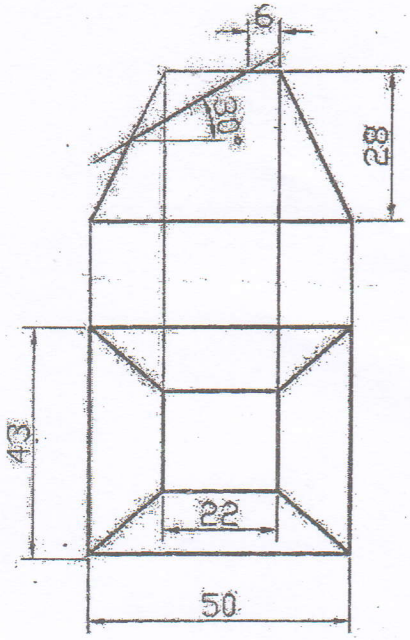
1. Geometrically construct one complete rotation of an involute curve on the solid with cross sectional shape as given in figure below. [5]



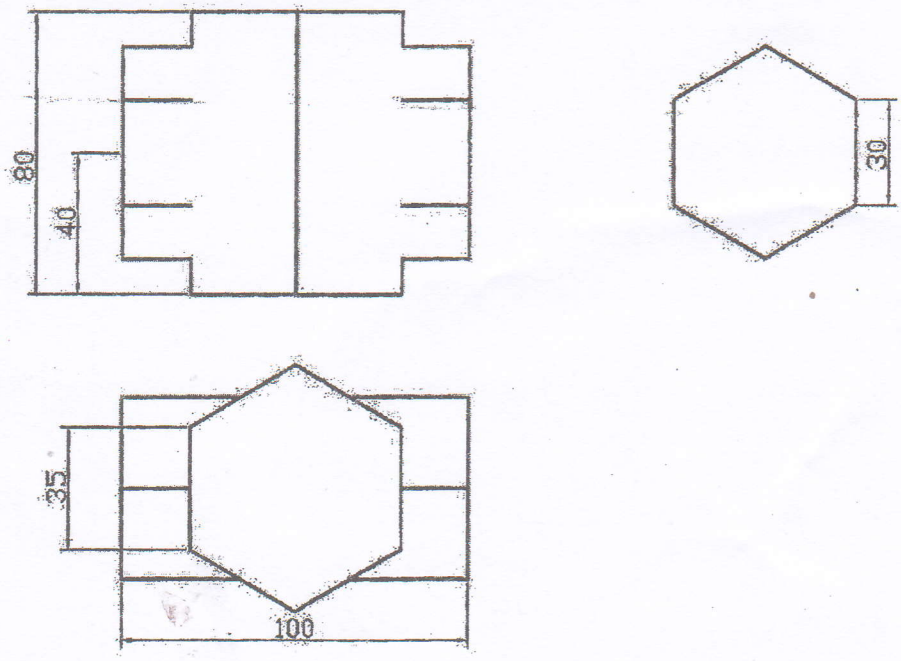
2. A regular pentagonal plane ABCDE of 20mm side has its edge BC resting on the HP. Its plane is perpendicular to the HP and inclined to the VP at 50°. Draw its projections when its corner nearer to the VP is 20 mm in front of the VP. [5]
3. Draw orthographic projections with Sectional Side View, Top 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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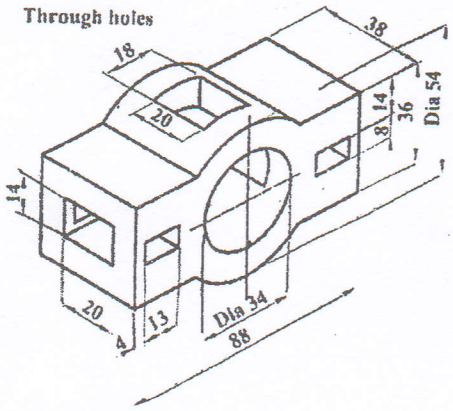
05 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2074 Ashwin

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

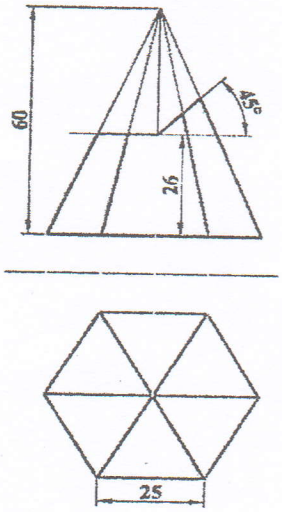
Subject: - Engineering Drawing I *(ME401)*

- ✓ 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.*

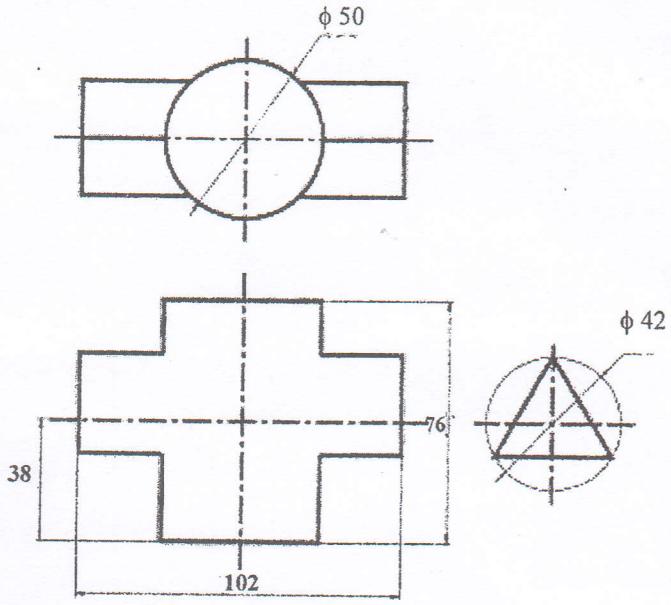
1. Draw an involute of an regular square of side 20mm. [3]
2. A straight line AB 80mm long is inclined at 30° to the HP and 45° to the VP. Its midpoint is 30mm above the HP and 35mm in front of VP. Draw its projection. [5]
3. Draw complete Orthographic views with sectional front view of the figure below. [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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02 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2073 Shrawan

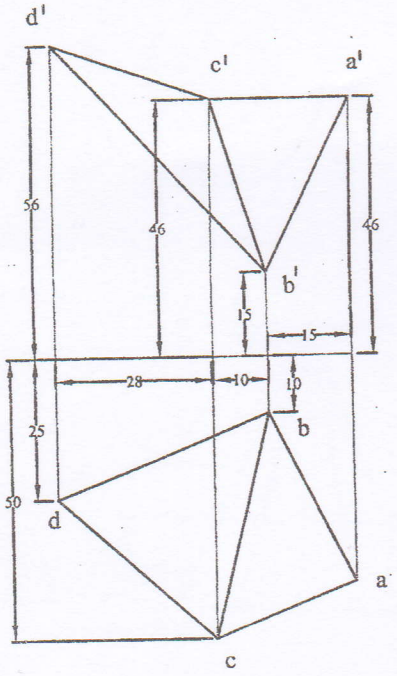
Exam.	New Back (2066 & Later Batch)		
Level	BE	Full Marks	40
Programme	ALL (Except B.Arch)	Pass Marks	16
Year / Part	I / I	Time	3 hrs.

Subject: - Engineering Drawing I *(ME401)*

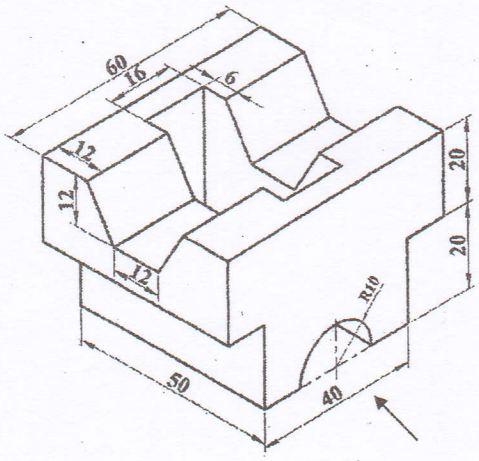
- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ *Attempt **All** questions.*
- ✓ *The figures in the margin indicate **Full Marks**.*
- ✓ *Assume suitable data if necessary.*

1. The distances between the focii and between the vertices of a hyperbola are 100 mm and 60 mm respectively. Construct the hyperbola. [4]

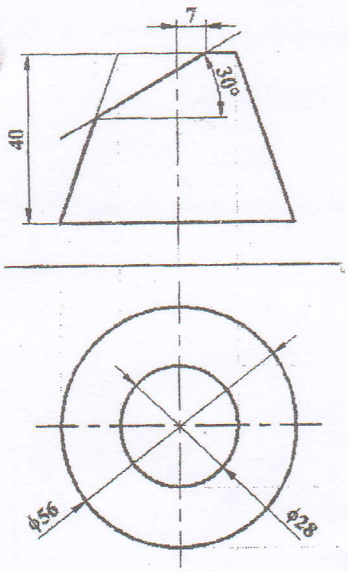
2. Determine the true size of the angle formed by the planes ABC and BCD shown in figure below. [5]



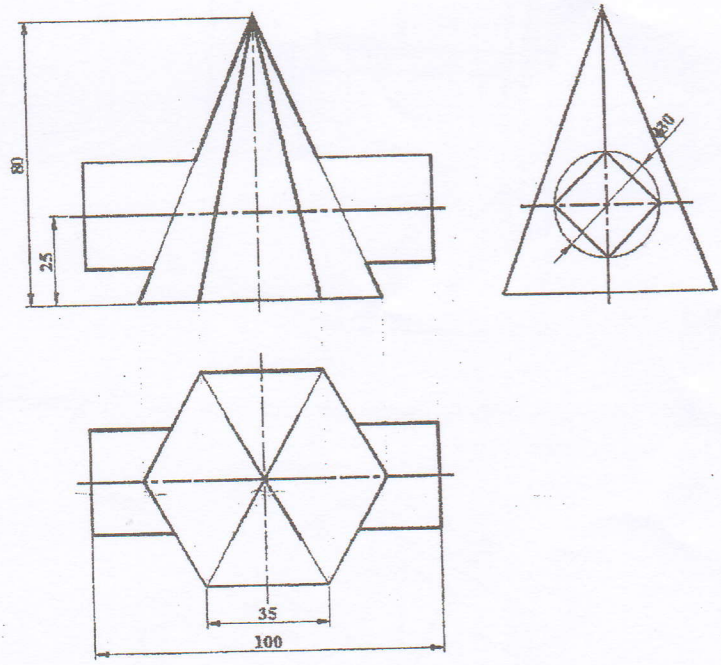
3. Draw orthographic projection with full sectional front view and full sectional side view of solid object shown in figure below. [14]



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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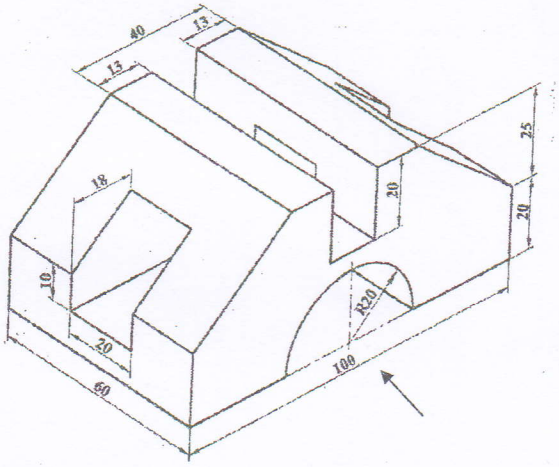
02 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2072 Chaitra

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

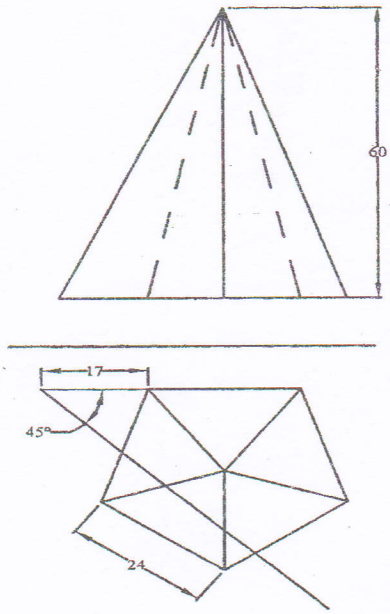
Subject: - Engineering Drawing I *(ME401)*

- ✓ 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.*

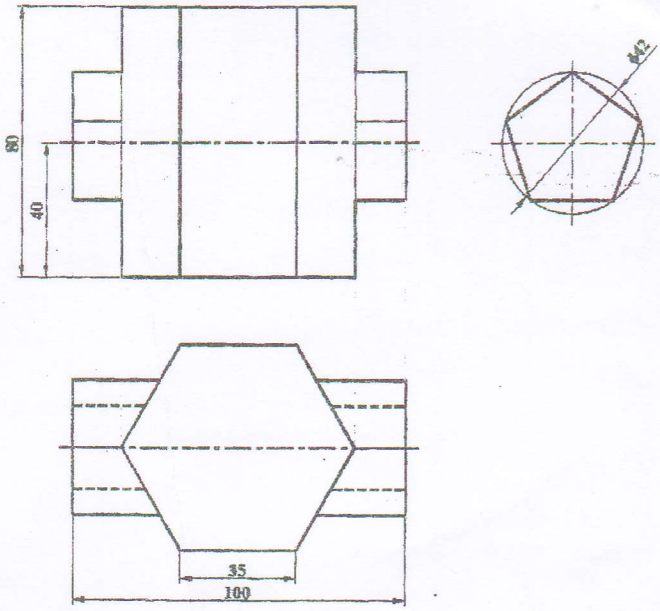
1. Draw an involute of the regular hexagon having side length 15 mm. [4]
2. A square lamina ABCD of 30 mm side is perpendicular to VP and inclined to HP at 45°. Its side BC lies in HP. Draw its projection when the nearest side is 15 mm in front of VP. [5]
3. Draw the views of the objectives given in 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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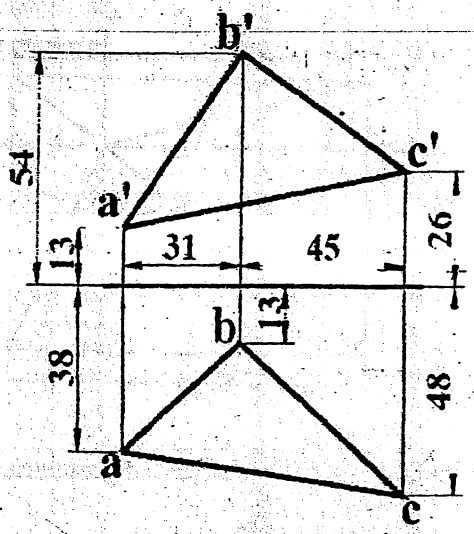
02. TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2072 Kartik

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.

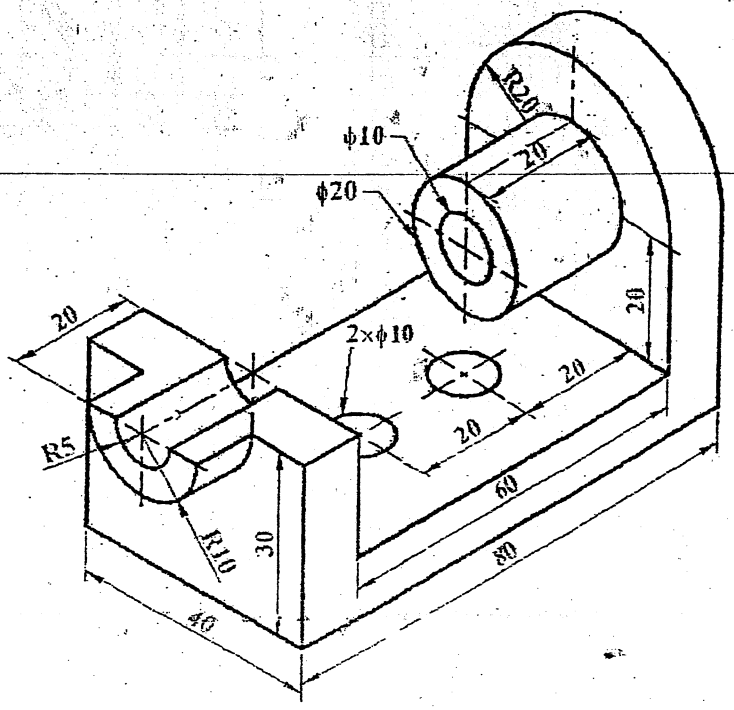
Subject: - Engineering Drawing I *(ME401)*

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

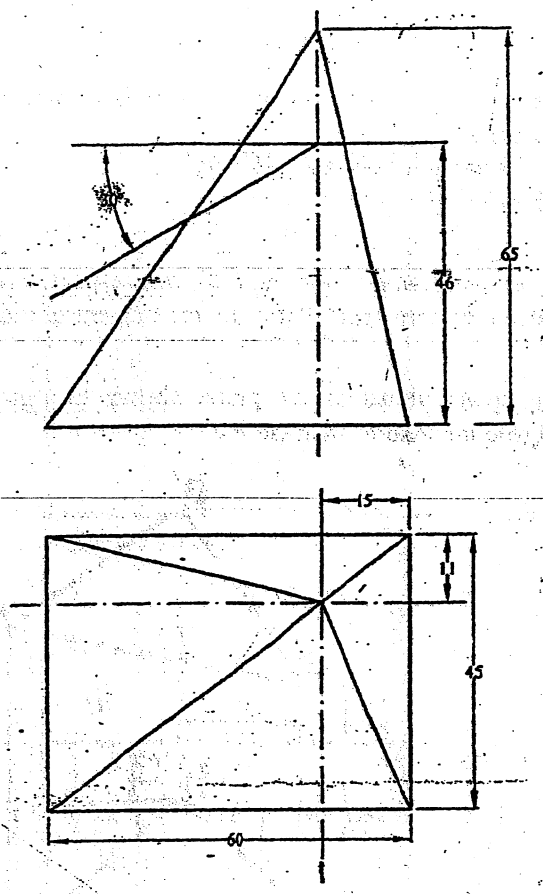
1. Draw two circles with radii 15 mm and 20 mm respectively with their centers lying on a horizontal line and 60 mm apart. Draw an arc tangent of radius 40 mm outside to both the circles. [3]
2. Reproduce the given views of the plane shown in figure below. Determine its true perimeter and true inclination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



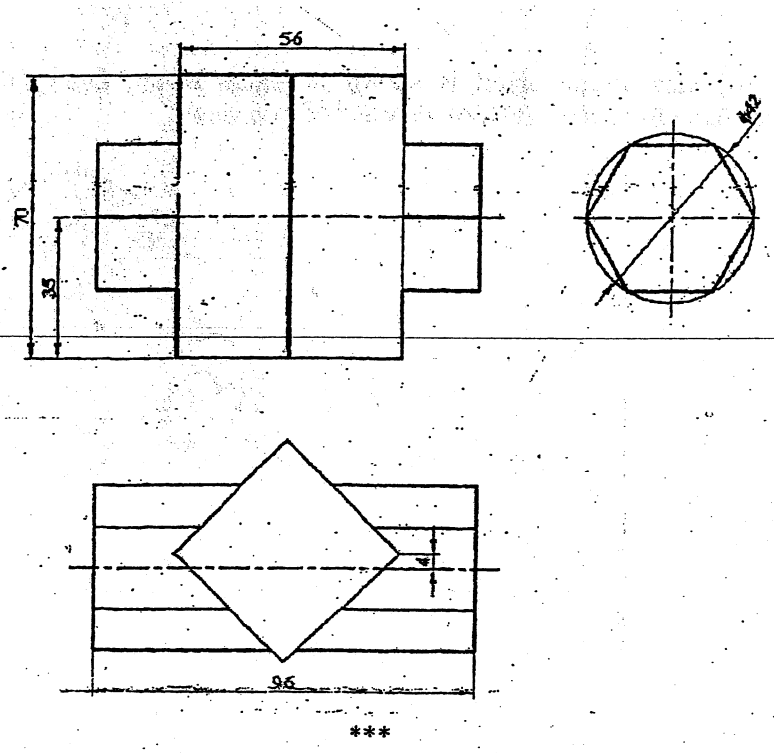
3. Pictorial view of an object is shown in figure below. Draw (with dimension) its (a) sectional front view, (b) side view and (c) top view. [15]



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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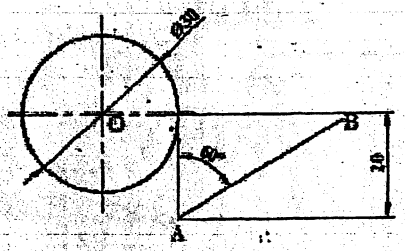
02 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2071 Shawan

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.

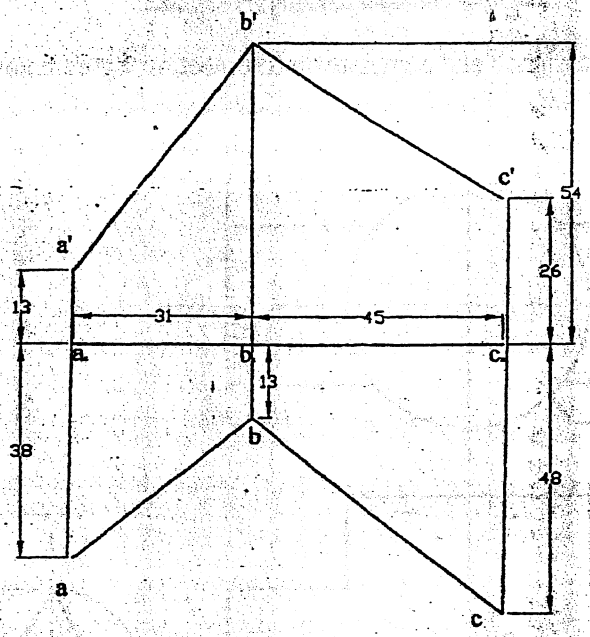
Subject: - Engineering Drawing I *(ME401)*

- ✓ 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.*

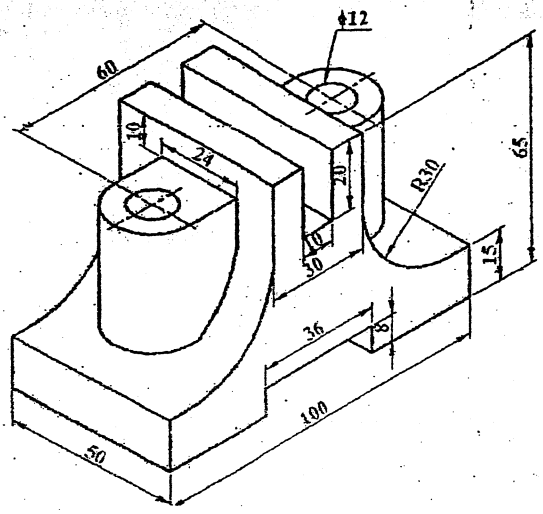
1. Figure below shows a straight line and a circle. Draw an arc of radius 18 mm tangent to both the given line and circle and outside to the given circle. [3]



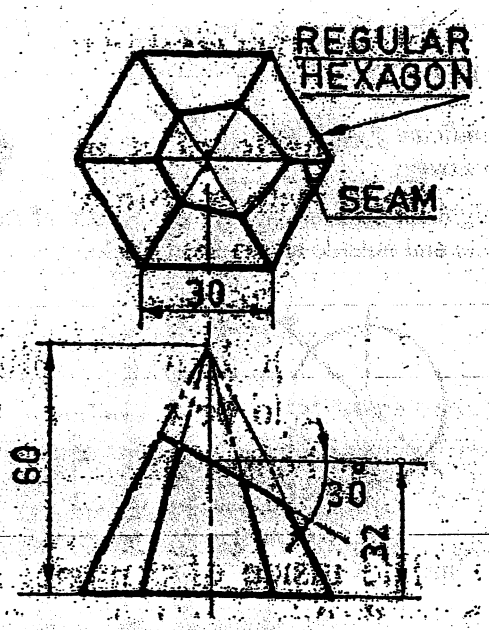
2. Find the true angle between line AB and BC. [5]



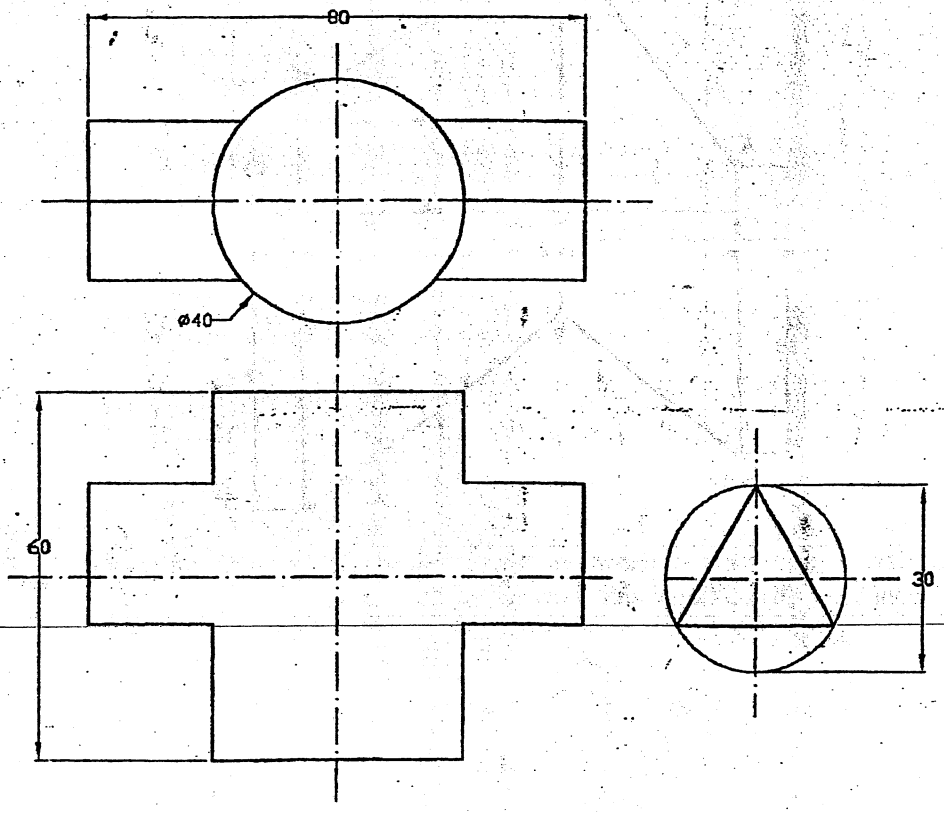
3. Pictorial view of an object is shown in figure below. Draw (with dimension) its (a) sectional front view, (b) sectional side view and (c) top view. [15]



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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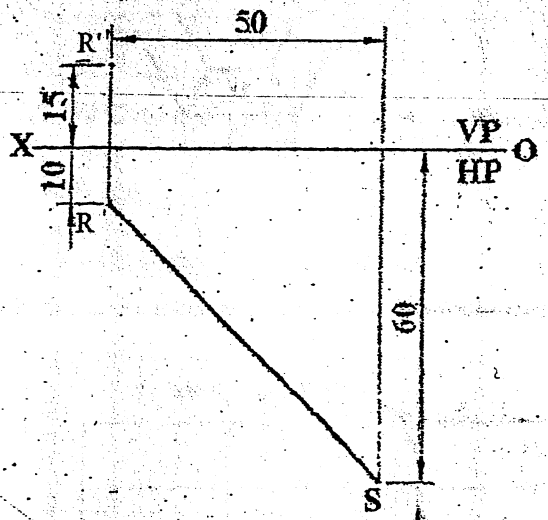
02 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2071 Chaitra

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

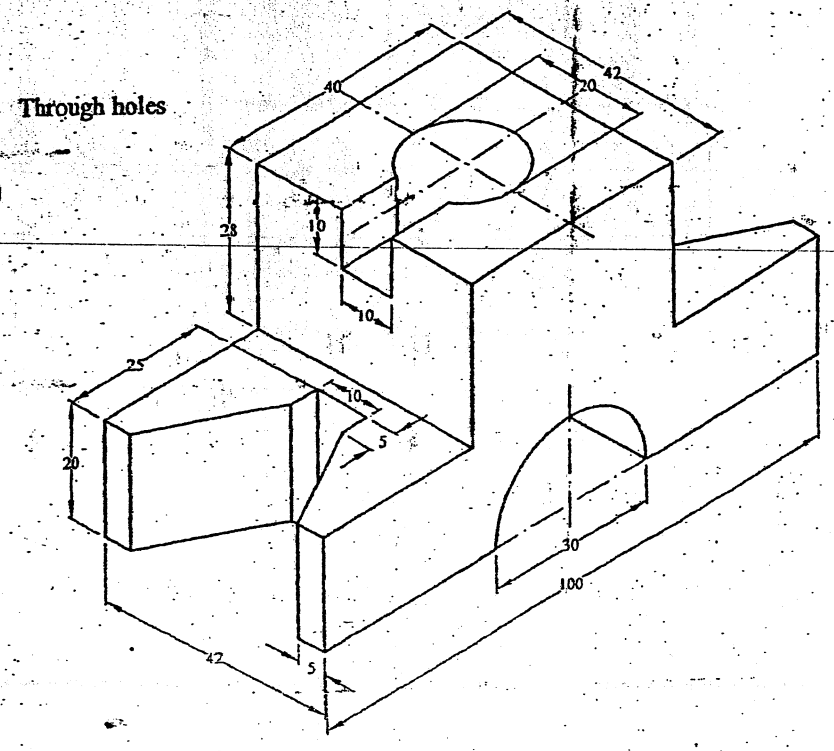
Subject: - Engineering Drawing I *(ME401)*

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

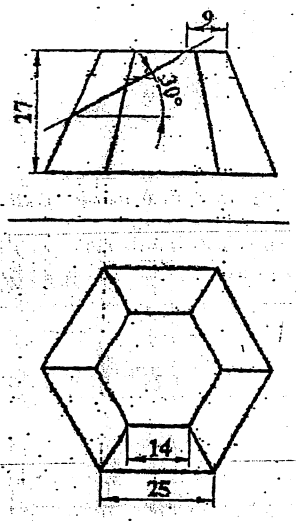
1. Construct an ellipse having a major axis 80 mm and minor axis 60 mm. [3]
2. Top view of a straight line RS and the front view of its end R are shown in figure below. Complete its projection if it is inclined at 30° to the HP. Also determine its true length and true inclination with the VP. [5]



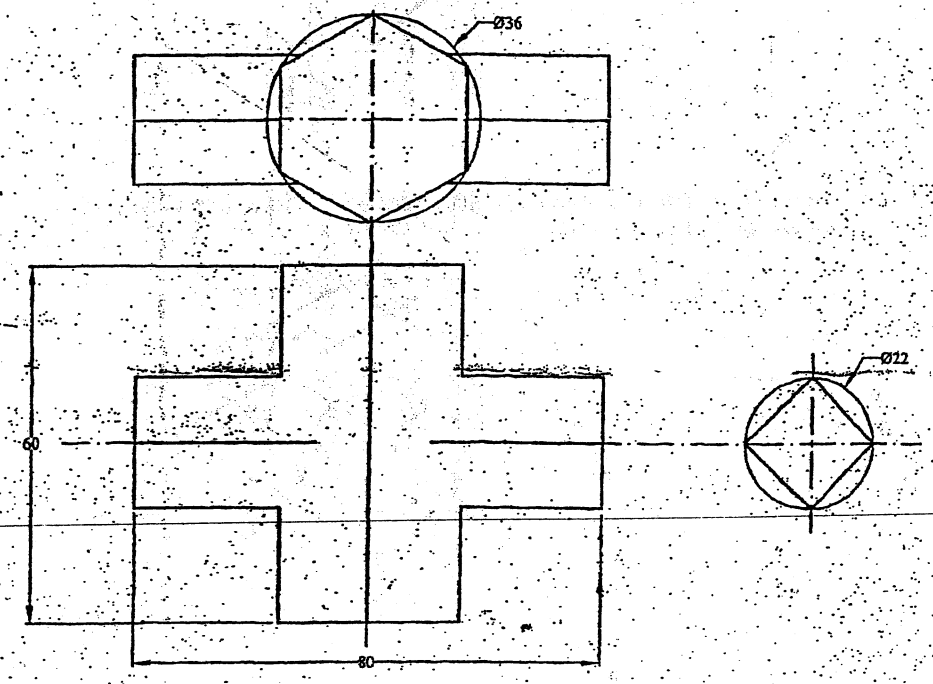
3. Draw orthographic projections with full sectional front view, top view and side view of the given object shown in figure below. [15]



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]



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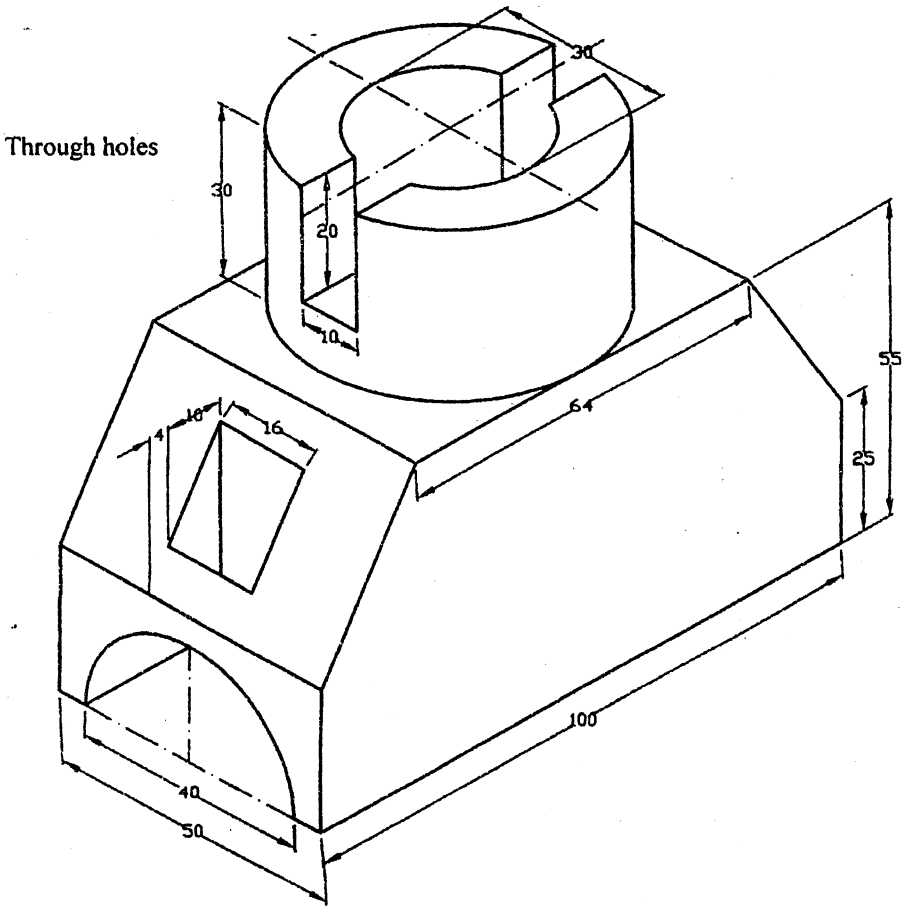
02 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2070 Chaitra

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

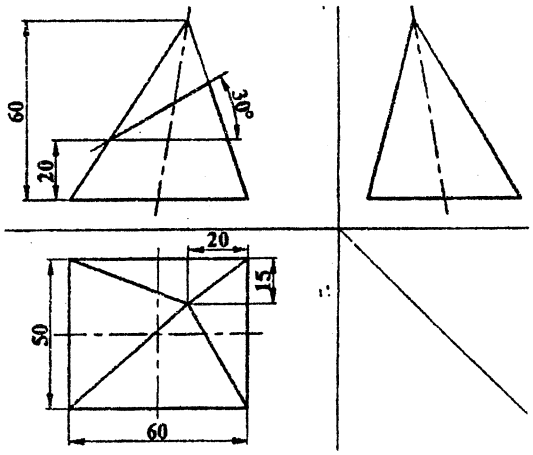
Subject: - Engineering Drawing I *(ME401)*

- ✓ 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.*

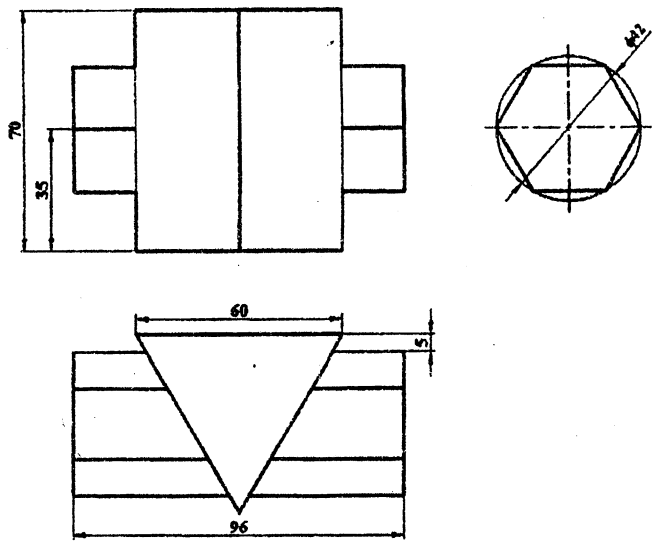
1. Draw an involute of circle having diameter of 40 mm. [3]
2. A regular pentagonal plane ABCDE of 20 mm side has its edge BC resting on the HP. Its plane is perpendicular to the HP and inclined to the VP at 45°. Draw its projections when its corner nearer to the VP is 18 mm in front of the VP. [5]
3. 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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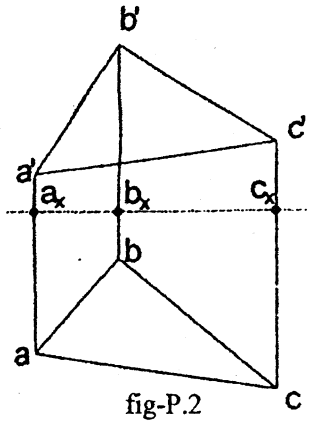
02 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2069 Chaitra

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]



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

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]

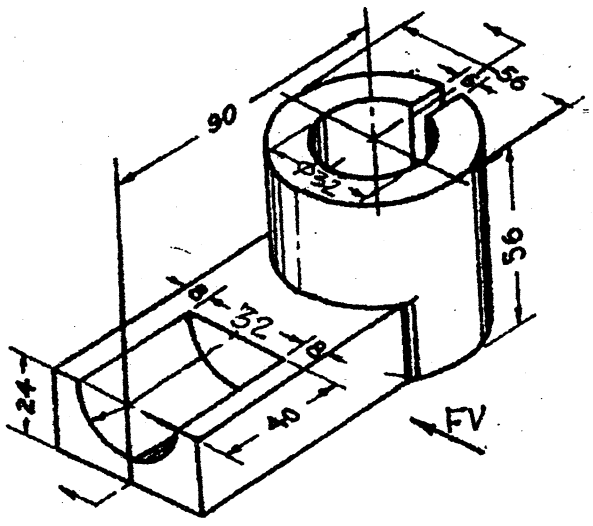


fig-P.3

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]

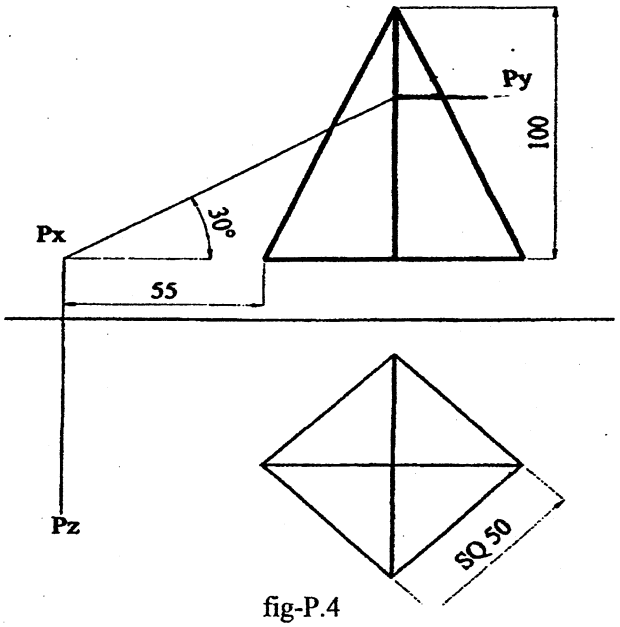


fig-P.4

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

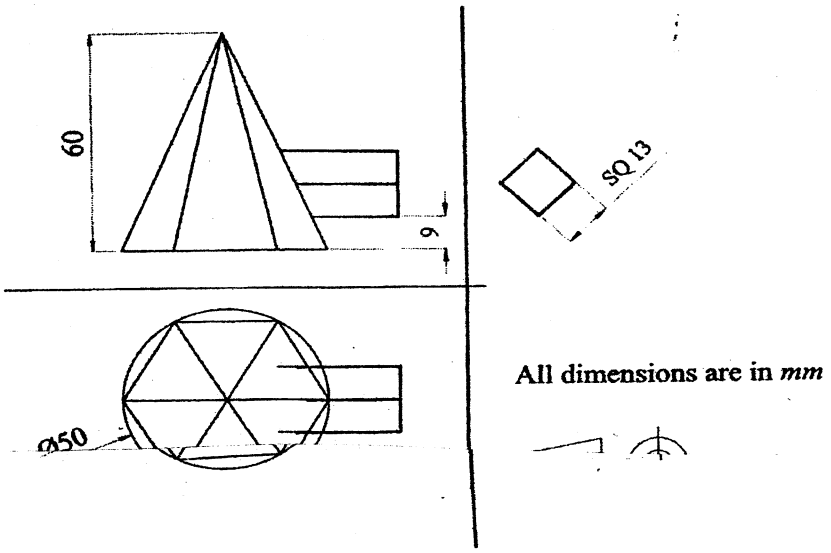


fig-P.5

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02 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2068 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 **All** questions.*
- ✓ *The figures in the margin indicate **Full Marks**.*
- ✓ ***Necessary figures are attached herewith.***
- ✓ *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]

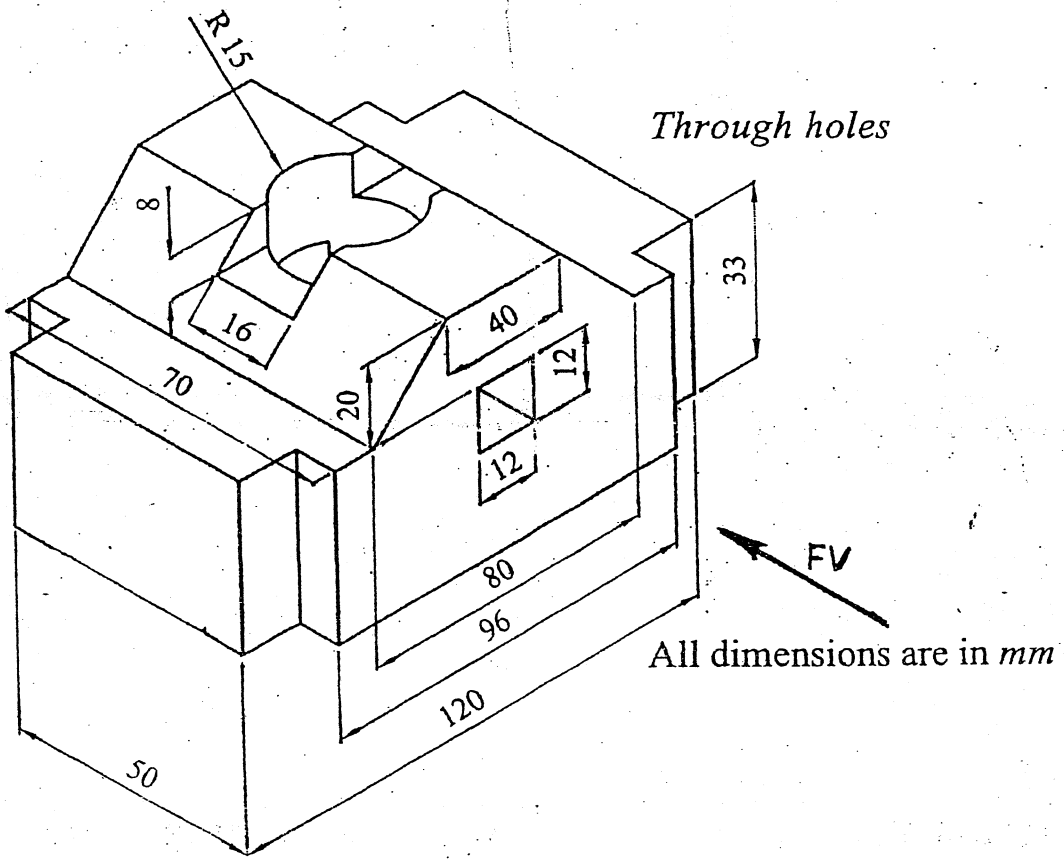
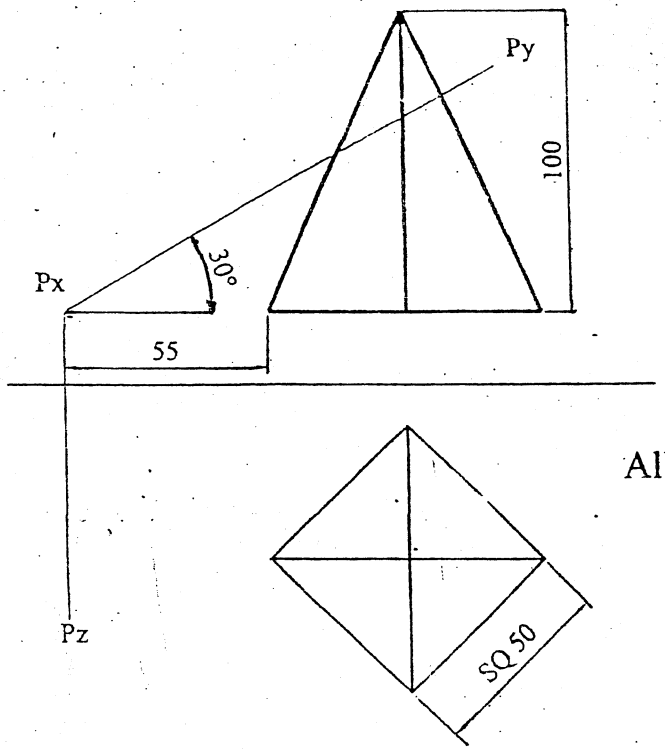


Figure P.3.

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*.

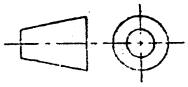


Figure P.4

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

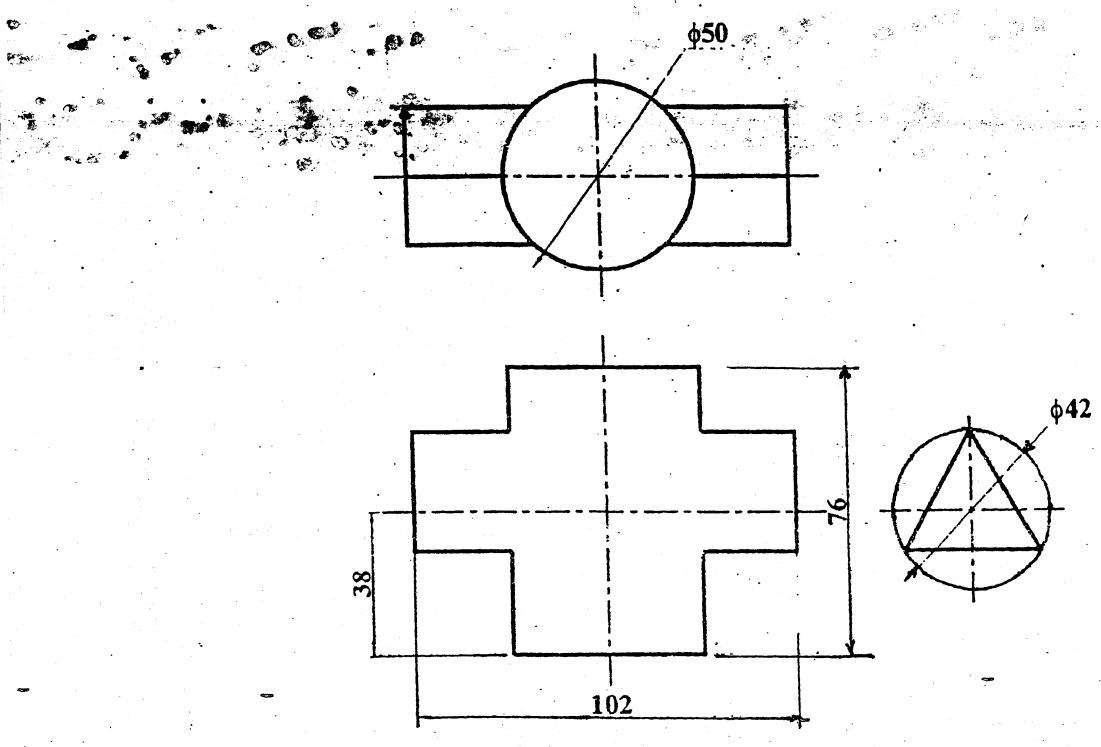


Figure P.5

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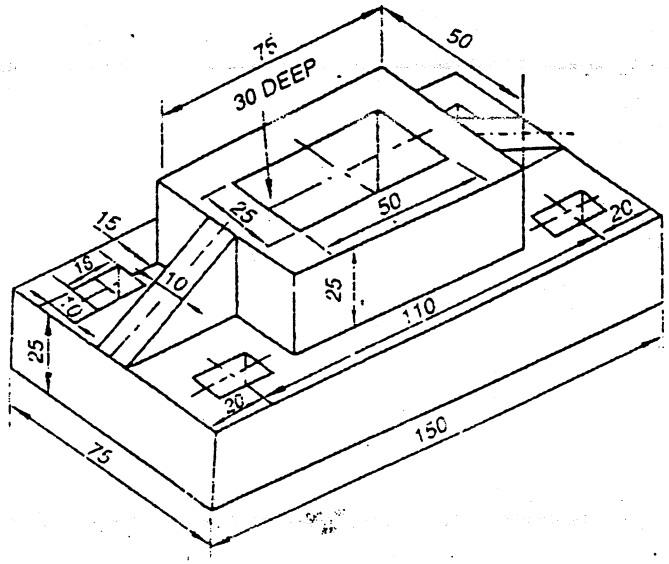
02 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2067 [illegible]

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

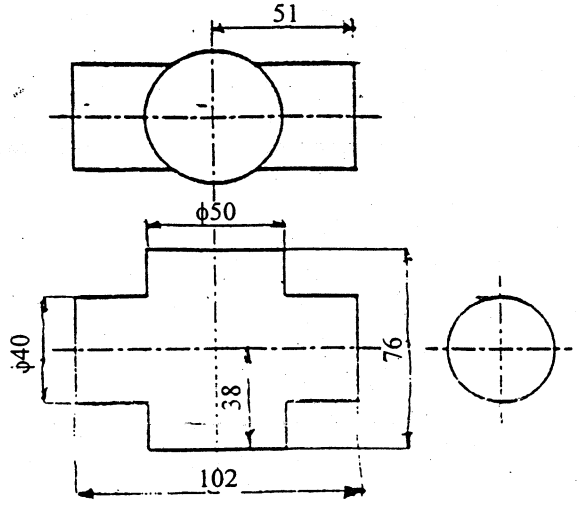
Subject: - Engineering Drawing I

- ✓ 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 45^0. 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 45^0 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]

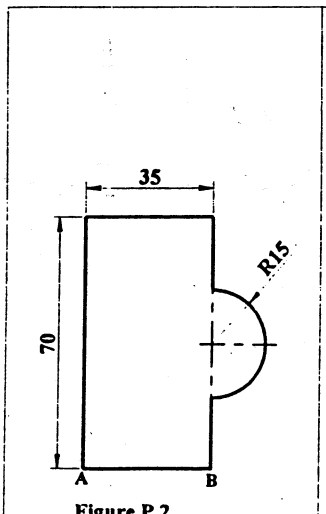

Figure P.2

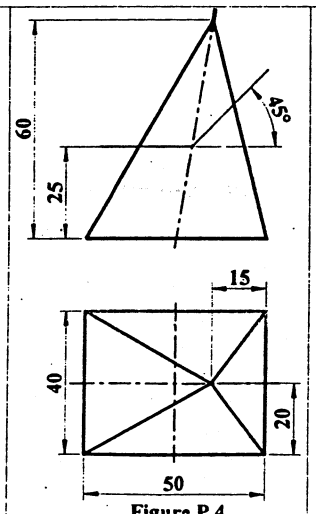

Figure P.4

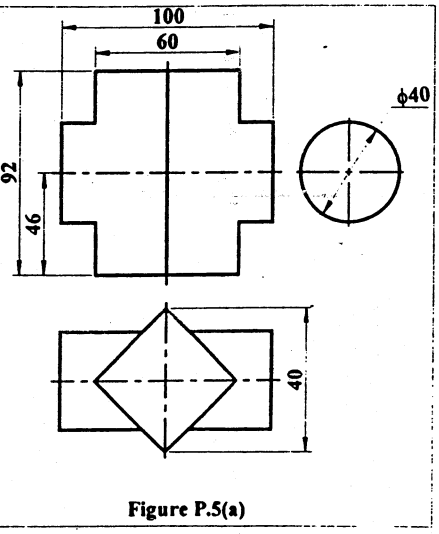

Figure P.5(a)

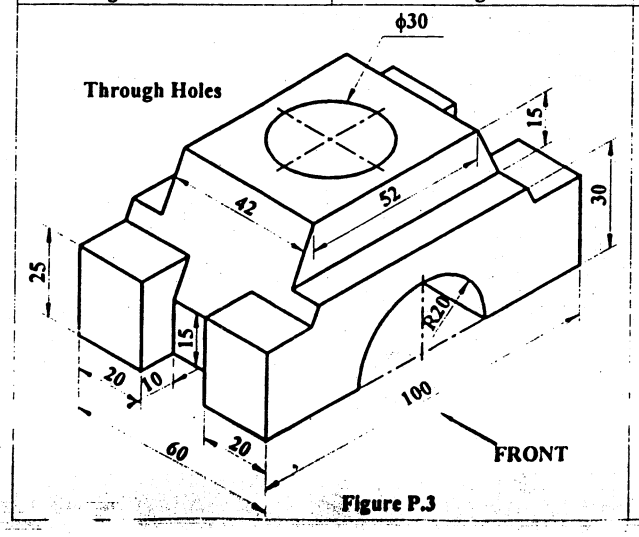

Figure P.3

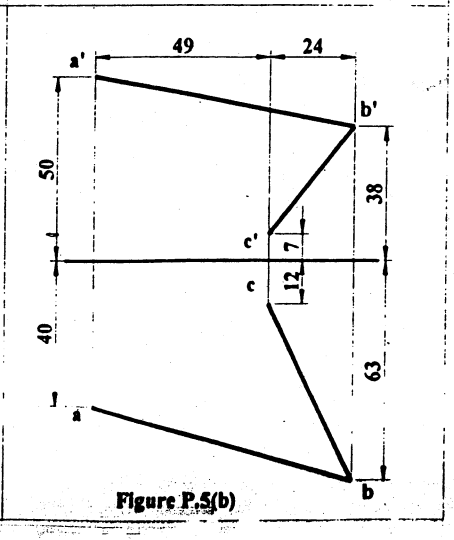

Figure P.5(b)

25 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division

2066 Shrawan

Exam.	Regular / Back		
Level	BE	Full Marks	40
Programme	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 <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]

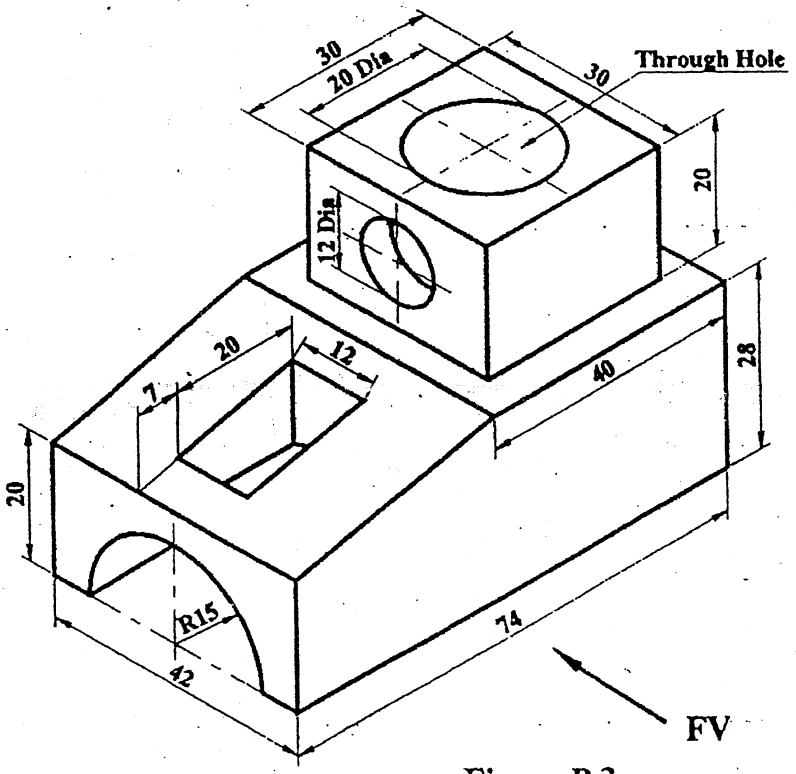

Figure P.3

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]

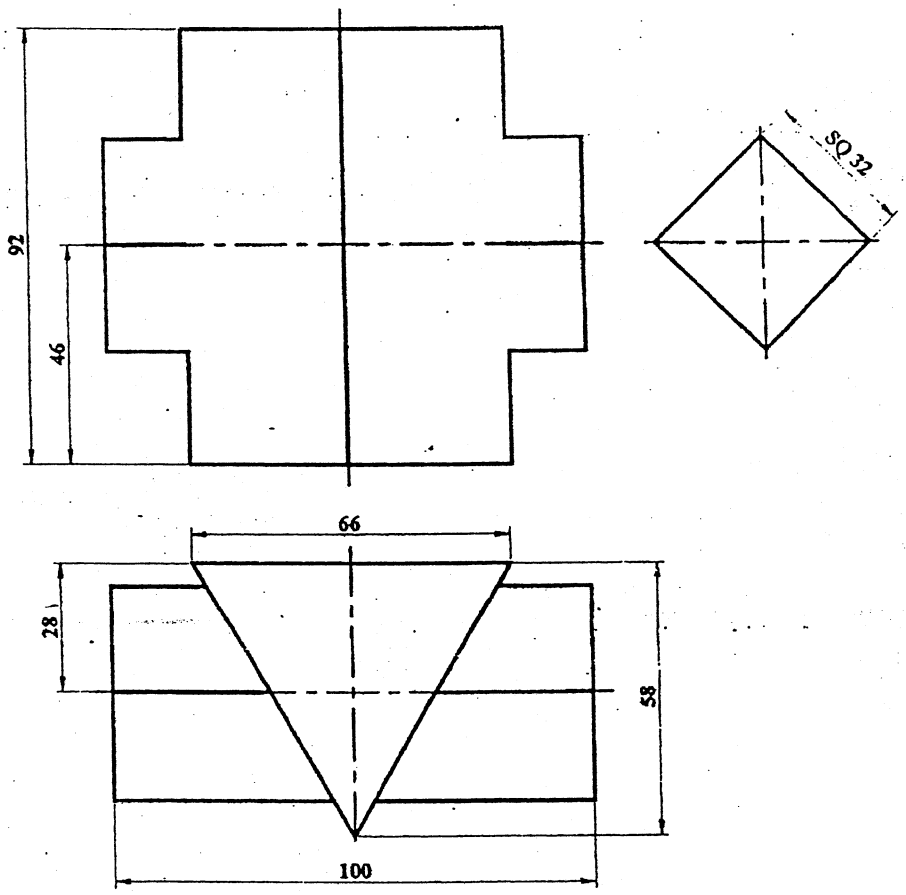

Figure P.5

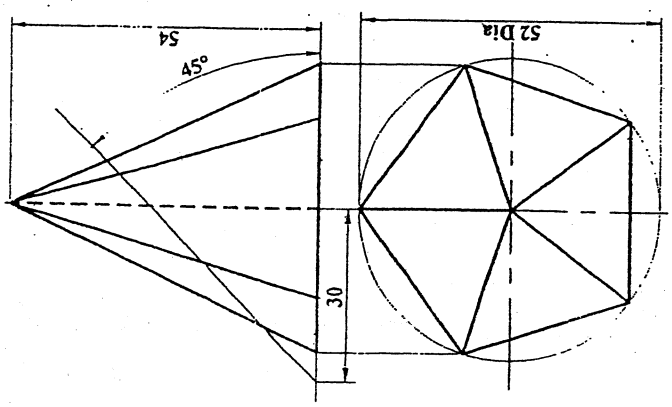

Figure P.4

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 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 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]

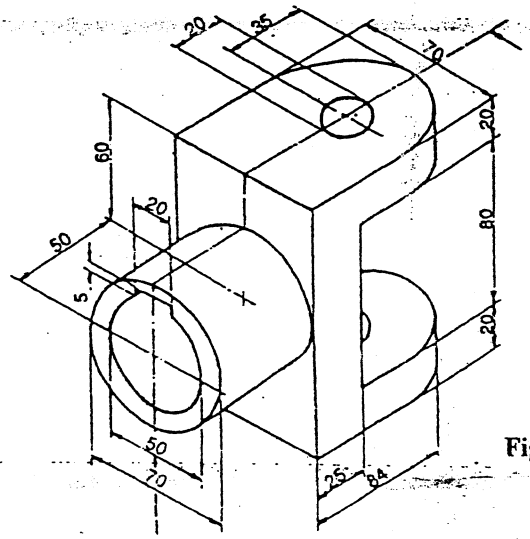

Figure 1

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]

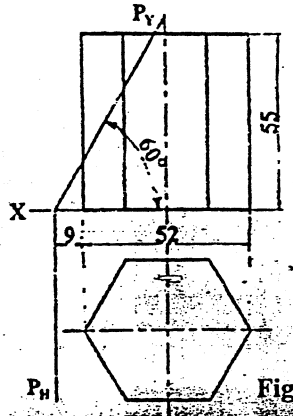

Figure 2

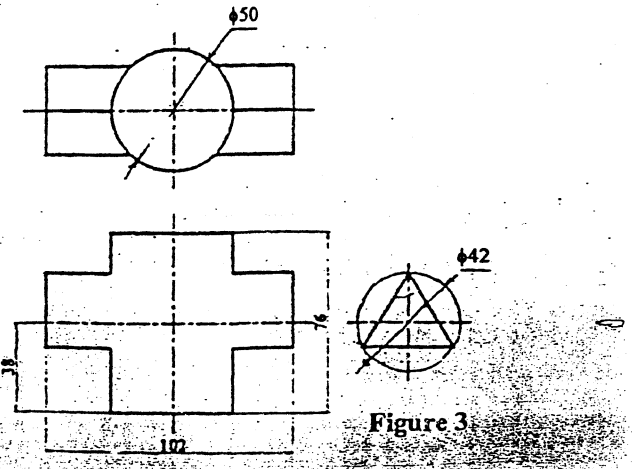

Figure 3

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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 **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. [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]

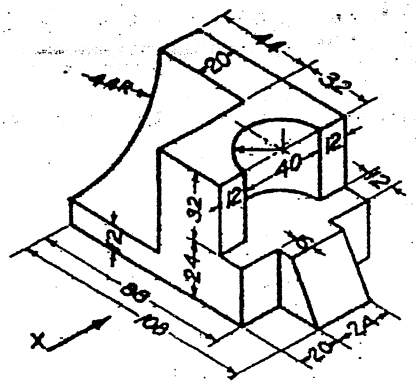

Figure 1

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]

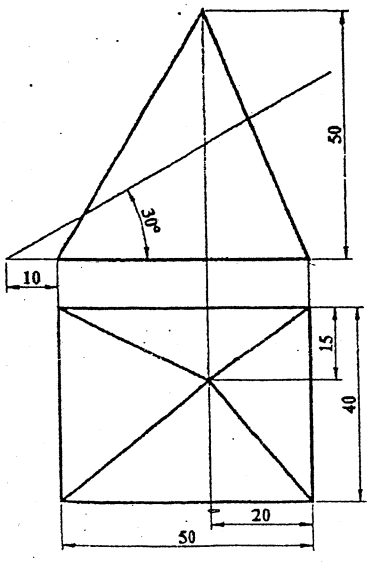

Figure P.4

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

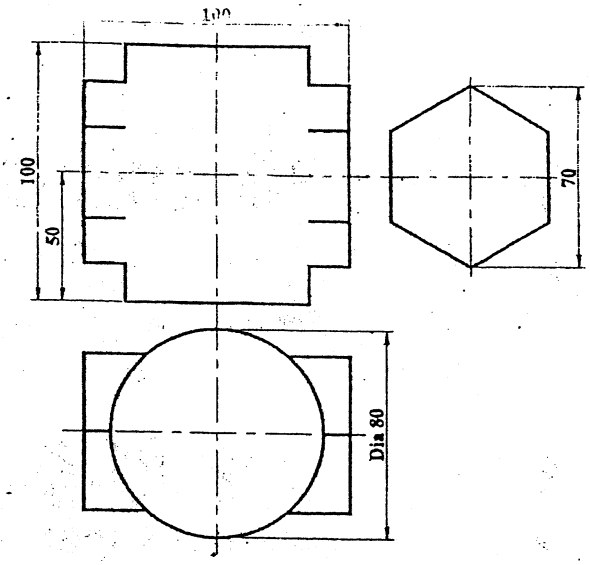

Figure P.5

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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]

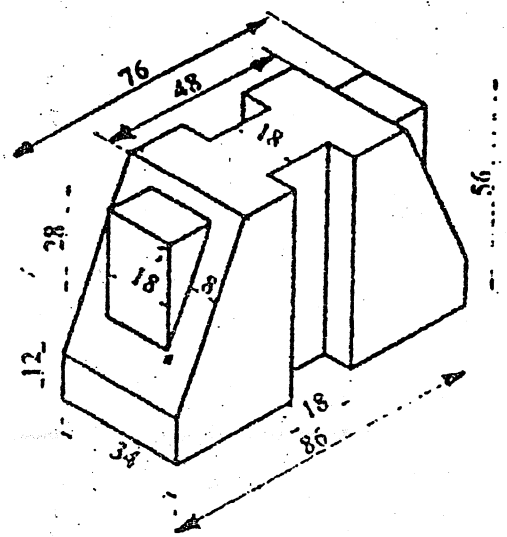

Fig-1

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

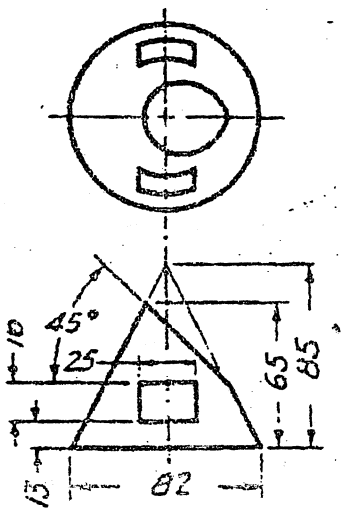

Fig-2

OR

OR

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

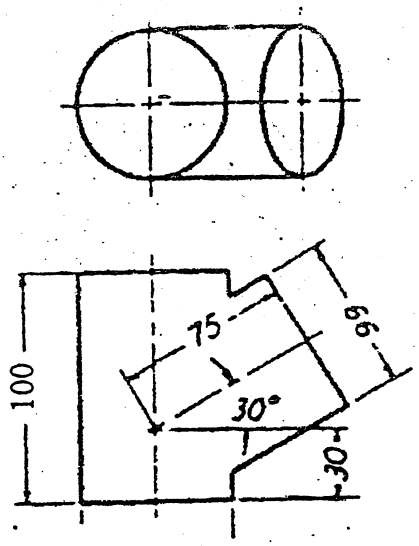

Fig-3

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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TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division

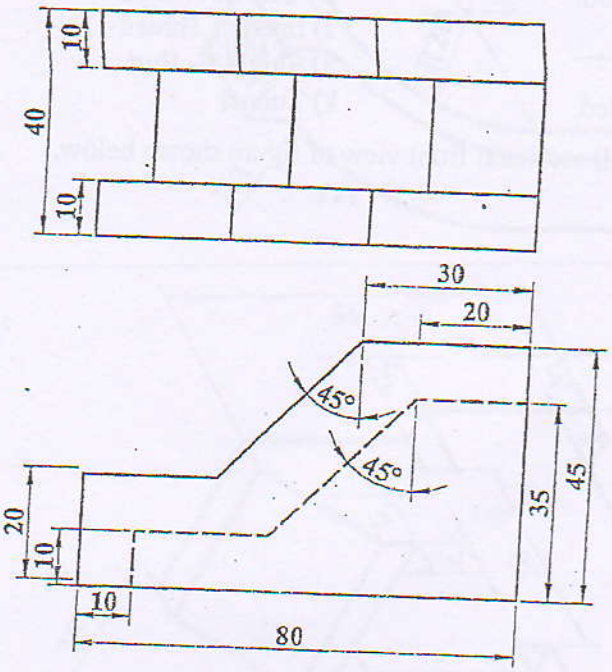
2079 Ashwin

Exam.	Back		
Level	BE	Full Marks	40
Programme	All except BEI, BAR and BCH	Pass Marks	16
Year / Part	I / II	Time	3 hrs.

Subject: - Engineering Drawing II (*ME 451*)

- 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 isometric drawing of an object with the orthographic views shown in figure below. [10]



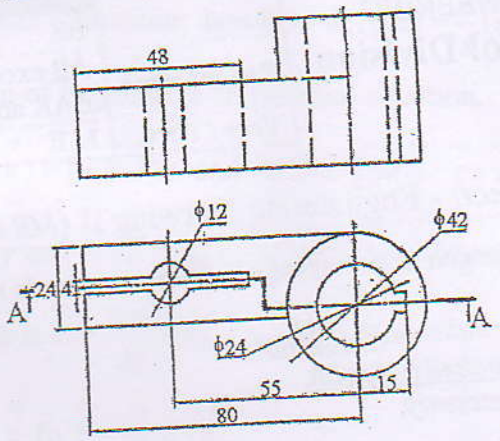
2. Draw the perspective view of a cube of 25 mm edge, resting on ground with one of its faces. It has one of its vertical edges nearer to PP is 15 mm behind PP and all its vertical faces are equally inclined the picture plane. The station point is 55 mm in front of the picture plane, 40 mm above the ground and lies in the central plane, which is 10 mm left of the center of the cube. [5]

3. Sketch and make the complete fit analysis [Indicate type of fit, allowance and shaft basis or hole basis system] of 45 S6/h11. (FD. For S = -0.034, h = 0.000, value for ITG no. 6 and 12 are 16μm and 160μm respectively) [5]

OR

Sketch the Sectional Front view and Top view of the double riveted, double strap, zig-zag type butt joint. [5]

4. Draw the sectional front view of the given orthographic views.



OR

Sketch symbol of the followings:

a) NPN Transistor
b) Fuse
c) Depression Contour
d) Circuit breaker
e) Buzzer
f) Internal Thread
g) Elbow 90°
h) Single V- Butt
i) Surface to be coated
k) Tunnel

5. Draw the assembled full sectional front view of figure shown below.

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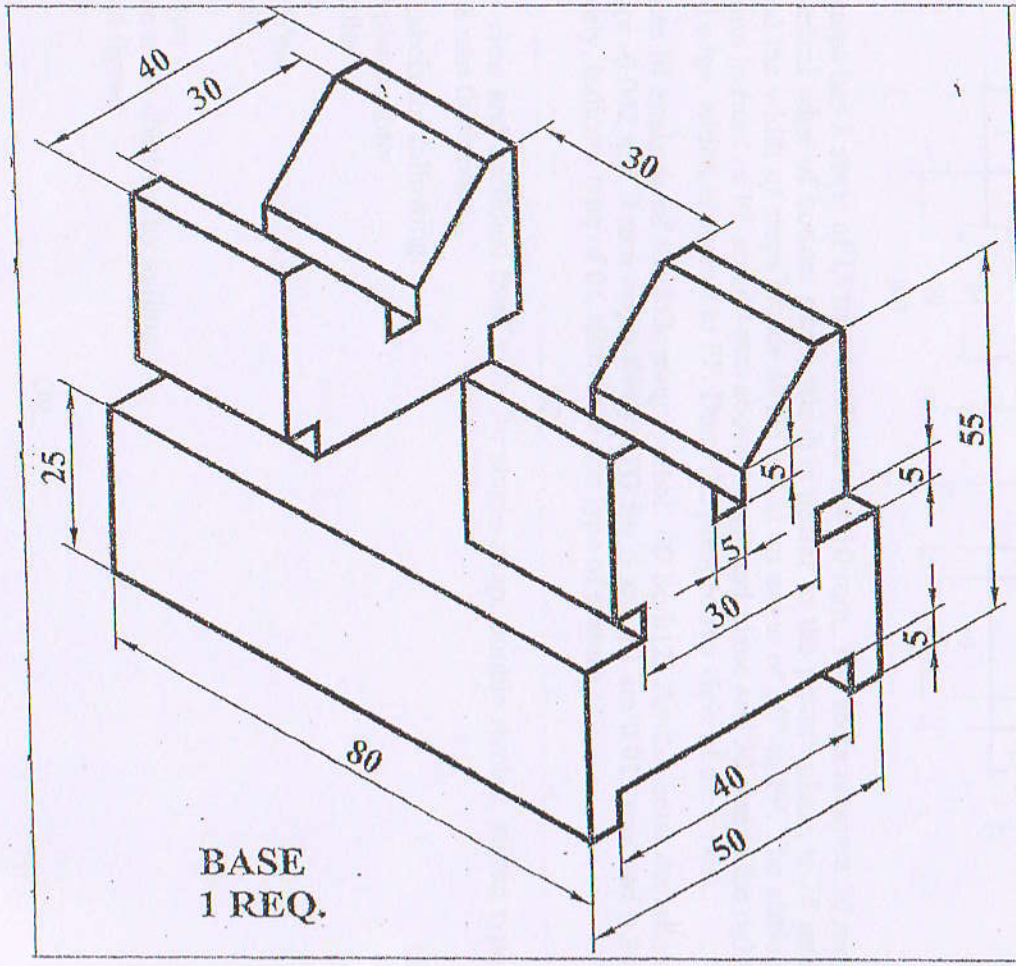
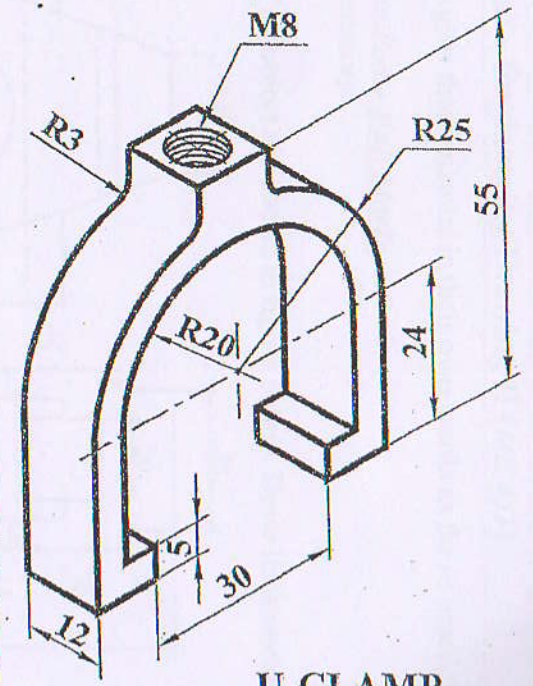
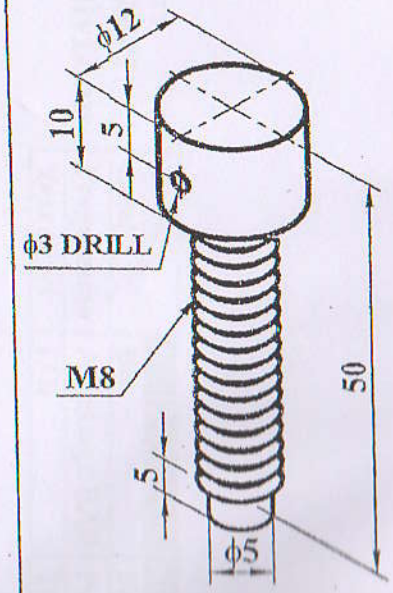


BASE
1 REQ.



U-CLAMP
2 REQ.



FASTENER
2 REQ.

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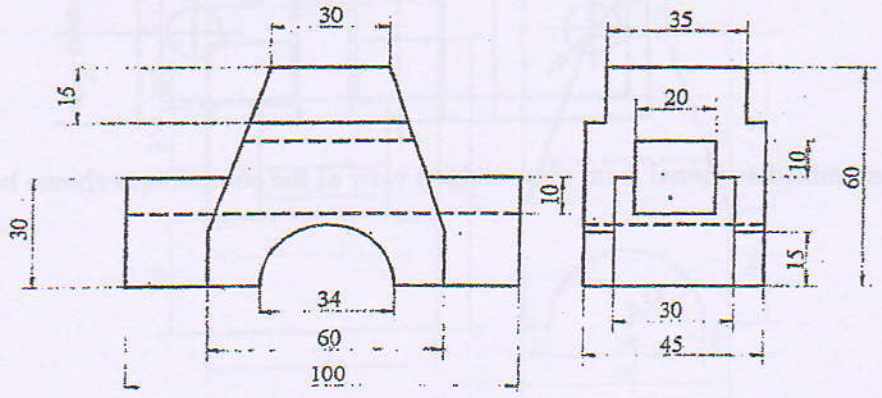
Examination Control Division
2079 Jestha

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

Subject: - Engineering Drawing II (*ME 451*)

- ✓ 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 orthographic views of an object are shown in figure below. Draw its isometric view. [10]



2. A model of steps has 3 steps of 15 mm tread and rise 10 mm. The steps measure 50 mm wide. The vertical edge of bottom steps, which is nearer to the picture plane, is 25 mm behind PP and the width of steps recede to the left at an angle of 30° to PP. The station point is-100 mm in front of PP and 60 mm above the ground plane and 30 mm to the right of the vertical edge, which is nearest to PP. Draw the perspective view of the model. [6]

3. Make complete fit analysis of the following symbol: 60 S6/h12. Fundamental deviation for S and h are -0.042 and 0 mm respectively. ITG for 6 and 12 are 0.019 mm and 0.30 mm respectively. Indicate type of fit, allowance and type of system. [5]

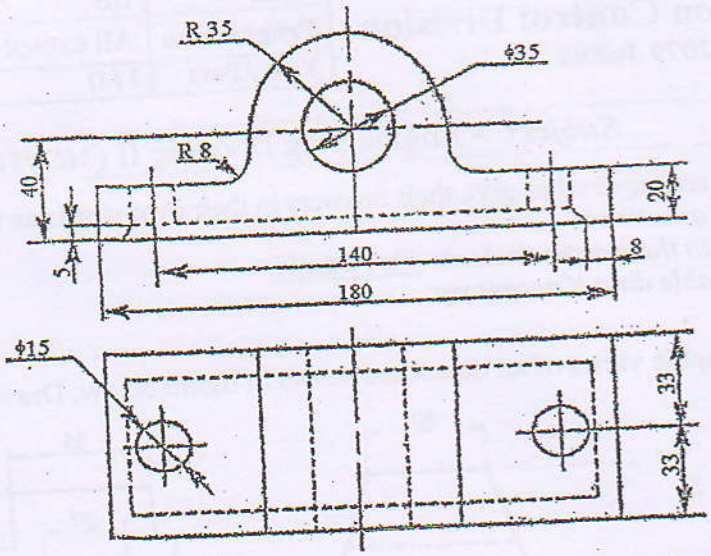
OR

Draw the top view and sectional front view for single strap, double riveted, zigzag type butt joint for 8 mm thick plate. [5]

4. Sketch the symbols for following: [5]
   a) Three phase motor
   b) Amplifier
   c) Union
   d) Fillet Weld
   e) Capacitor
   f) Nipple
   g) Ammeter
   h) Surface to be obtained by milling
   i) Internal thread
   j) Bridge

OR

Draw sectional front view for the figure below.



5. Draw assembled sectional front view and top view of the components shown below.

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TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division

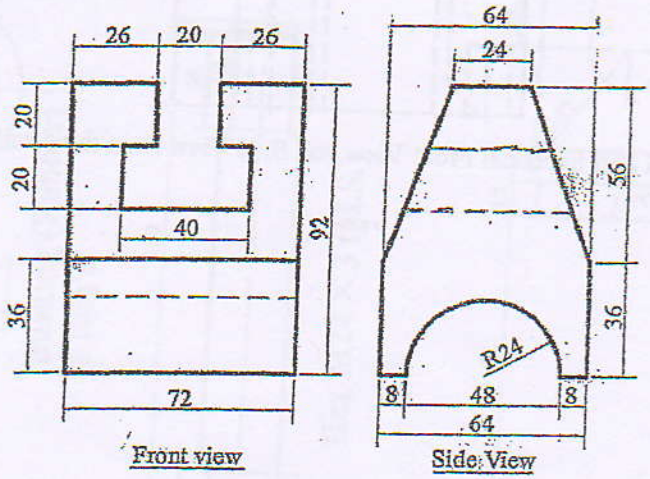
2078 Chaitra

Exam.	Regular		
Level	BE	Full Marks	40
Programme	BCE, BEL, BEX, BCT, BME, BAM, BIE, BAG, BGE, BAS	Pass Marks	16
Year / Part	I / II	Time	3 hrs.

Subject: - Engineering Drawing II *(ME 451)*

- ✓ 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 isometric of a solid according the two plane projection of a solid shown in figure below. [10]



2. A hexagonal base prism of side length 25 mm and height 50 mm rests with its base on the ground with one of its faces inclined at 30° to the picture plane and the nearest vertical edge is 12 mm behind the PP. The station point is 45 mm in front of PP and 60 mm above the ground and 15 mm left to the nearest vertical edge to the PP. Draw the perspective projection of prism. [6]

3. Determine the limits of dimensions and type of fit designated by 80 D9/h8, assuming fundamental deviation for D and h respectively as 32μm and 0μm above the basic size line and international tolerance grades for 8 and 9 as 34μm and 42μm respectively. [5]

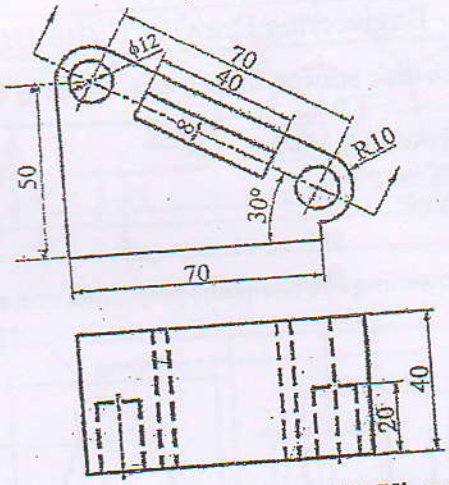
OR

Sketch the top view and sectional front view of double strap, double row zig-zag type riveted butt joint. Take thickness of sheet 9 mm.

4. Draw the standard symbols of following different engineering field: [5]
   a) Mosque
   b) River stream
   c) Cotton field
   d) Railway track
   e) Relief valve
   f) Rheostat
   g) Ammeter
   h) Single V-butt joint
   i) C-channel
   j) Surface roughness

OR

Draw auxiliary sectional view of the object shown in below figure.



5. Draw the assembled Full Sectional Front View and Side View from the detailed drawings shown in figure below. [14]

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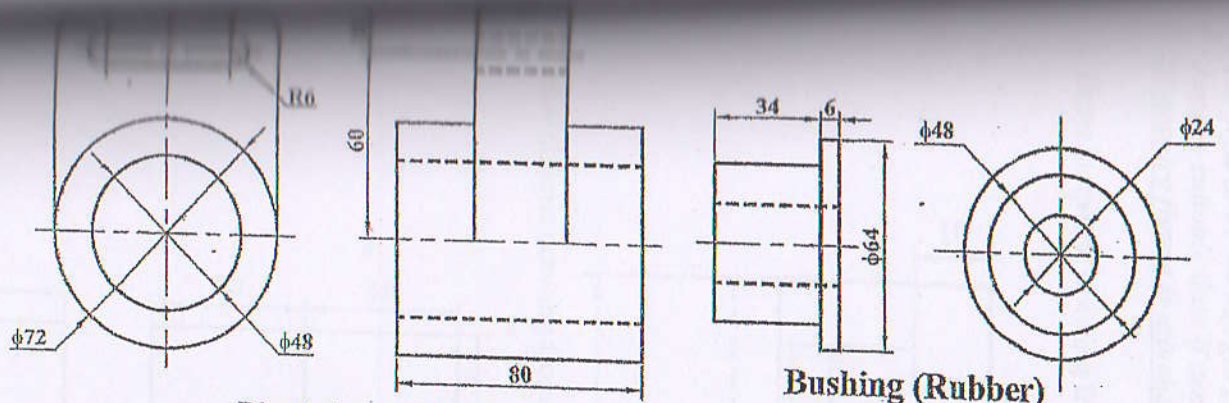
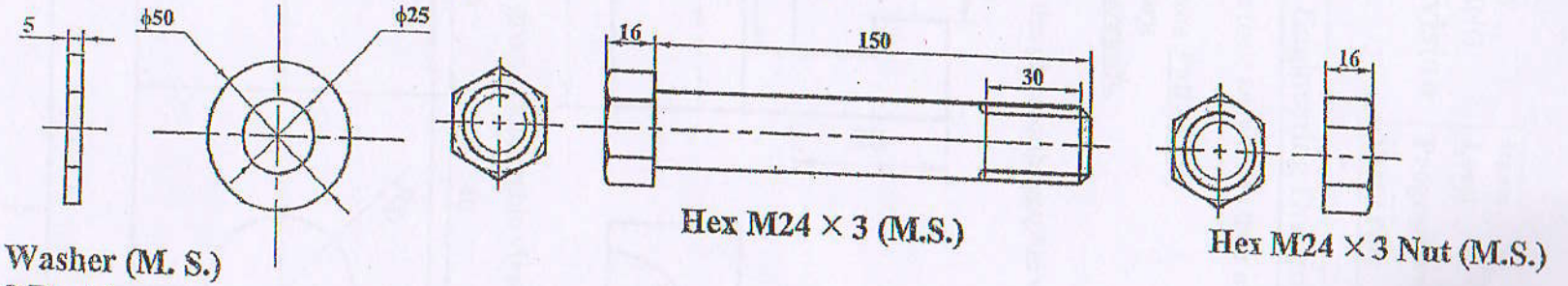


Pivot Arm, (M.S.)

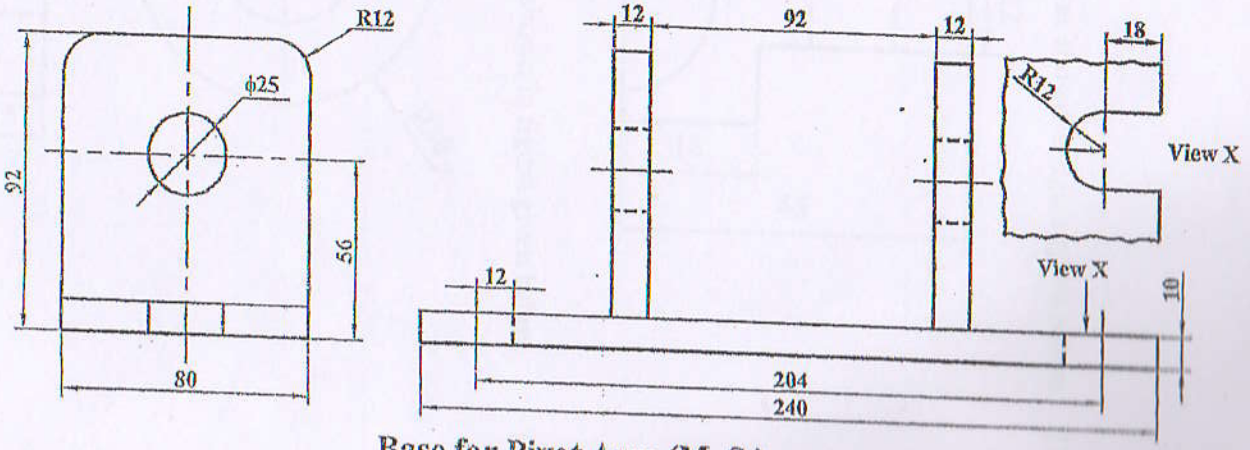
Bushing (Rubber)
2 Req'd



Washer (M. S.)
2 Req'd

Hex M24 × 3 (M.S.)

Hex M24 × 3 Nut (M.S.)



Base for Pivot Arm (M. S.)

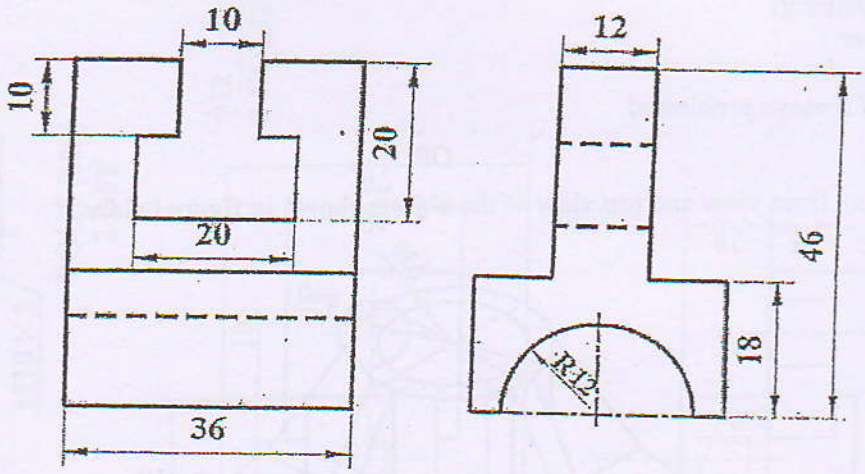
TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2078 Poush

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

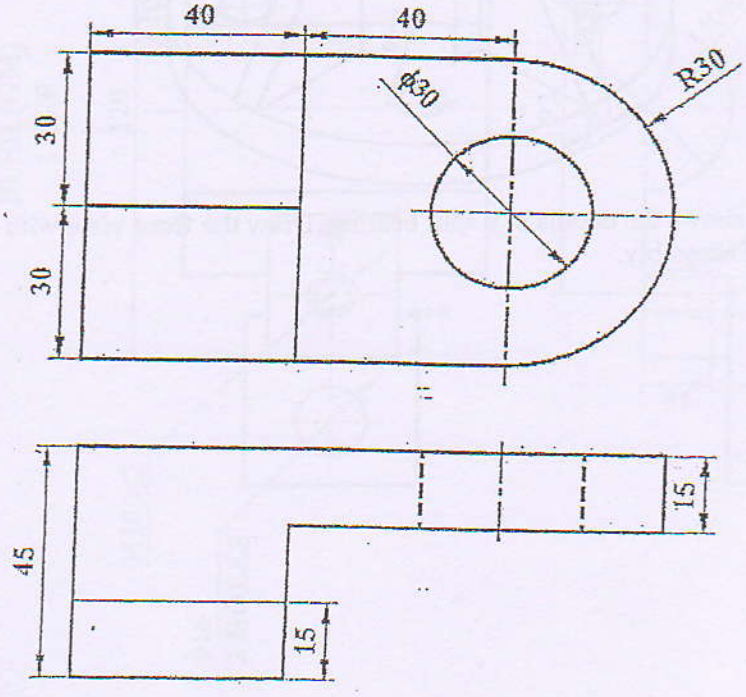
Subject: - Engineering Drawing II *(ME 451)*

- 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.*
- ***Necessary figure is attached herewith.***

1. Draw isometric drawing from the given orthographic views as shown in figure given below. [10]



2. Draw oblique drawing from the given orthographic views as shown in figure given below [6]



3. Sketch the top view and sectional front view of double riveted, double strap chain butt joint. [5]

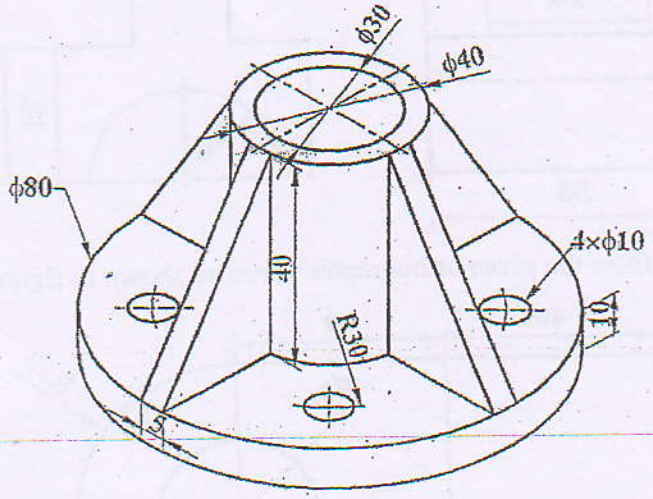
OR

Determine the limits of dimensions and type for fit designated by H8c11 for the basic size of 50 mm, assuming fundamental deviation for H and c respectively as 0 μm above the basic size line and 125 μm below the basic size line and international tolerance grades for 8 and 11 as 39 μm and 110 μm.

4. Draw the standard symbols for the following: [5]
   a) School
   b) Single V-butt joint
   c) Thermocouple
   d) LED
   e) Microphone
   f) Socket outlet
   g) Tee (plumbing)
   h) Amplifier
   i) Cap
   j) Material remove prohibited

OR

Draw sectional front view and top view of the objects shown in figure below. [5]



5. The attached figure shows the details of a split bearing. Draw the front view with section and side view of the assembly. [14]

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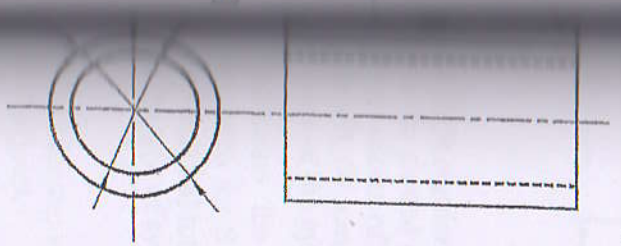
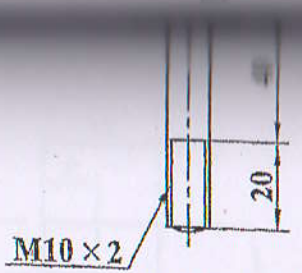
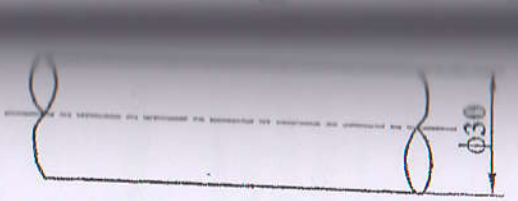


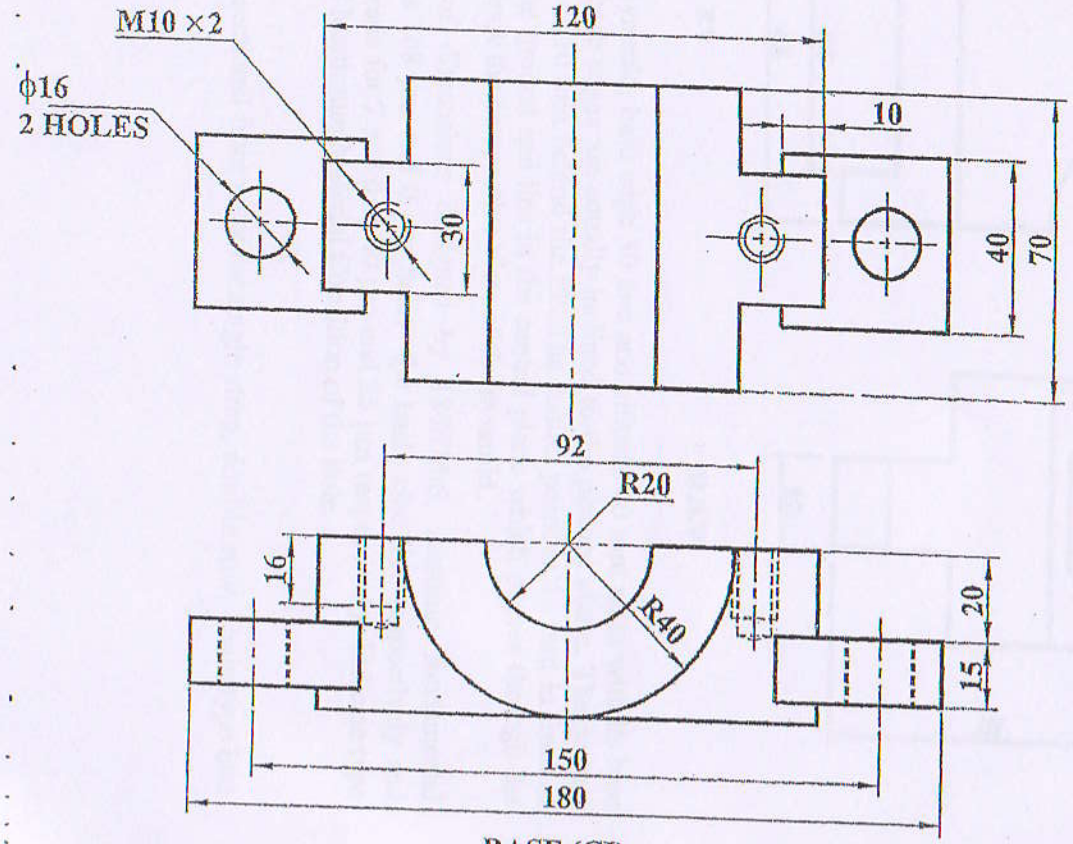
BUSH (GM)
1 OFF



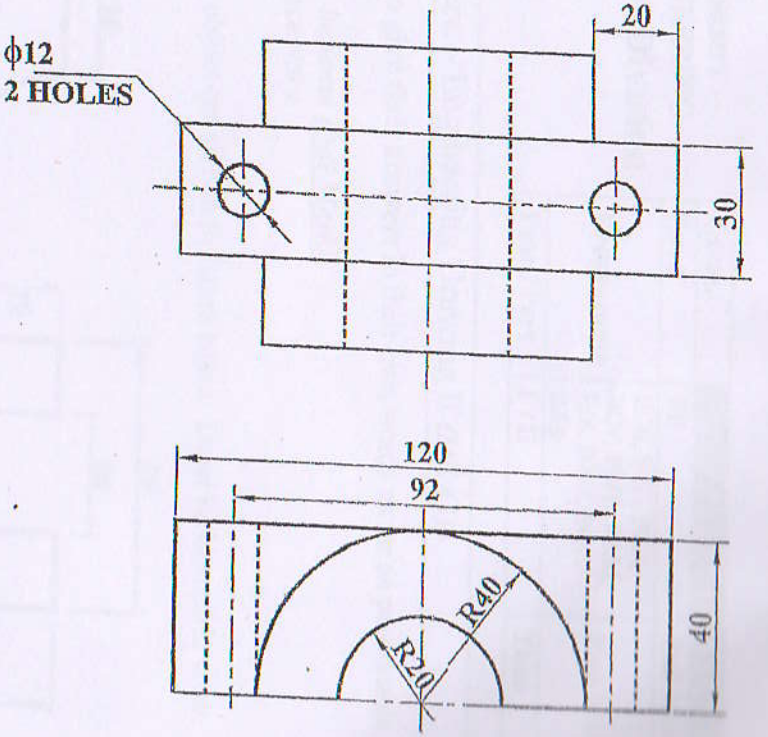
BOLT (MS)
2 OFF



SHAFT (MS)
1 OFF



BASE (CI)
1 OFF



CAP (CI)
1 OFF

TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division

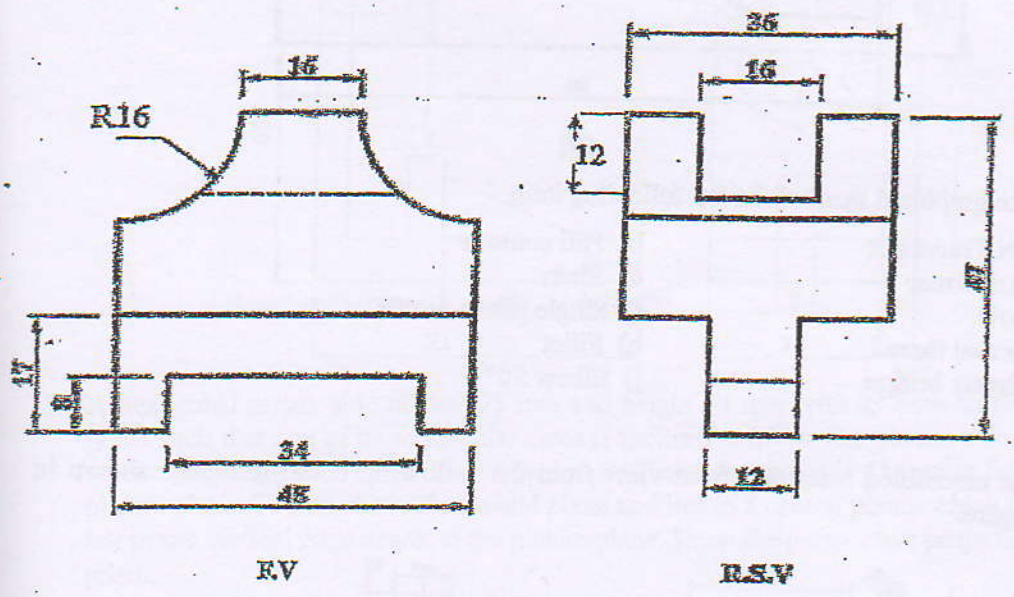
2078 Baishakh

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

Subject: - Engineering Drawing II *(ME 451)*

- 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. Orthographic views of an object are shown in figure below. Draw its isometric view. [10]



F.V R.S.V

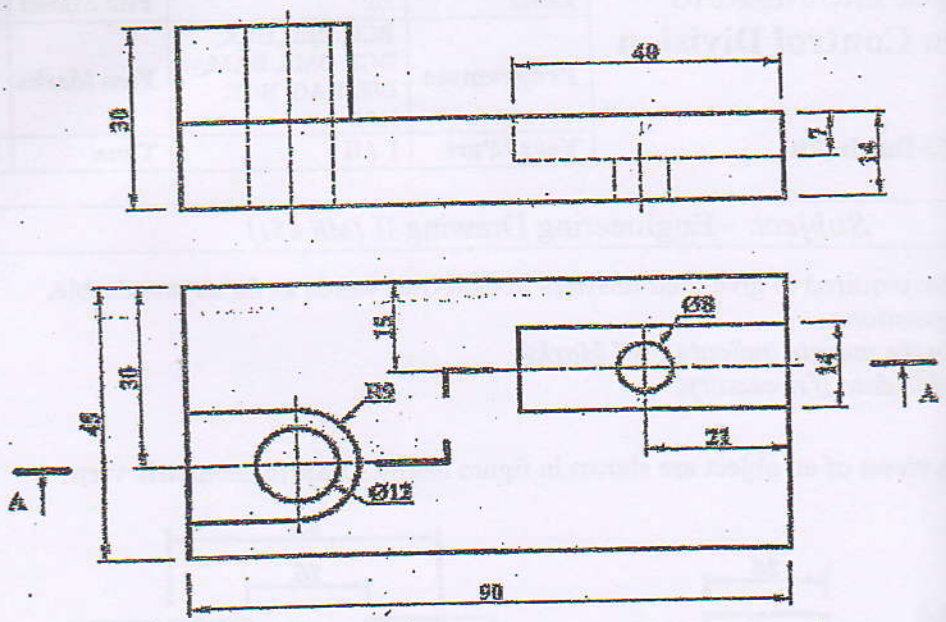
2. A right regular square pyramid, base edge 30 mm and altitude 40 mm rests with its base on the ground and the base edges are equally inclined to the picture plane. The nearest front corner of the base is 10 mm behind the PP. The station point is 45 mm in front of the PP, 60 mm above the ground and lies in the central plane which passes through the vertex of the pyramid. Draw the perspective view of the pyramid. [5]

3. Determine the limits of dimensions designed by 180S7/h6. Assume fundamental deviation for S and h as 108 μm and 0 μm below the basic size line respectively and international tolerance grade for 7 and 6 as 40 μm and 25 μm respectively. Indicate type of fit, type of system and Maximum Material Condition of the hole. [5]

OR

Sketch the top view and sectional front view for single strap, double row, chain type butt riveted joint.

4. Draw the sectional front view (section at A-A) as shown in figure below.

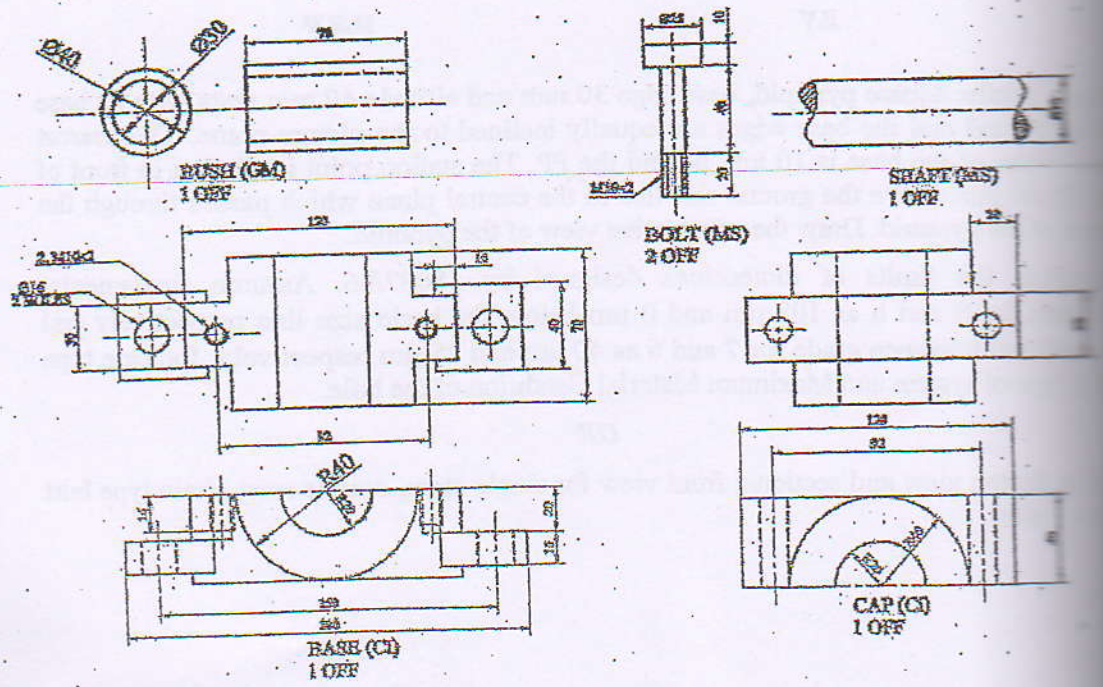


OR

Sketch the graphical symbol for the following item.

a) NPN Transistor
b) Hill contour
c) Transformer
d) Siren
e) Elbow
f) Single phase motor
g) External thread
h) Fillet
i) Highway bridge
j) Elbow 90°

5. Draw the assembled sectional front view from the following detail drawings shown in below figure.



TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division

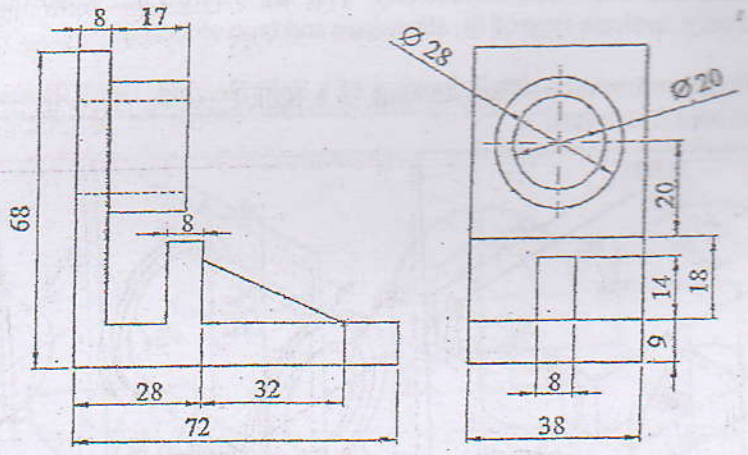
2077 Chaitra

Exam.	Regular		
Level	BE	Full Marks	40
Programme	BCE, BEL, BEX, BCT, BME, BAM, BIE, BAG, BGE, BAS	Pass Marks	16
Year / Part	I / II	Time	3 hrs.

Subject: - Engineering Drawing II *(ME451)*

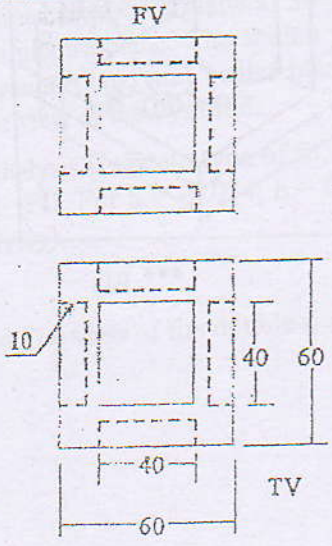
- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ *Attempt All questions.*
- ✓ *The figures in the margin indicate Full Marks.*
- ✓ *Assume suitable data if necessary.*

1. Draw an isometric view from the orthographic views as shown in figure below. Show dimensions as well. [10]



2. A hexagonal prism, side of base 25 mm and height 50 mm with its base on the ground plane such that one of its rectangular faces is inclined at 30° to the picture plane and the vertical edge nearer to PP is 15 mm behind it. The station point is 45 mm in front of the picture plane, 70 mm above the ground plane and lies in a central plane, which is 15 mm left to the vertical edge nearer to the picture plane. Draw the perspective projection of the prism. [5]

3. Orthographic projections of the object are shown in figure below. Draw the full sectional top view of the object. [5]



OR

OR

Draw the standard symbols for the following.

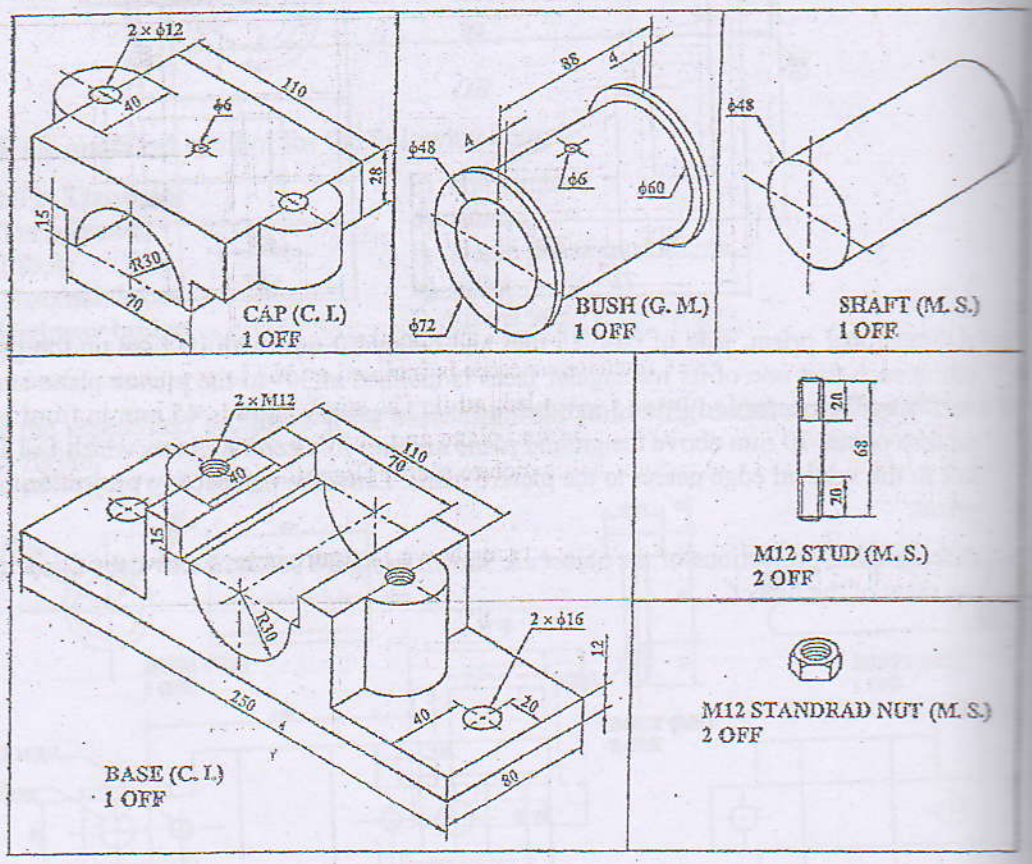
a) Spot Weld
b) Globe valve
c) Thermocouple
d) Surface produced by lapping
e) Circuit Breaker
f) Solid shaft
g) Church
h) Meadow
i) Buzzer
j) Telephone- Telegraph line

4. Sketch the top view and sectional front view for double row zig-zag type lap riveted joint.

OR

Make complete fit analysis of the following symbols 100H7/s6. F.D. for H and s are 0.000 mm and 0.071 mm respectively. ITG for 7 and 6 are 0.035 mm and 0.022 mm respectively. Indicate type of fit, allowance and type of system.

5. Figure below shows the detail drawing of a Split Bearing. Draw its assembled top view and sectional front view.



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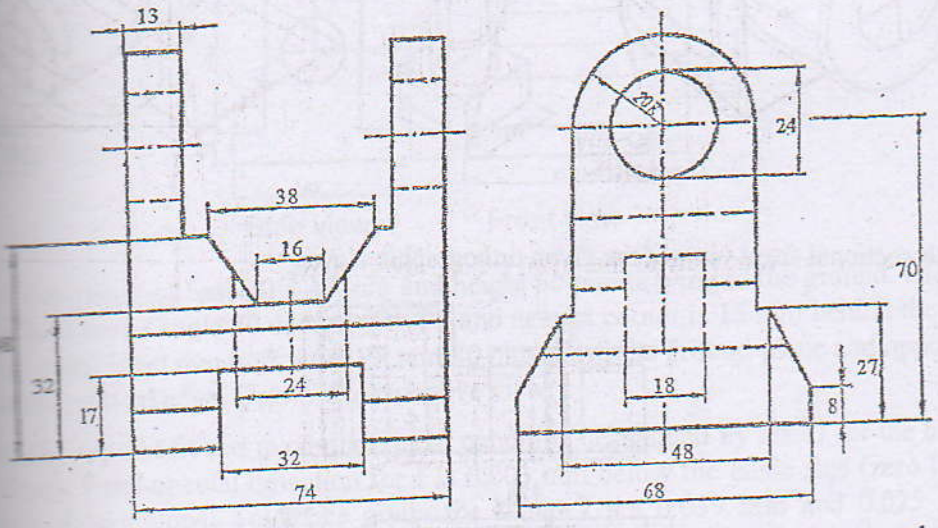
TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2076 Baishakh

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

Subject: - Engineering Drawing II *(ME 451)*

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.

Draw an isometric drawing of an object with the orthographic views shown in figure below. [10]



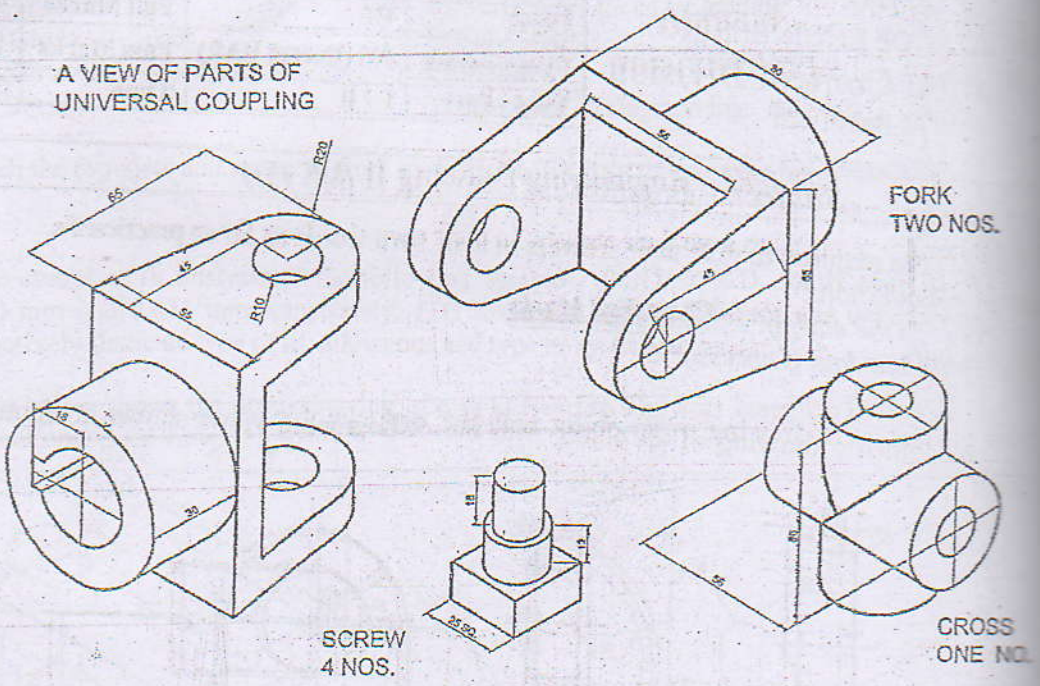
A right pentagonal base pyramid of 25 mm base side and axial height 65 mm resting on its base, one side of base is inclined to picture plane at 30° to right side, one nearest corner of base is 20 mm behind the picture plane. The station point is 50mm in front of picture plane and 75 mm above ground plane and center plane lies 15 mm left to the nearest corner. Draw the perspective view of the Pyramid. [5]

Sketch and make the complete fit analysis [Indicate type of fit, allowance and shaft basis or hole basis system] of 45 S6/h12. (FD. For S = -0.034, h = 0.000, value for ITG no. 6 and 12 are 0.016 and 0.160 respectively) [5]

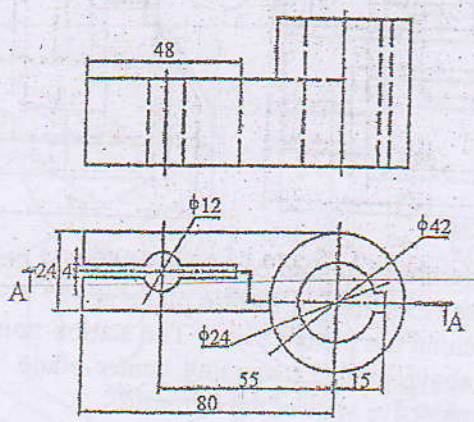
OR

Sketch the Sectional Front view and Top view of the double riveted, double strap, zig-zag chain butt joint. [5]

4. Draw the assembled full sectional front view of a universal coupling shown in figure below.



5. Draw the sectional front view of the given orthographic views.



OR

Sketch symbol of the followings:

a. Depression Contour	b. School
c. Surface to be coated	d. Check Valve
e. Depression Contour	f. School
g. Surface to be coated	h. Check Valve
i. Depression Contour	j. School

***

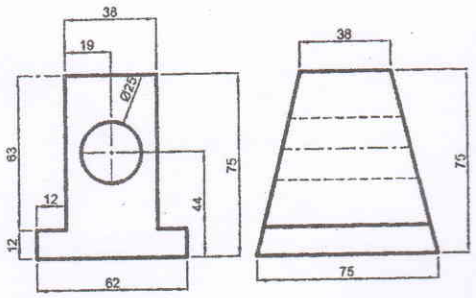
06 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2075 Bhadra

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

Subject: - Engineering Drawing II *(ME451)*

- ✓ 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 Isometric view of a solid, referring the front and side view shown in figure below. [10]



Side view Front view

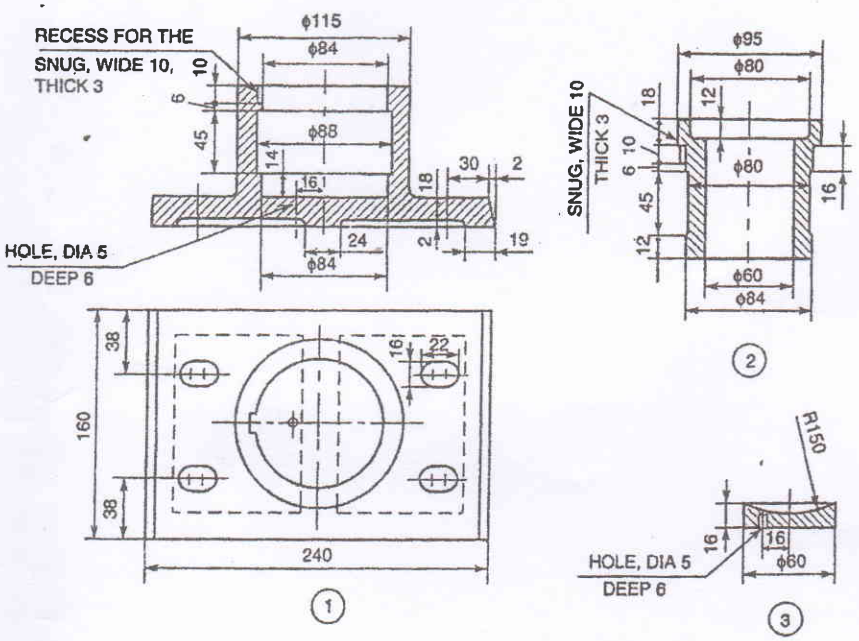
2. A square base prism of base 40 × 40 mm and height 60 mm is lying in the ground. One of its side of base make angle 30 degree with PP and nearest corner is 15 mm behind the PP. The station point is 60 mm in front of PP and 80 mm above the ground plane and opposite to the nearest vertical edge. Draw its perspective view. [5]

3. Determine the type of fit and maximum metal condition designated by H8/f7 for the basic size of 30mm. Fundamental deviation for f is 0.003 mm below the basic size (zero line) respectively. International Tolerence grade for 8 and 7 are 0.039 mm and 0.025 mm respectively. [5]

OR

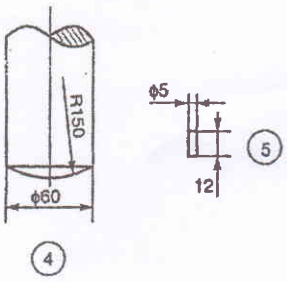
Draw the sketch the top view and sectional front view for double row double strap riveted joint for 10 mm thick iron plate finding the diameter of rivet.

4. Draw assembled Top view and Sectional Front of the given Detail drawing the Footstep Bearing in figure below. [15]

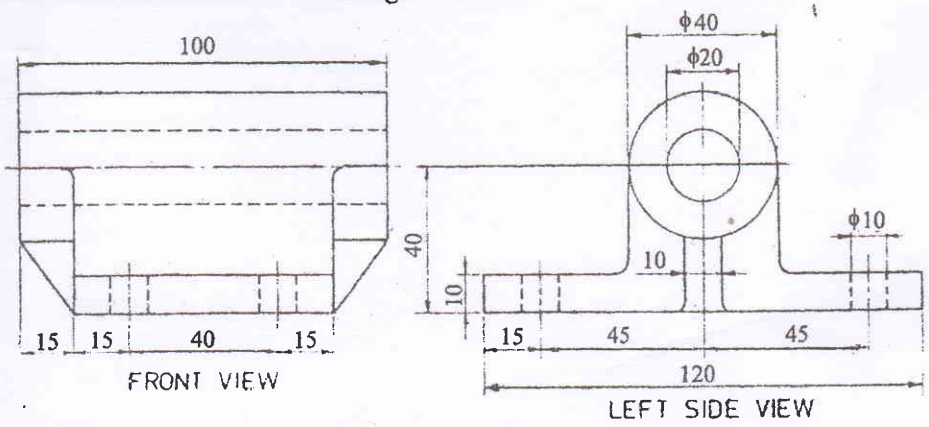


Parts list

Sl. No.	Name	Matl.	Qty.
1	Body	Cast iron	1
2	Bush	Brass	1
3	Disc	P Bronze	1
4	Shaft	Mild steel	1
5	Pin	Mild steel	1



5. Sketch the sectional Front view of figure below. [5]



OR

Sketch the graphical symbol for following item.

a) NPN Transistor
b) Transformer
c) Hill Contour
d) Single phase motor
e) Siren
f) Internal Thread
g) Elbow 90°
h) Fillet
i) Surface to be obtained by filing
k) Highway bridge

***

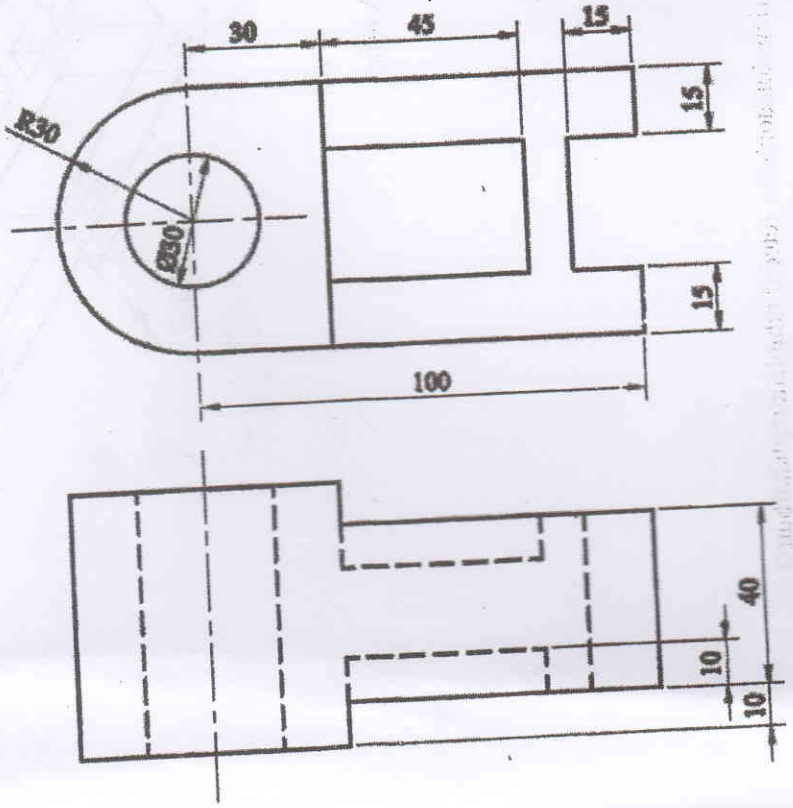
Examination Control Division
2075 Baishakh

Programme		Time	3 hrs.
Year / Part	I / II		

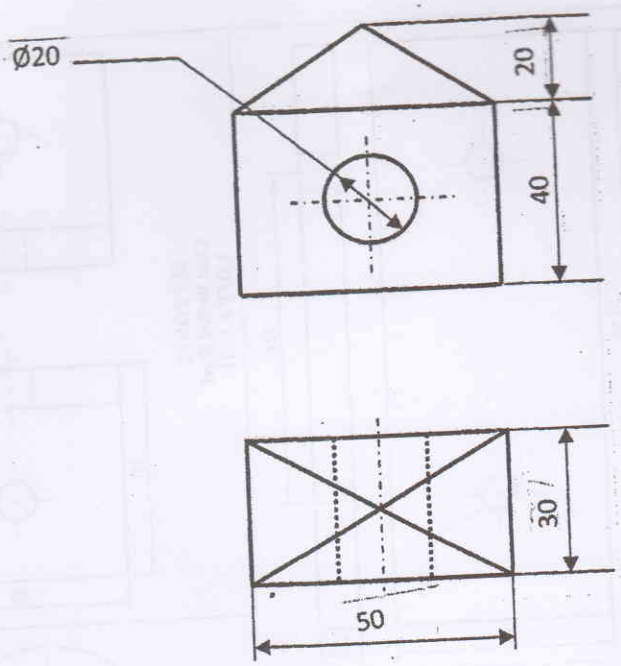
Subject: - Engineering Drawing II *(ME451)*

- ✓ 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 isometric view from the given orthographic views as shown in figure below: [10]

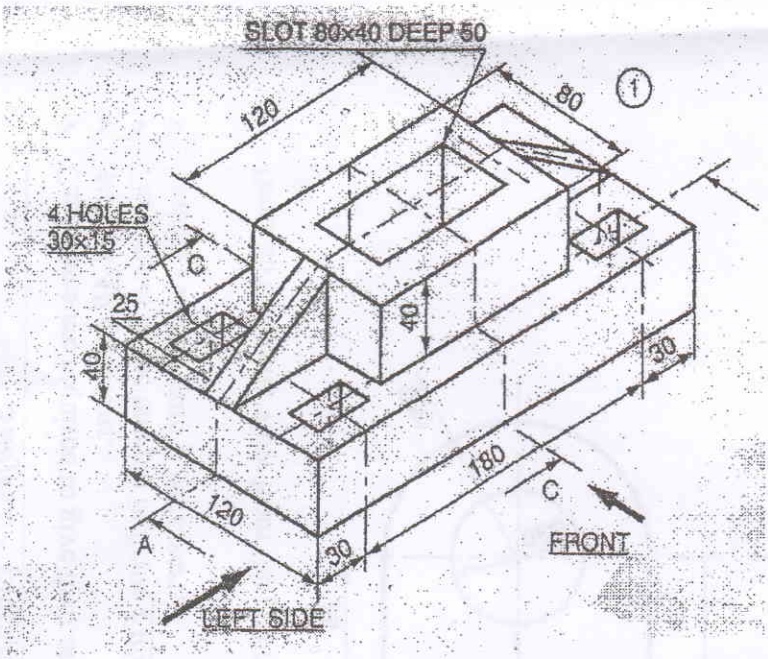


2. Draw the angular perspective view of figure below: [5]



P.T.O.

3. Orthographic projection of the object is shown in figure below. Draw the sectional view at section A-A. [5]



OR

Draw the standard symbols for the following:

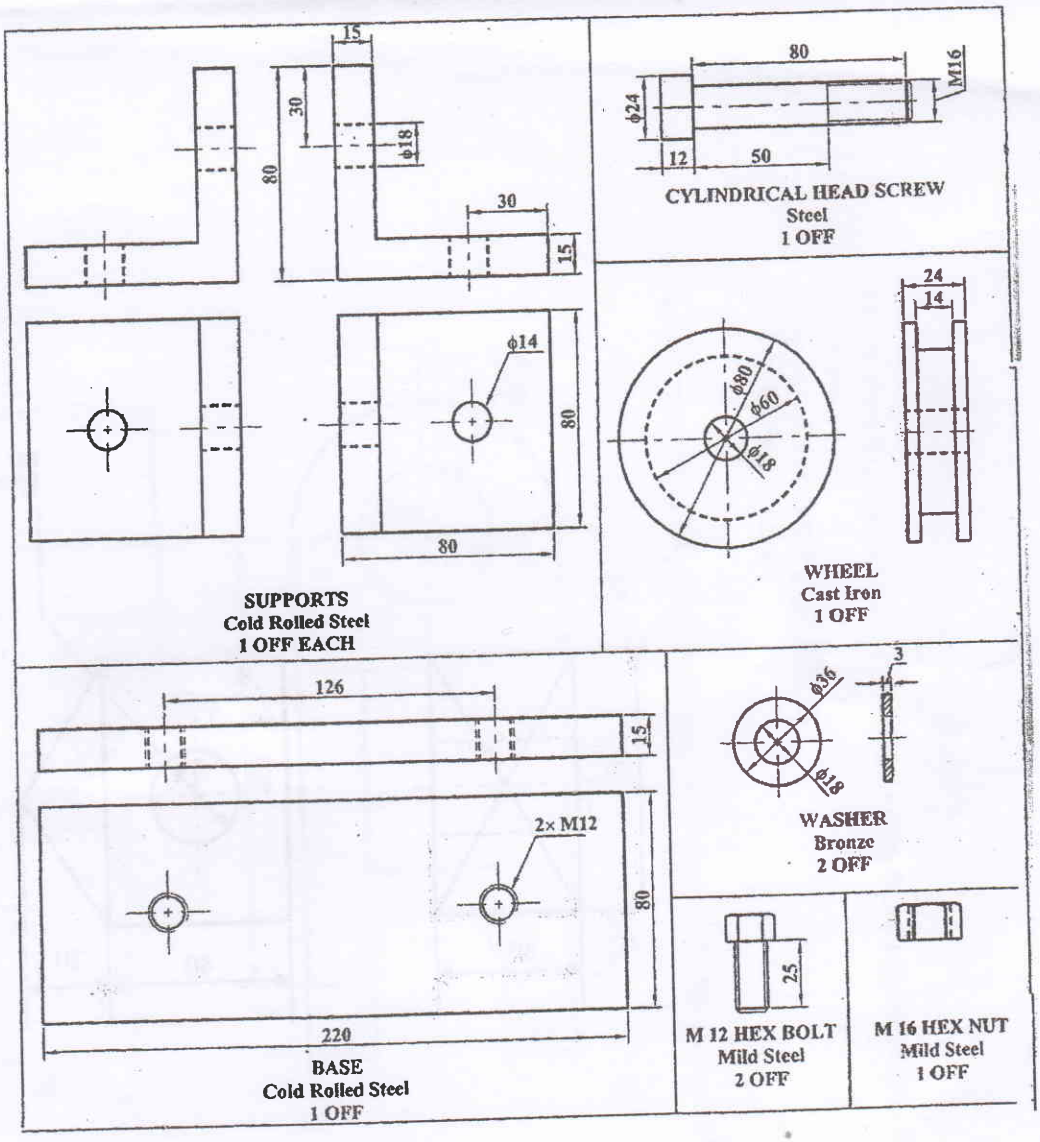
a) External Thread
b) First angle projection
c) Projection welding
d) Nipple
e) Material removed by milling
f) Maximum material condition
g) Thermistor
h) Three phase motor
i) Channel
j) Church

4. Sketch the top view and sectional front view for double riveted double strap chain butt joint. [5]

OR

Make complete fit analysis of the following symbols 100H11/p7; fundamental deviations for H and p are 0.00 mm and 0.037 mm respectively. ITG for 11 and 7 are 0.22 mm and 0.035 mm respectively. Indicate type of fit, allowance and type of system.

5. Draw the assembled sectional front view from the following detail drawings shown in figure below. [15]



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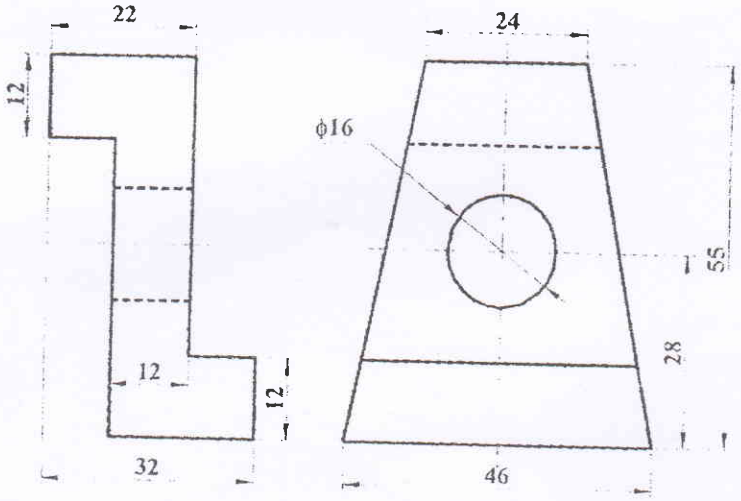
06 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2074 Bhadra

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

Subject: - Engineering Drawing II *(ME451)*

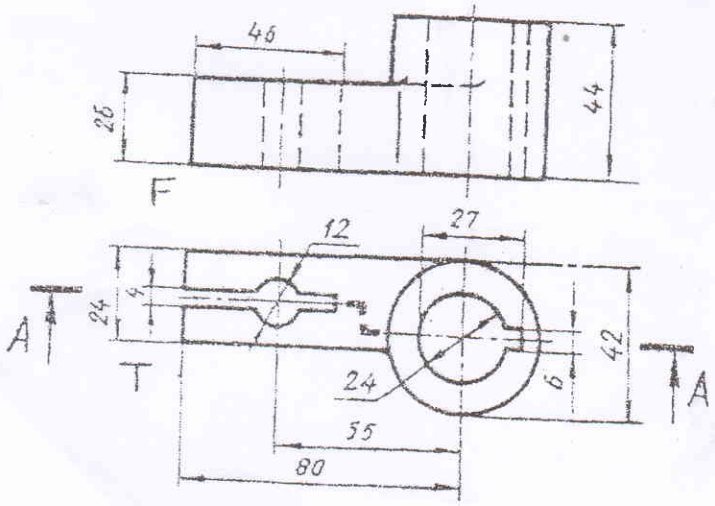
- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ *Attempt **All** questions.*
- ✓ *The figures in the margin indicate **Full Marks**.*
- ✓ ***Necessary figures are attached herewith.***
- ✓ *Assume suitable data if necessary.*

1. Orthographic views of an object are shown in figure below, Draw its isometric view. [10]



2. A solid square prism of side base 30 mm and height 40 mm rests with its base on the ground and one of the rectangular faces inclined at 30 degree to the PP. the nearest vertical edges touches the pp. the Station point is 80 mm in front of the pp, 80 mm above the ground and opposite to the nearest vertical edge that touches the pp. Draw the perspective view and indicate main dimensions. [5]

3. Draw sectional front view from the component as shown in figure below. [5]



4. Draw the front view and full sectional top view of double riveted double strap chain type butt joint. [5]

OR

Determine the limits of dimensions and types of fit designed by 50H8/d9. Assume fundamental deviation for H and d as 0 micrometers above the size and 0.080 mm below the basic size line respectively and international tolerance grade for 8 and 9 as 0.039 mm and 0.062 mm respectively.

5. Draw the assembled sectional front view from the detail drawing in figure 5 (attach with Question) [15]

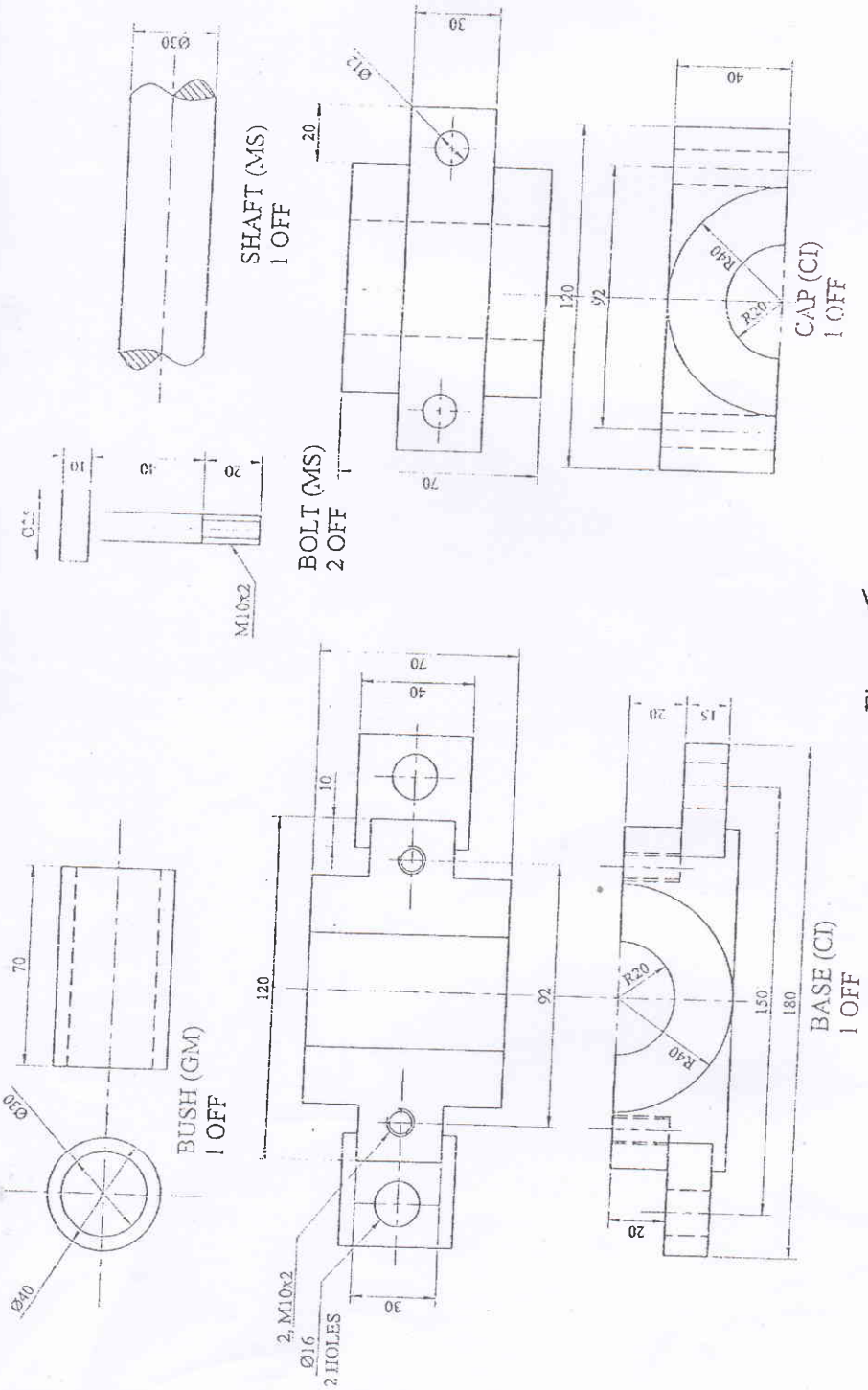


Figure 5

06 TRIBHUVAN UNIVERSITY

INSTITUTE OF ENGINEERING

Examination Control Division

2073 Magh

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

Subject: - Engineering Drawing II *(ME451)*

- ✓ 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 isometric view from the given orthographic views as shown in figure 1. [10]

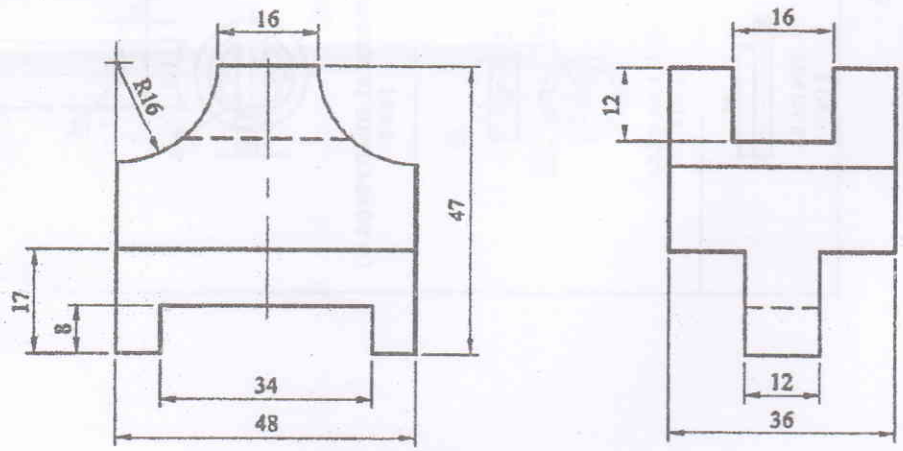


Figure 1

2. A model of steps has 3 steps of 15mm tread and rise 10mm. The steps measure 60mm wide. The vertical edge of bottom step, which is nearer to the picture plane, is 25mm behind PP and the width of steps recede to the left at an angle of 30° to PP. The station point is 100 mm in front of PP and 60 mm above the ground plane and 30 mm to the right of the vertical edge, which is nearest to PP. Draw the perspective view of the model. [6]

3. Draw assembly drawing from the machine components from figure 3. [14]

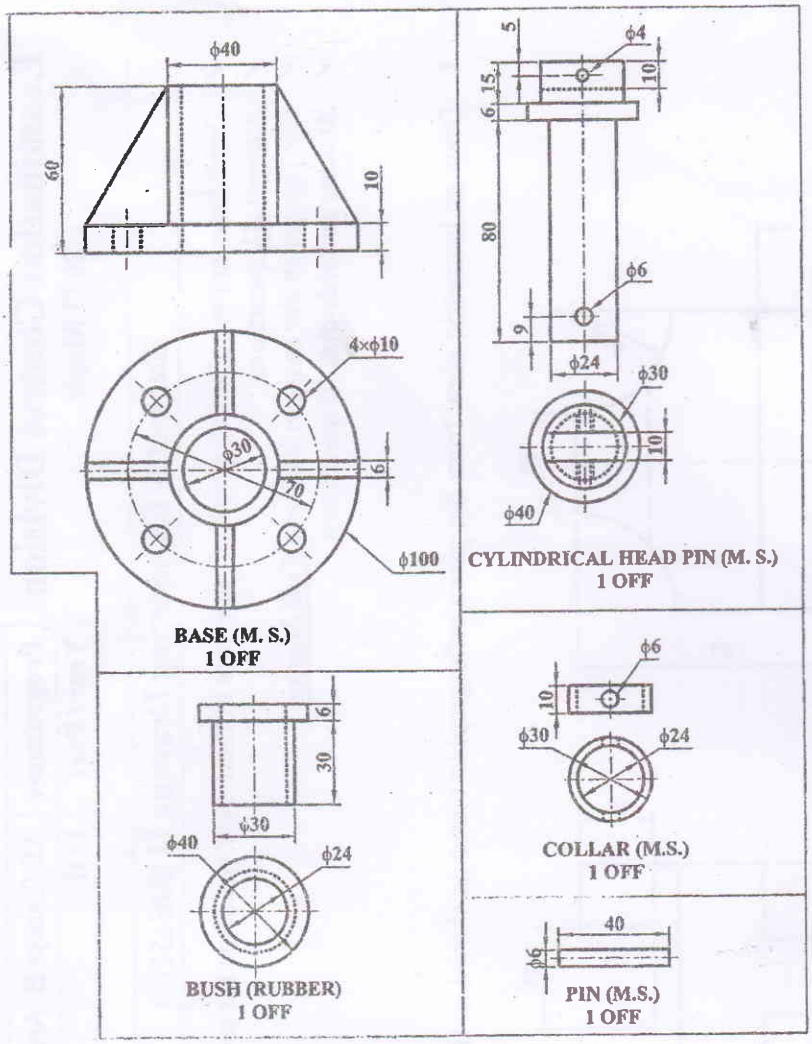


Figure 3

4. Sketch the top view and sectional front view for double row, single strap, chain type butt riveted joint. [5]

OR

Make complete fit analysis of the following symbols 60S6/h12.F.D. for S and h are 0.042 mm and 0.00 mm respectively. ITG for 6 and 12 are 0.019 mm and 0.30 mm respectively. Indicate type of fit, allowance and type of system.

5. Draw removed or rotated section at A-A and B-B from the components as shown in figure 5. [5]

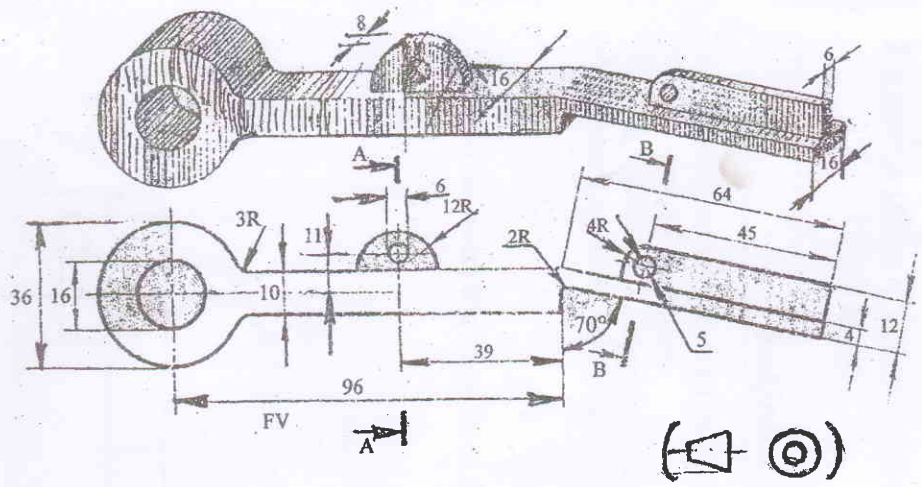


Figure 5

OR

Sketch the symbol of following Items

a) Material removed by milling
b) 90° Elbow
c) Maximum Material Condition
d) Gumba
e) River
(f) Transistor
(g) Capacitor
(h) Stud
(i) External Thread
(j) Lap Weld

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06 TRIBHUVAN UNIVERSITY

INSTITUTE OF ENGINEERING

Examination Control Division

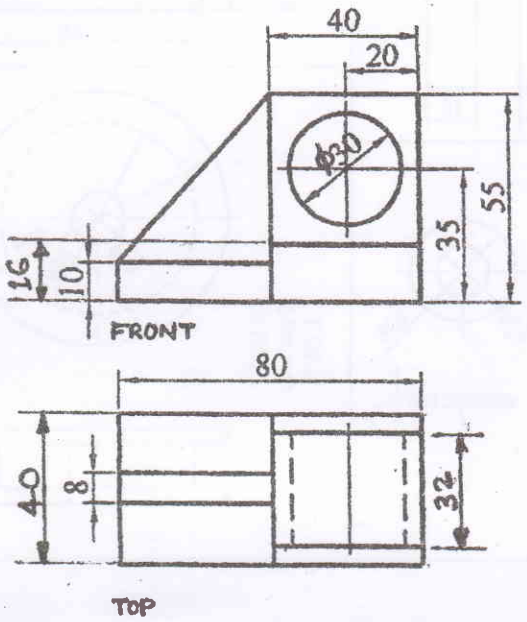
2073 Bhadra

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

Subject: - Engineering Drawing II *(ME451)*

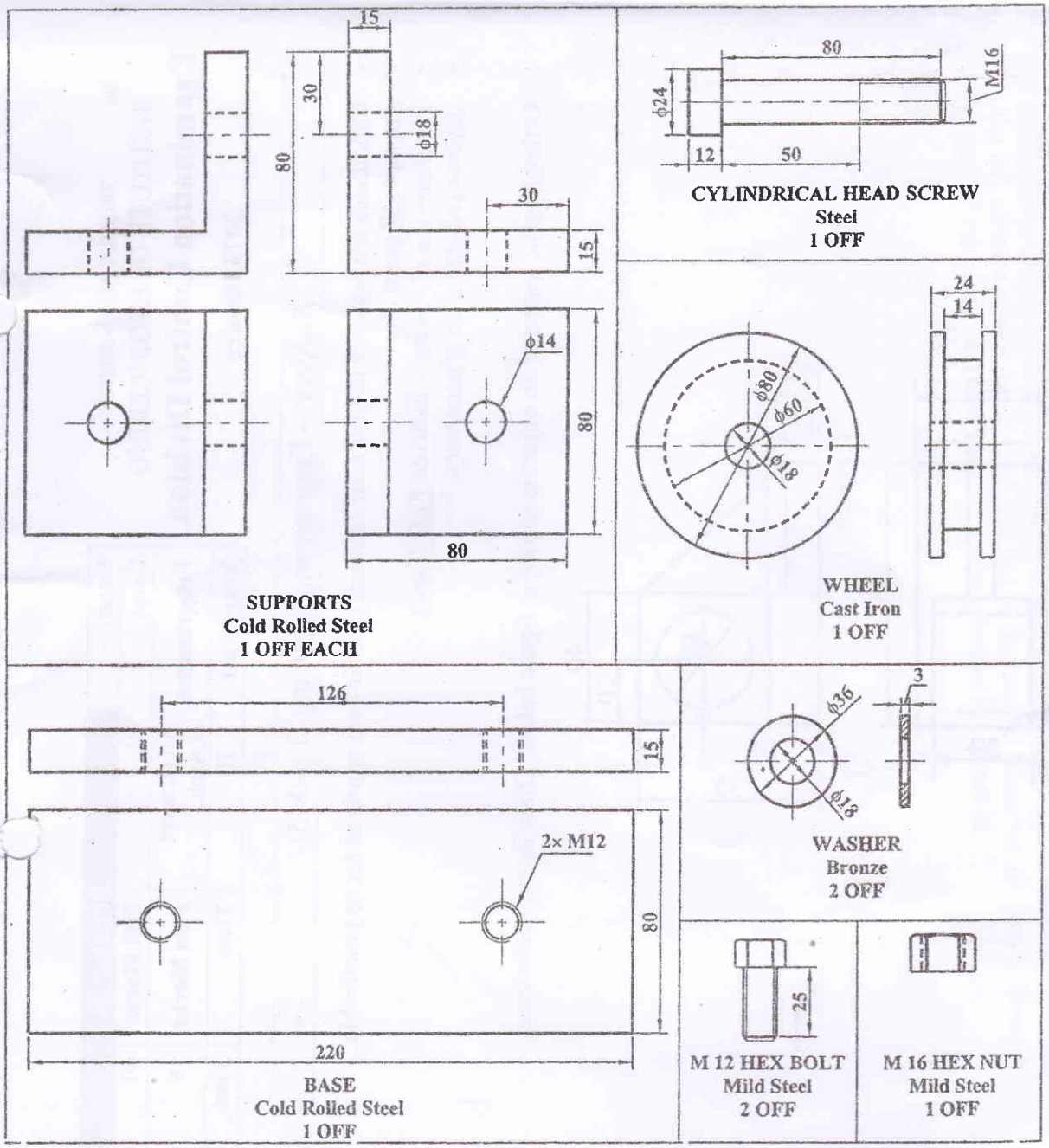
- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ *Attempt **All** questions.*
- ✓ *The figures in the margin indicate **Full Marks**.*
- ✓ *Assume suitable data if necessary.*

1. Orthoghraphic views of an object is shown in figure below. Draw its isometric view. [10]



2. A right regular square pyramid, base edge 30 mm and altitude 40 mm rests with its base on the ground and the base edges are equally inclined to the picture plane. The nearest front corner of the base is 10 mm behind the PP. The station point is 45 mm in front of the PP, 60 mm above the ground and lies in the central plane which passes through the vertex of the pyramid. Draw the perspective view of the pyramid. [6]

3. Draw the assembled sectional front view from the following detail drawings shown in figure below. [14]

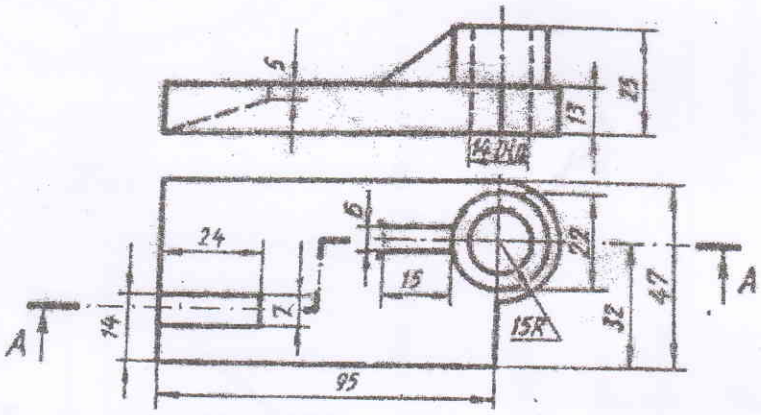


4. Sketch top view and sectional front view of single riveted double strap butt joint. [5]

OR

Determine the limits of dimensions and types of fit designed by 100 H7/s6. Assume fundamental deviation for H and s as 0 micrometers and 0.080 mm above the basic size line respectively and International tolerance grade for 7 and 6 as 0.035 mm and 0.022 mm respectively. [5]

5. Orthographic projection of the object is shown in figure below. Draw the sectional view at section A-A. [5]



OR

Draw the standard symbols for the following.

a) Internal Thread
b) Third angle projection
c) Spot weld
d) Expansion joint
e) Surface to be obtained by fine turning
f) Least material condition
g) Rectifier
h) Loud speaker
i) I - beam
j) School

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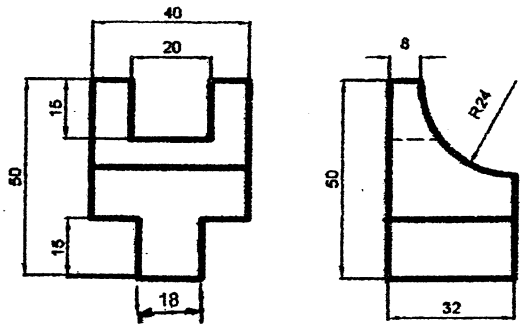
06 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2071 Bhadra

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

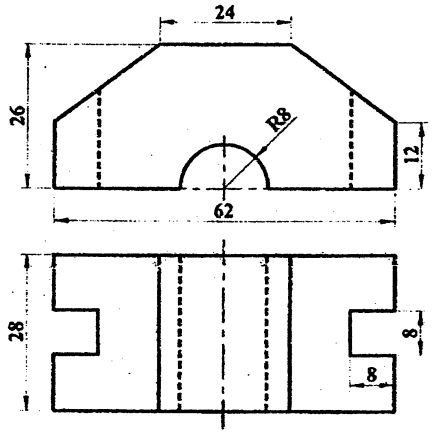
Subject: - Engineering Drawing II *(ME451)*

- ✓ 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. From the given front and side view of a solid draw the isometric view. [10]



2. Draw oblique drawing from the given orthographic views as shown in figure below. [5]

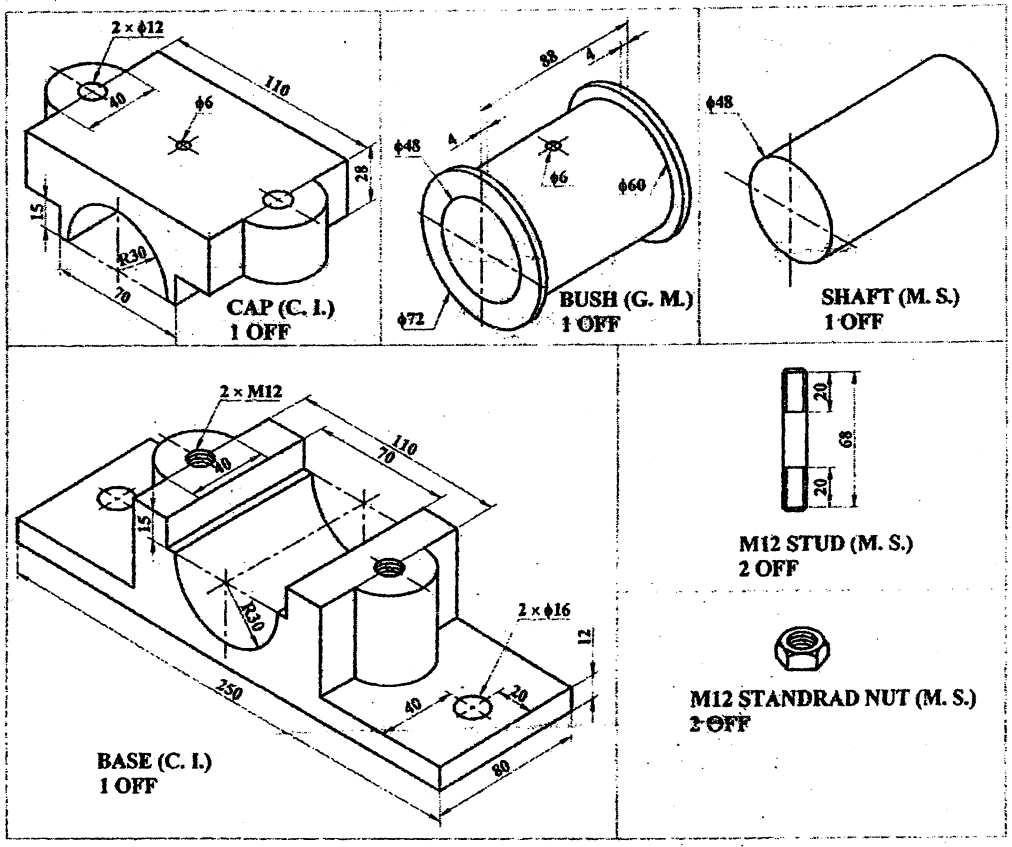


3. Determine the limit, tolerance, allowances and type of fit for 50 H7/p6. The value of fundamental deviation given by H is zero and p is above the basic line and value is 0.032 mm, and international tolerance given by 7 is 0.025 and 6 is 0.016 mm respectively. [4]

OR

Draw the top view and sectional front view of double row zig zag type riveted single strap butt joint for 8 mm thick plate.

4. Figure below shows the details of a split bearing. Draw the assembled front view with section. Take any length for the shaft. [16]

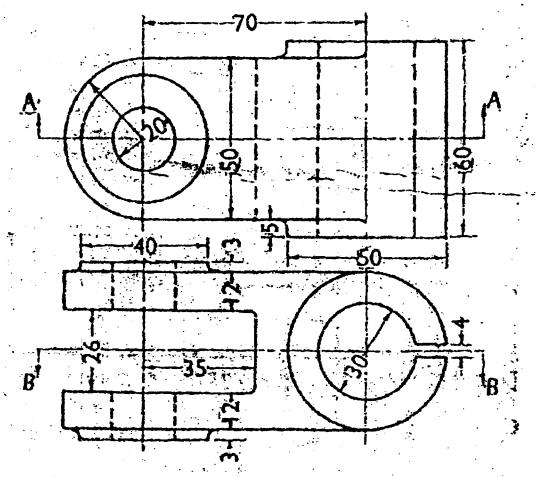


5. Draw the standard symbols for the following: [5]

a) Surface to be obtained by fine turning
b) Gate valve
c) Tee
d) Reducer
e) Thermocouple
f) DC Motor
g) Transformer
h) Circular tube
i) Fuse
j) Speaker

OR

Orthographic views of a forked end of a machine part are shown in figure below. Draw its sectional front view (Section B-B).



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06 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2071 Magh

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

Subject: - Engineering Drawing II *(ME451)*

- ✓ 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. Orthographic views of an object are shown in Figure P.1. Draw its isometric view. [9]
2. A cylinder having 70 mm diameter and 40 mm height is surmounted by a square pyramid having side 35 mm and height 50 mm. Draw the angular perspective projection when one of the side of pyramid is 30° inclined and its nearest corner is 30 mm behind the projection plane. Take station point 35 mm in front of projection plane, 25 mm left of nearest corner and 110 mm above the ground level. [6]
3. Sketch the top view and sectional front view of double row, single cover zig zag Butt joint. [5]

OR

Sketch the symbols for the following [5]

a) Spot weld
b) Internal thread
c) Fan regulator
d) 3-phase transformer
e) Circuit breaker
f) Hand set
g) Temple
h) Material removed by turning
i) Rapids
j) Perpendicular lay

4. The assembly drawing of Hand Vice is shown in Figure P.4. Draw detail drawing of each component. Assume suitable thickness if necessary. Part list is given below. [15]

Part List

SN	Part Name	Part No.	Quantity
1	Body	1	1
2	Screw	2	1
3	Screw Base	3	1
4	Handle	4	1
5	Handle end	5	2
6	Pin		2

5. Determine limits, tolerance, allowance and types of fit designated by 80 D9/h8. The fundamental deviation of hole is 0.032 mm more than fundamental deviation of shaft. International tolerance grades for 8 and 9 are 0.034 mm and 0.042 mm respectively. [5]

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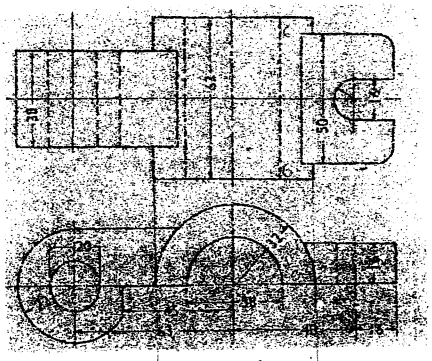

Figure P.1

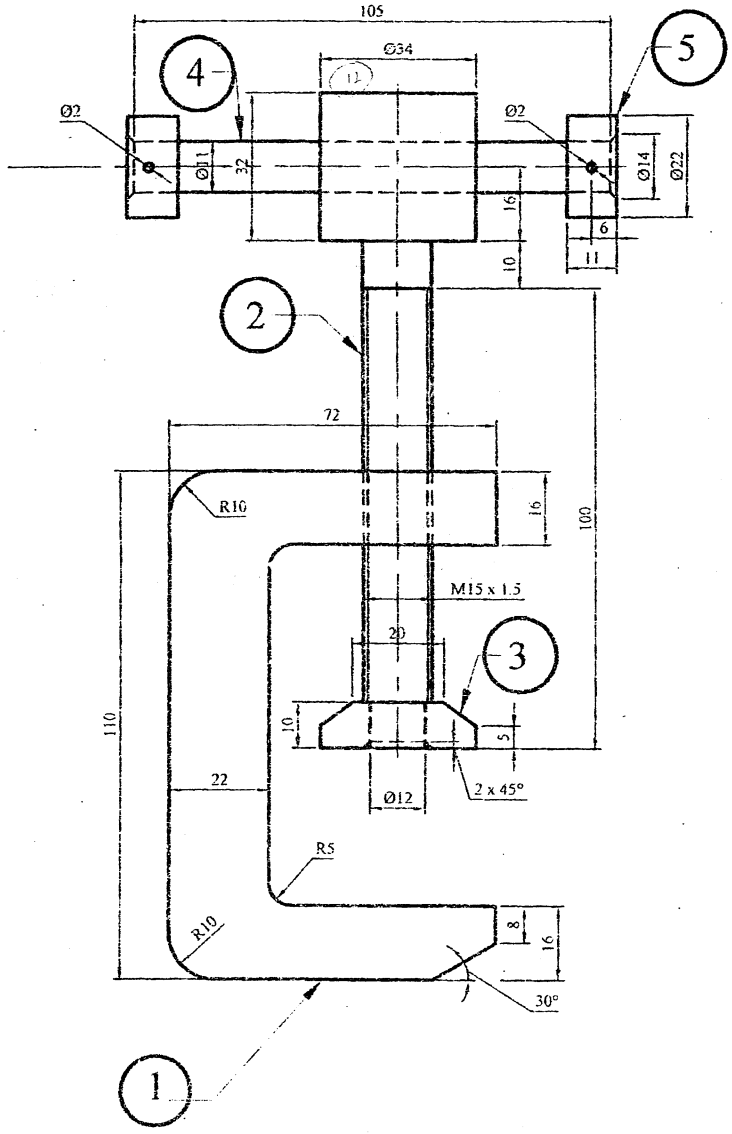

Figure P.4

10/07

26 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2071 Magh

Exam.	**OLD Back (2065 & Earlier Batch)**		
Level	BE	**Full Marks**	40
Programme	BEL, BEX, BCT, BME, BIE	**Pass Marks**	16
Year / Part	I / II	**Time**	3 hrs.

Subject: - Engineering Drawing II *(EG481ME)*

- ✓ 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 isometric drawing from the given orthographic views as shown in **Figure P.1.** **[10]**

2. **Draw oblique** drawing **from the given** orthographic views as shown in **Figure P.2.** **[6]**

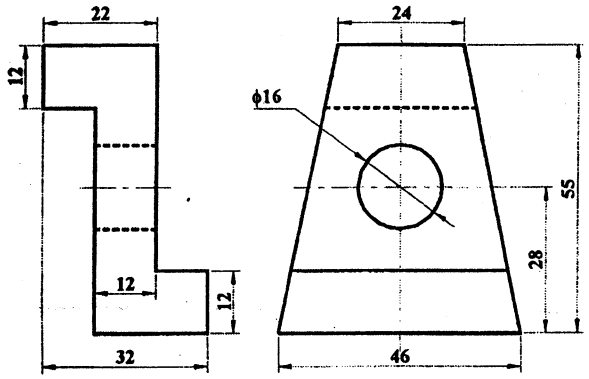

Figure P.1

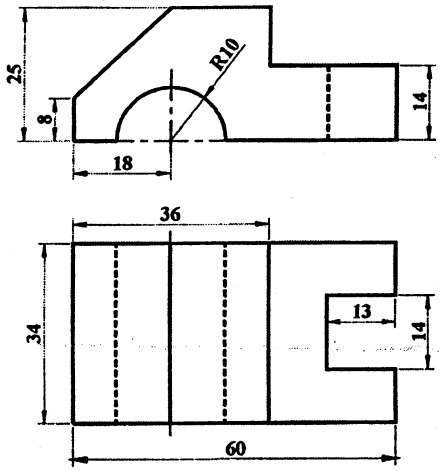

Figure P.2

3. Sketch the top view and sectional front view of single riveted, double strap butt joint. **[5]**

OR

Determine the limits of dimensions and type for fit designated by **H8/c11** for the basic size of 50 mm, assuming fundamental deviation for **H** and **c** respectively as 0 μm above the basic size line and 125 μm below the basic size line and international tolerance grades for 8 and 11 as 39 μm and 110 μm.

4. Draw the standard symbols for the following: **[5]**

(a) Union
(b) Transformer
(c) Circular tube
(d) Fuse
(e) Elbow
(f) Hill Contours
(g) Butt weld
(h) Coated surface
(i) Speaker
(j) Internal thread (any view)

5. Draw the assembled front view with section from the following detail drawings shown in **Figure P.5.** **[14]**

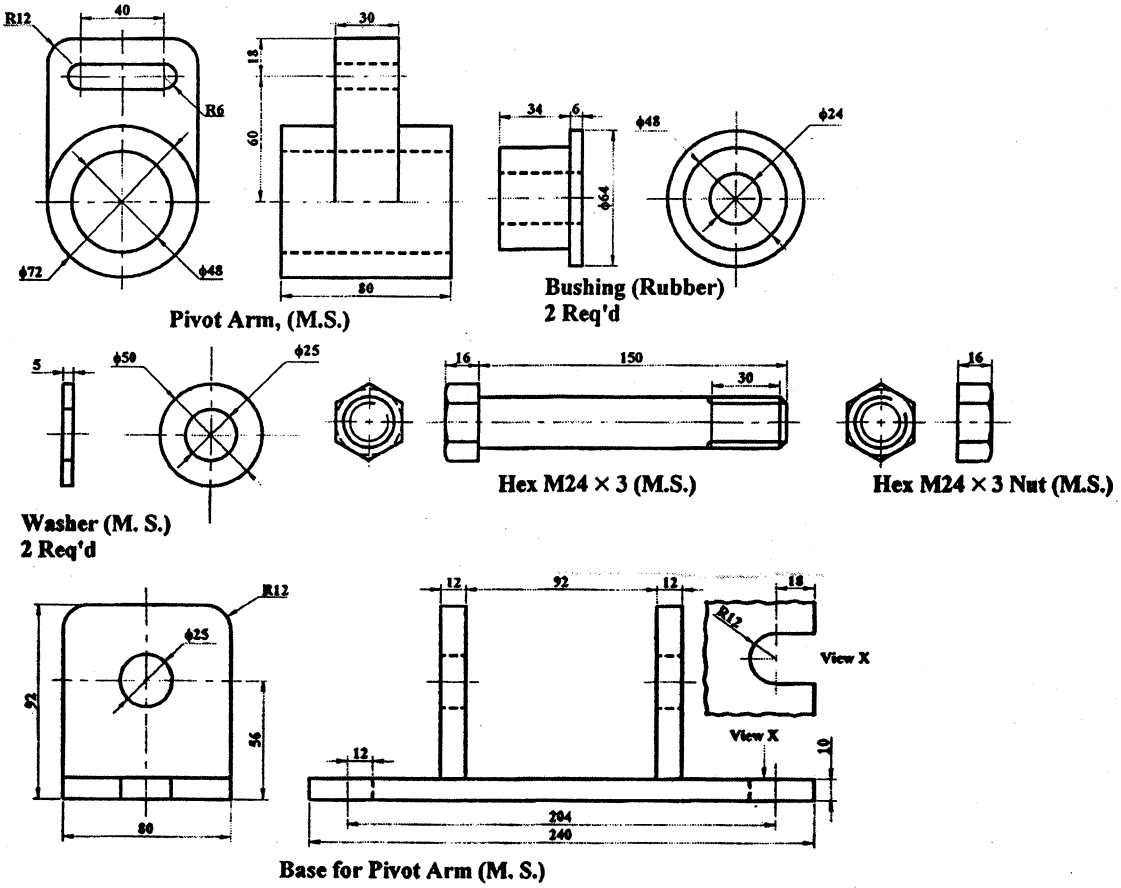

Figure P.5

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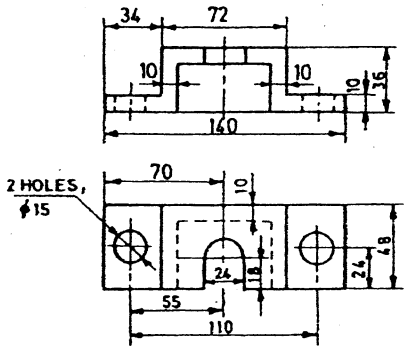
06 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2070 Magh

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

Subject: - Engineering Drawing II *(ME451)*

- ✓ 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 Isometric drawing of the object shown by figure below. [10]



2. A square prism of base 30 mm×30 mm base and height 50 mm is lying in the ground. One of its sides of the base makes angle 30° with the PP and nearest corner is 10 mm behind the PP. The station point is 40 mm in front of PP and 70 mm above from GP and containing by central plane. Draw the perspective view. [6]

3. Sketch top view and sectional front view for a double riveted, double strap zig-zag butt joint, where d=12 mm. [5]

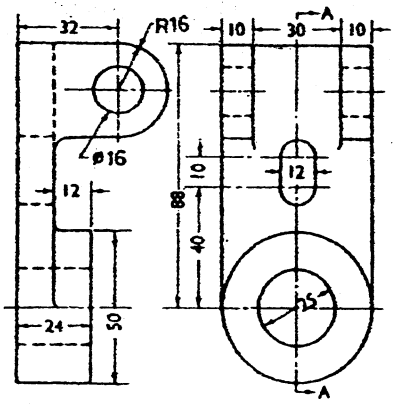
OR

In the free hand sketch make complete fit analysis of the following symbols. 60S6/h12 given: F.D. for 'h' and 'S' are 0.00 and -0/42 respectively; ITG for 6 and 12 are 0.019 and 0.30 respectively. [Indicate type of fit, allowance, upper and lower deviation and shaft basis or hole basis system]

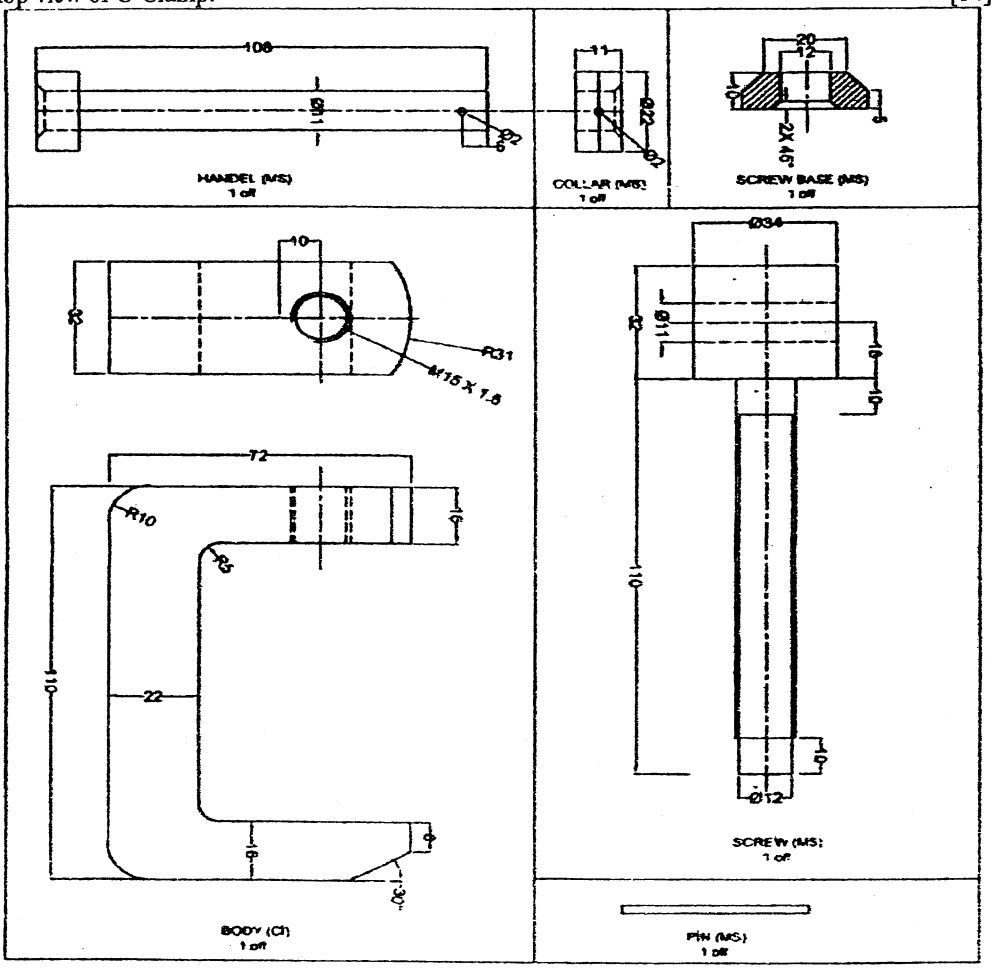
4. Sketch symbols of followings:
   - i) Pond
   - ii) School
   - iii) Amplifier
   - iv) Nipple
   - v) 90° elbow
   - vi) Surface to be obtained without removal of material
   - vii) Surface to be coated
   - viii) Fluorescent bulb
   - ix) Fillet weld
   - x) Cross

OR

Orthographic projection of an object in third angle projection is shown in figure below. Draw its sectional side view, section A-A. [5]



5. Assemble the following detail drawing shown in figure below and draw front view and top view of C-Clamp. [14]



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06 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division

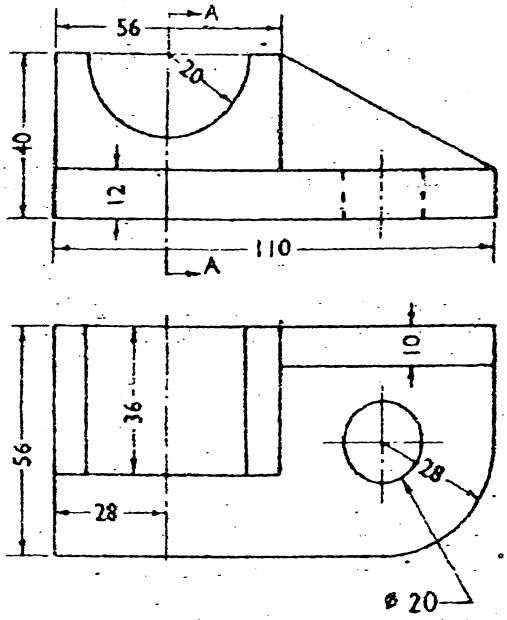
2070 Bhadra

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

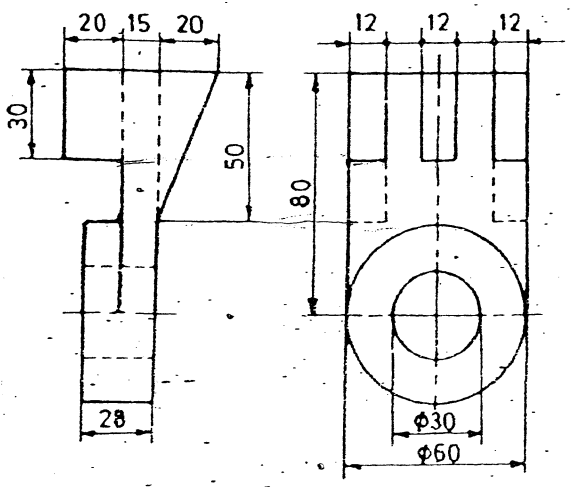
Subject: - Engineering Drawing II *(ME451)*

- ✓ 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. Orthographic views of an object are shown in figure. Draw its isometric view. [10]



2. Draw oblique drawing of the object shown in figure. [6]



3. Sketch the top view and sectional front view of double row, zig-zag type lap riveted joint. Take diameter of the rivet as 12 mm. [5]

OR

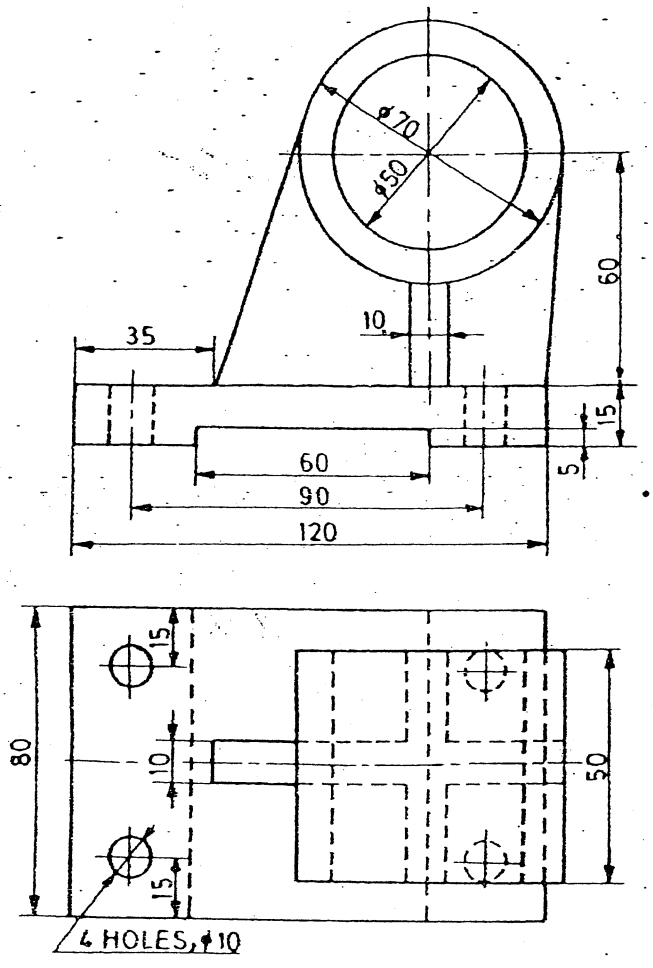
Determine the limits of dimensions and type of fit designated by H7/s6 for the basic size of 100 mm. Take fundamental deviation for H and s respectively as 0.000 and 0.071 mm and international tolerance grades for 7 and 6 as 0.035 and 0.022 mm respectively. [5]

4. Sketch freehand graphical symbol of [5]

a) Battery b) Plug c) Switch d) DC Generator
e) Reducer f) Bridge g) Spot Weld h) Cross
i) External Thread j) Check Valve

OR

Draw full sectional front view of object shown in figure. [5]



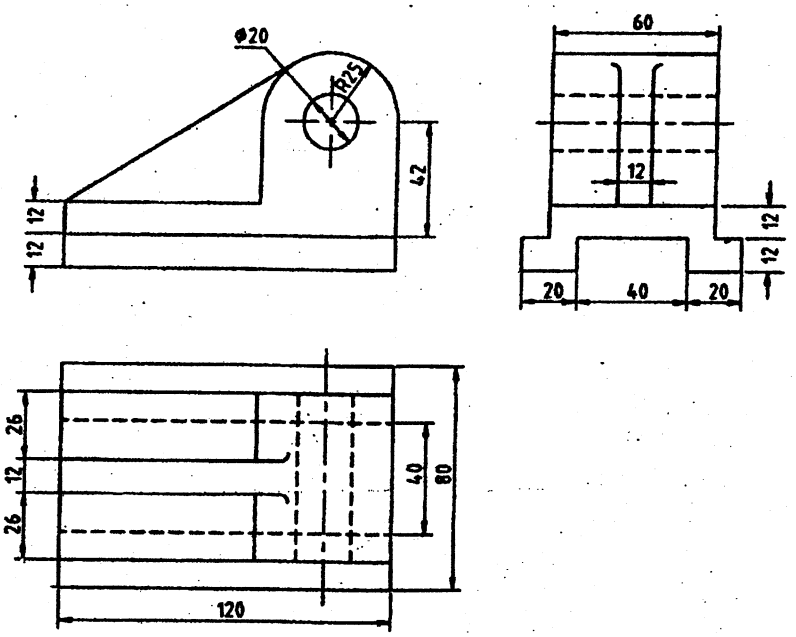
06 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division.
2069 Bhadra

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

Subject: - Engineering Drawing II *(ME451)*

- ✓ 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 the orthographic projections of a guide bracket for a horizontal spindle. Draw its isometric view. [10]



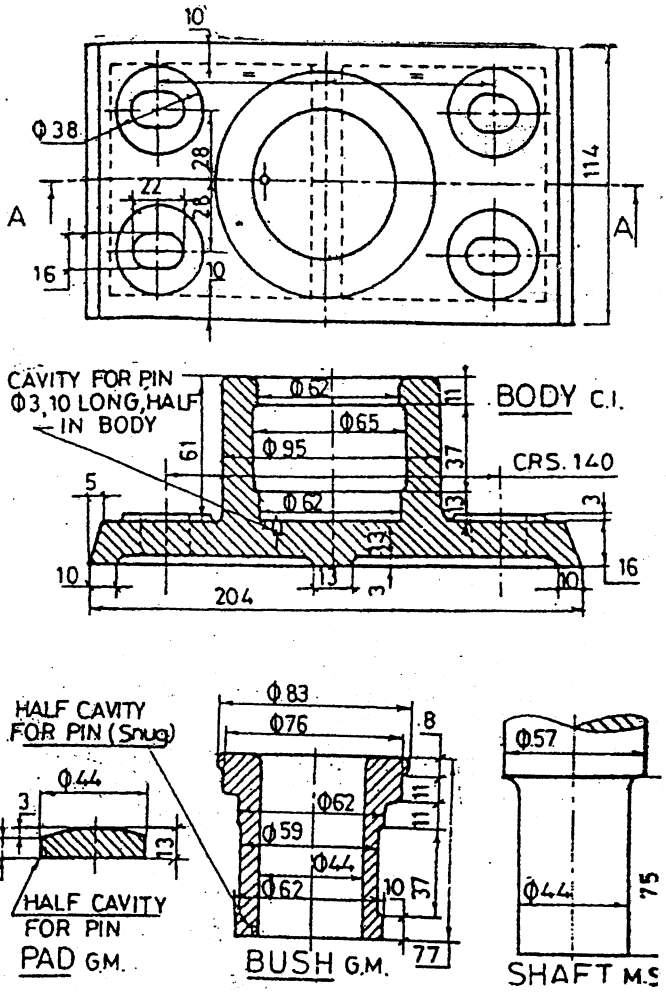
A solid square prism of 30mm side and height 60mm is resting with its base on the ground plane such that its rectangular faces are inclined at 45 degree to the picture plane and the vertical edge nearer to the PP is 15mm behind it. The station point is 60mm in front of PP, 100mm above ground plane and lies in the central plane, which passes from the center of prism. Draw perspective view of the prism. [5]

3. Determine the limits of dimensions for the H6/s7, type of fit and fundamental deviations for the basic size of 50mm, assuming fundamental deviation for "H" and "s" respectively as 0mm above the basic size line and 0.034mm above the basic size line and international tolerance grades for "6" and "7" as 0.016mm and 0.025mm respectively. [5]

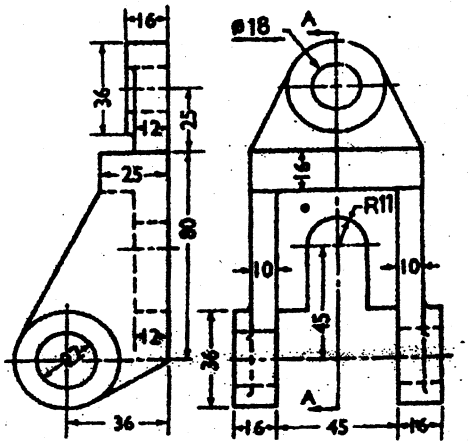
OR

Sketch sectional front view and top view of double row, zig-zag type, double strap butt riveted joint. [5]

4. Draw an assembled sectional front view and top view from the following detail drawings shown in figure below. [15]



5. Orthographic projection of an object in first angle projection is shown in figure below. Draw its sectional front view section A-A. [5]



OR

Sketch the symbols for the following. [5]

a) NPN type transistor
b) Transformer
c) Hill contour
d) Single phase motor
e) Siren
f) Internal thread
g) Elbow 90°
h) Fillet
i) Surface to be obtained by filing
j) Highway bridge

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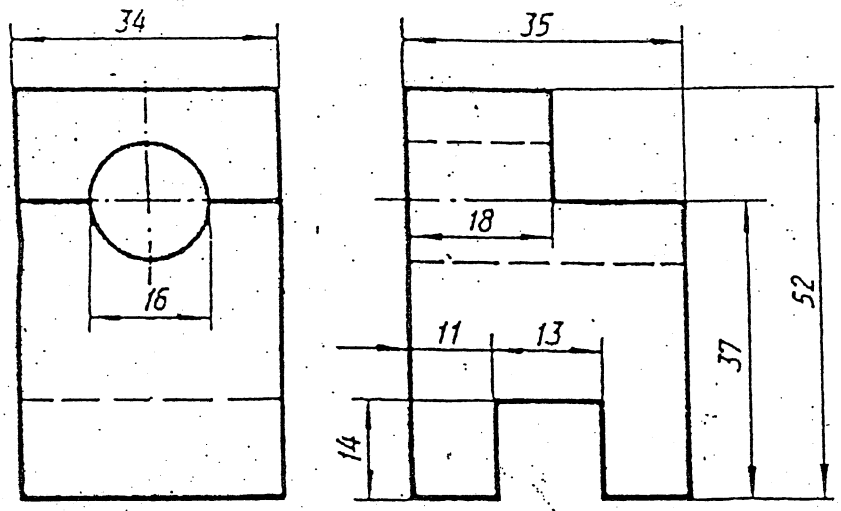
06 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2068 Bhadra

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

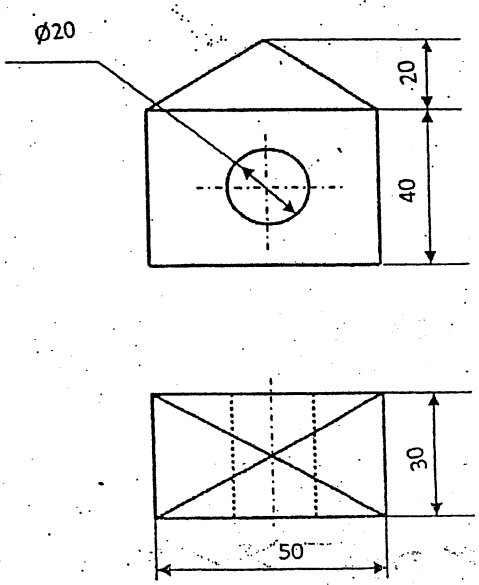
Subject: - Engineering Drawing II

- ✓ 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 isometric drawing of an object shown in figure below. [9]



2. Draw the angular perspective views from given orthographic projections as shown in figure below. [7]

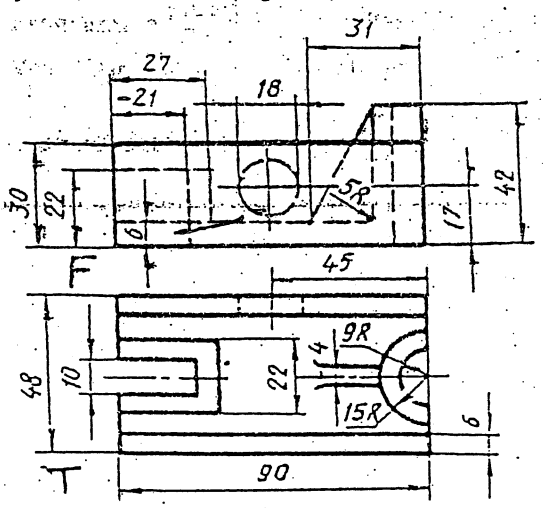


3. Draw the standard symbols for the following: [5]

a) Square butt
b) Cap
c) Surface to obtained by filing
d) Amplifier
e) PNP-type transistor
f) AC motor single phase
g) Angle
h) Antenna
i) Lake
j) Hill contours

OR

Replace front view by sectional view of figure below. [5]

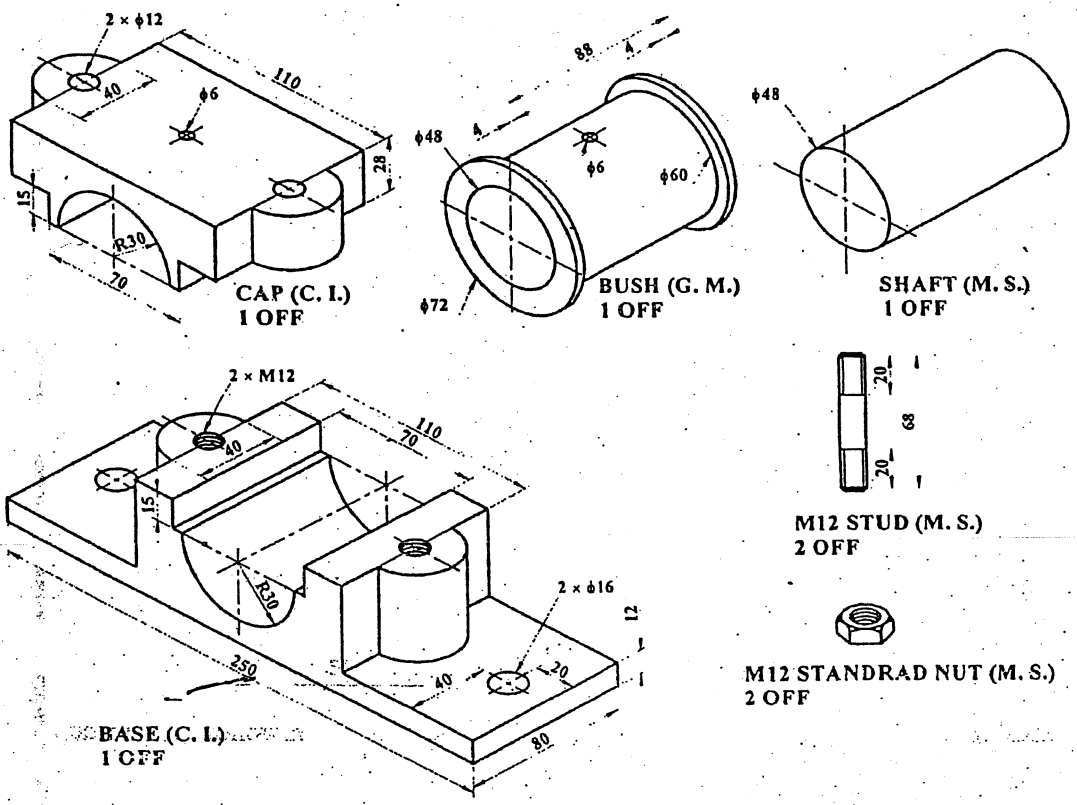


4. Determine the limits of dimensions and type of fit designated by 60 H8/f7, assuming fundamental deviation for H and f respectively as 0 μm above the basic size line and 25μm below the basic size line and the values of international tolerance grades for 8 and 7 as 39 μm and 25 μm. [5]

OR

Draw sectional front view and top view of double row, zig-zag type, single strap butt riveted joint.

5. Draw the assembled front view with section from the following detail drawings shown in figure below. [14]



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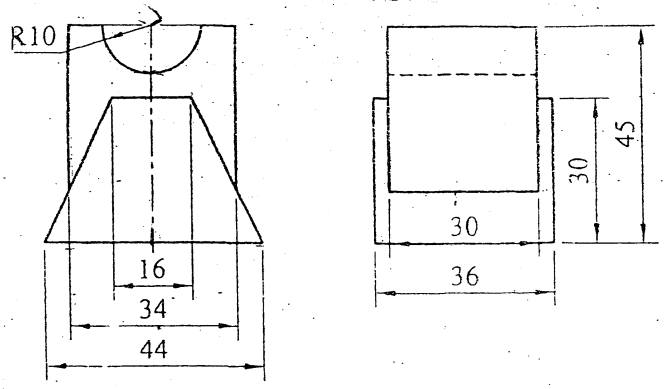
06 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2067 Mangsir

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

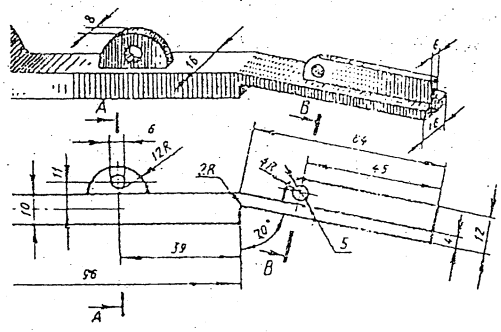
Subject: - Engineering Drawing II

- ✓ 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. Orthographic views of an object are shown in figure below. Draw its isometric view. [10]



2. A solid box of size 60 × 45 × 40mm is resting with it's base (60 × 45) on the ground plane. Draw it's angular perspective view with it's vertical faces equally inclined to the picture plane (PP) and the nearest vertical edge is touching the PP. The station point is 80mm above ground level, 40mm away from the PP and the central plane passes from the vertical edge which is touching the PP. [5]
3. The production drawing of coupling is shown in figure 3. Draw its assembled half sectional front view and side view. [15]
4. Sketch revolved section at A-A and removed section at B-B for the link as shown in figure below. [5]



OR

Sketch the graphical symbols for the following. [5]

a) End view of external thread
b) Capacitor
c) Square section
d) Resistor
e) Thermocouple
f) Hill contour
g) Delta connection
h) Circuit breaker
i) V-weld
j) Church

5. Determine limits, tolerance, allowance and types of fit designated by 80T8/h5. The value of fundamental deviation given by 'h' is zero and 'T' is –0.024mm. International tolerance grades for 8 and 5 are 0.032mm and 0.014mm respectively. [5]

OR

Sketch the single strap, double row, zig zag butt joint with top view and sectional front view. [5]

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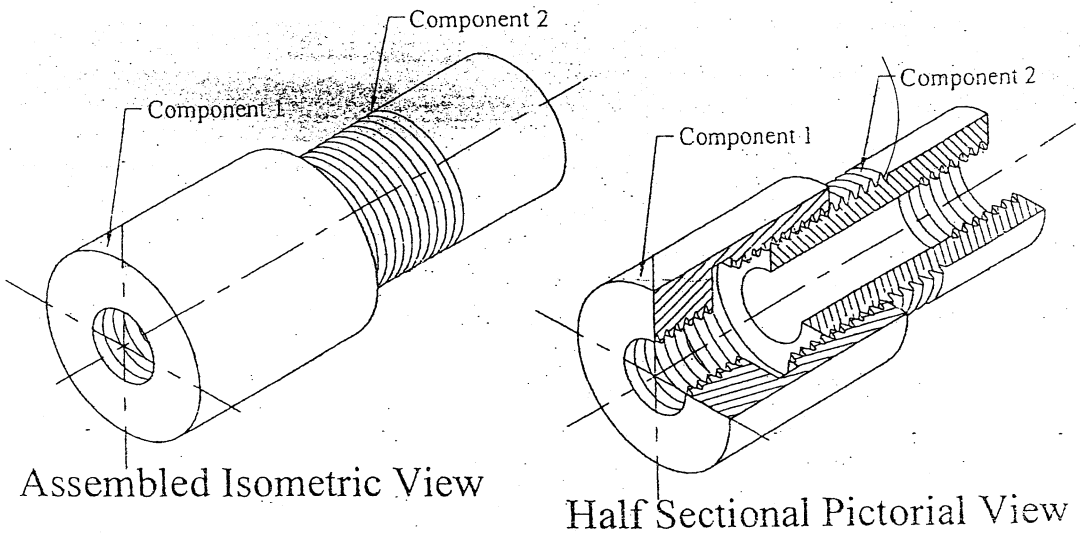
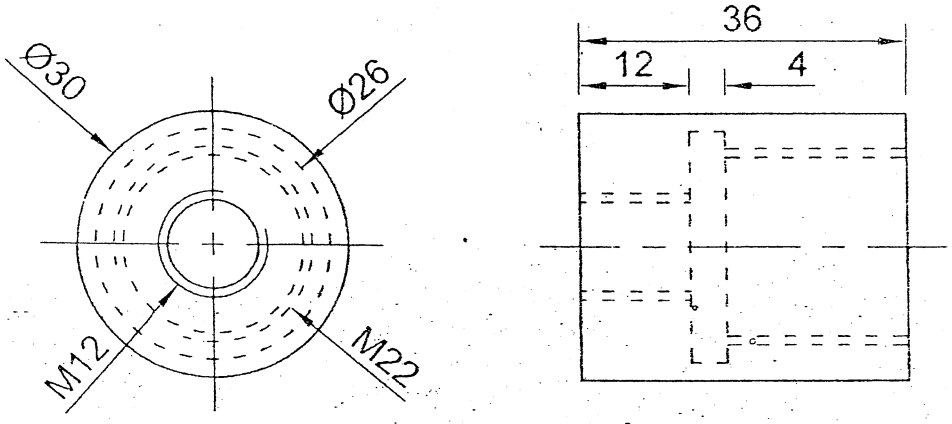


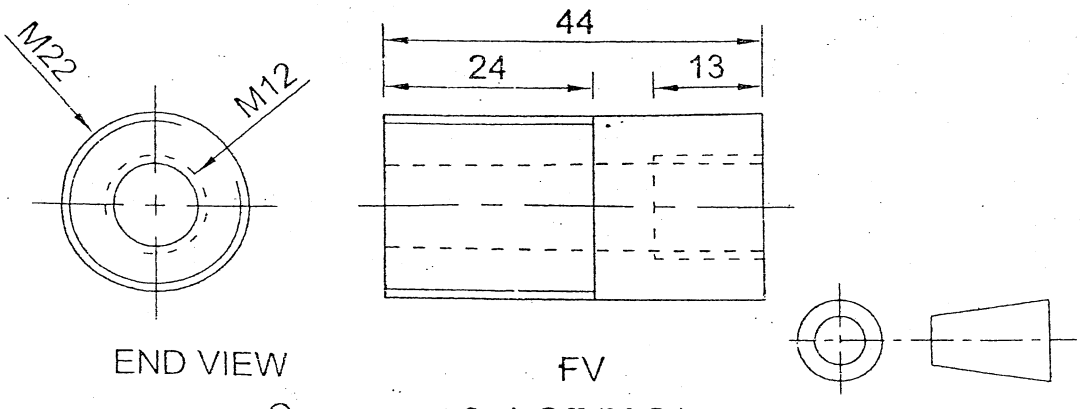
Assembled Isometric View

Half Sectional Pictorial View



END VIEW FV

Component 1, 1-Off (M.S.)



END VIEW FV

Component 2, 1-Off (M.S.)

All dimensions are in mm

Figure 3

04 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2067 Chaitra

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

Subject: - Engineering Drawing II

- ✓ 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. Orthographic views of an object are shown in Figure 1. Draw its isometric view. [10]
2. A solid cube having 50mm sides, is resting with it's flat base on the ground plane. Draw its angular perspective view with it's vertical faces equally inclined to the picture plane (PP) and the nearest vertical edge is touching the PP. The station point is 80mm above ground level, 40mm away from the PP and the central plane passes from the centre of the solid cube. [5]
3. The production drawing of coupling is shown in figure 3. Draw its assembled half sectional front view and the side (or end) view. [15]

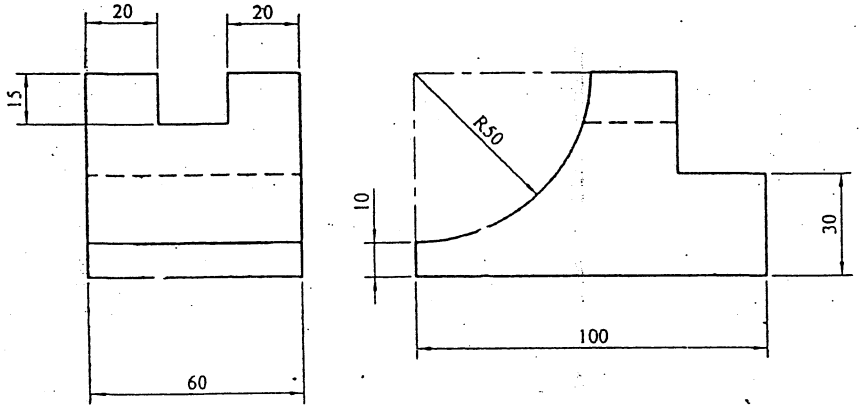


Figure 1

4. Sketch revolved section at A-A and removed section at B-B for the link as shown in figure 4. [5]

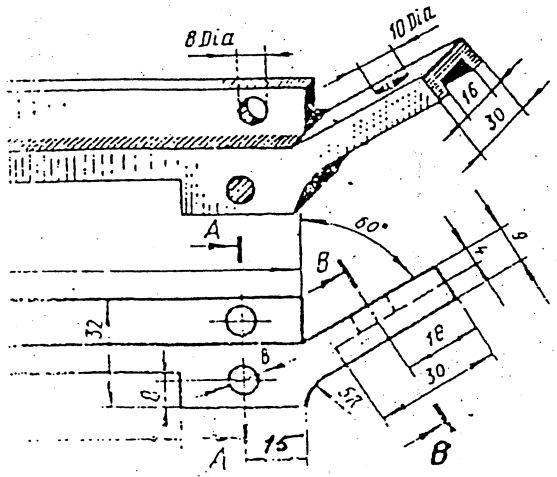


Figure 4

OR

OR

Sketch the symbols for the following: [5]

a) Single U Butt weld
b) Reducing pressure valve
c) Wall mounted fan
d) Siren
e) Rectifier
f) Antenna
g) Capacitor
h) Multidirectional lay
i) Embankment
j) Thermocouple

5. Determine limits, tolerance, allowance and types of fit designated by 60B7/h8. The fundamental deviation of hole is 0.042 mm more than fundamental deviation of shaft. International tolerance grades for 6 and 7 are 0.024 mm and 0.021 mm respectively. The value of fundamental deviation given by 'h' is zero. [5]

OR

Sketch the triple row, zigzag lap joint with top view and sectional front view. [5]

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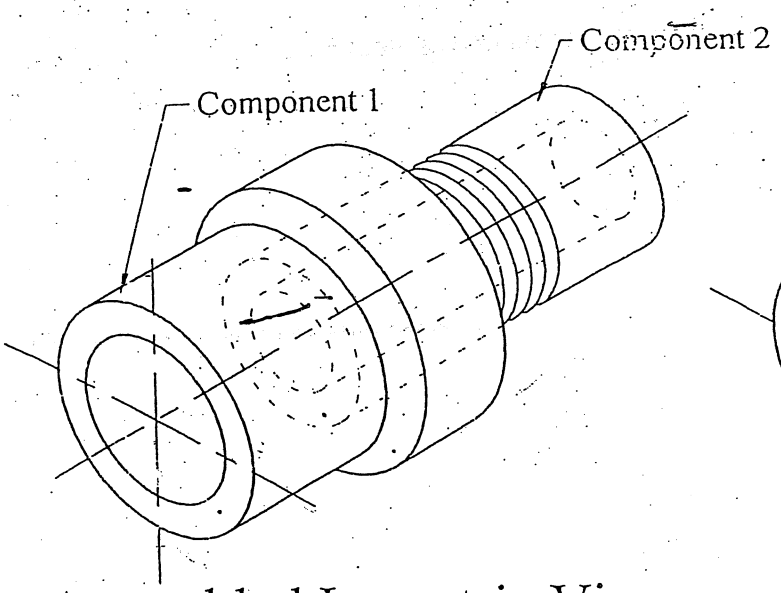
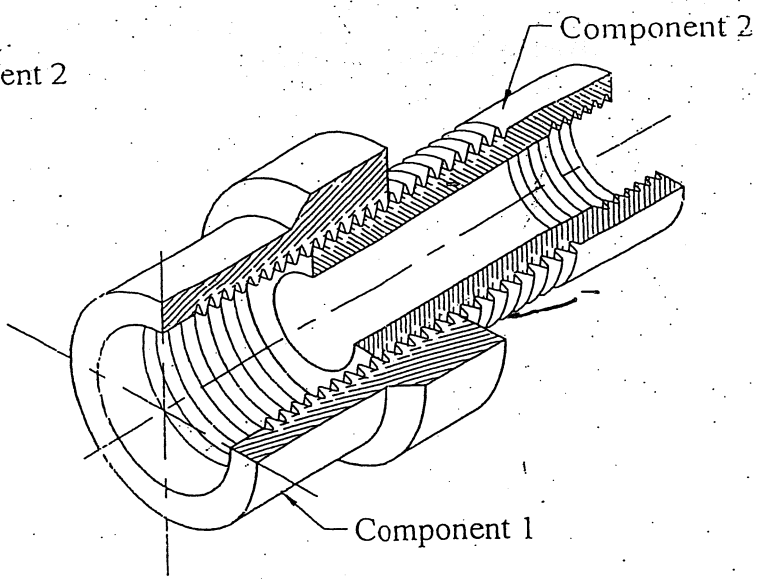
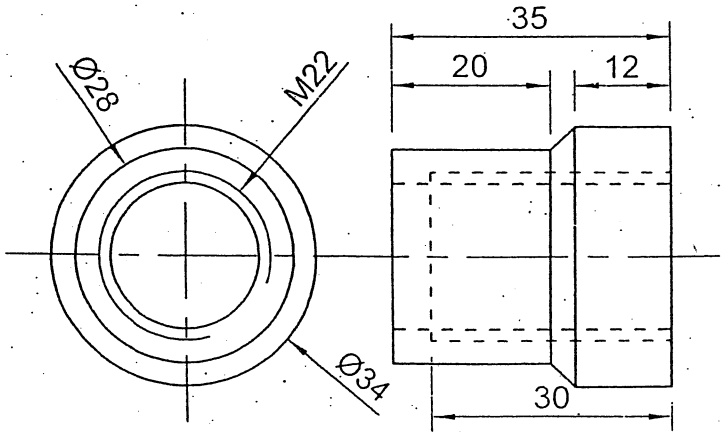


Assembled Isometric View

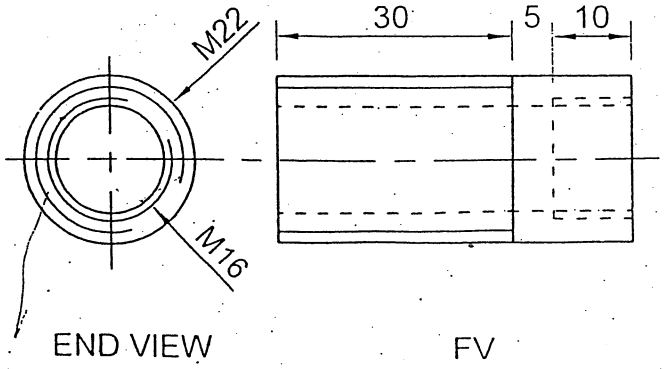


Half Sectional Pictorial View



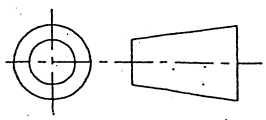
END VIEW FV

Component 1, 1-Off (M.S.)



END VIEW FV

Component 2, 1-Off (M.S.)



All dimensions are in mm

Fig. 3

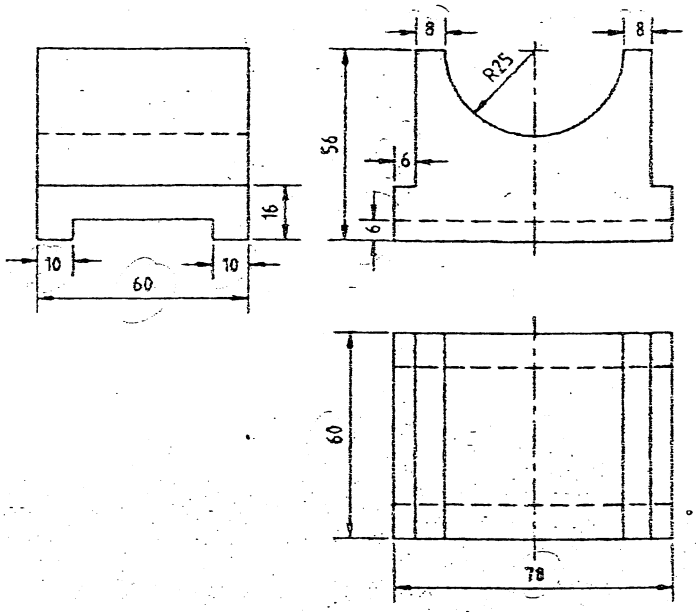
04 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2066 Magh

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

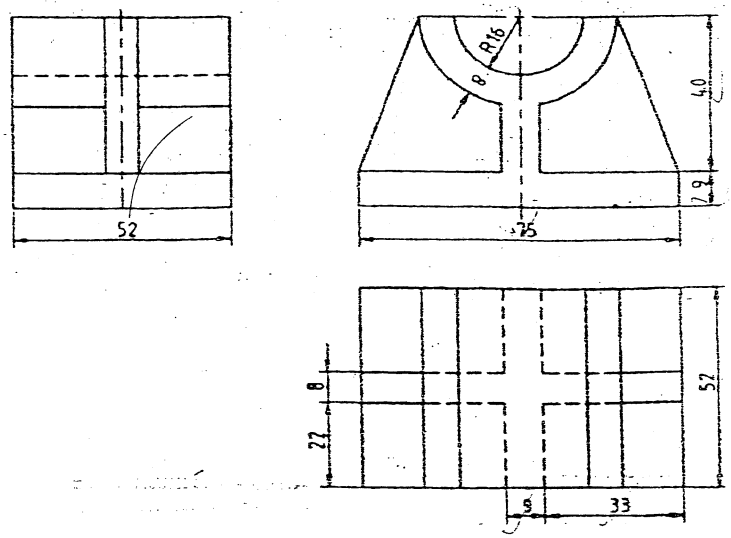
Subject: - Engineering Drawing II

- ✓ 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**.*
- ✓ *Dimensions in mm if not specified.*
- ✓ *Assume suitable data if necessary.*

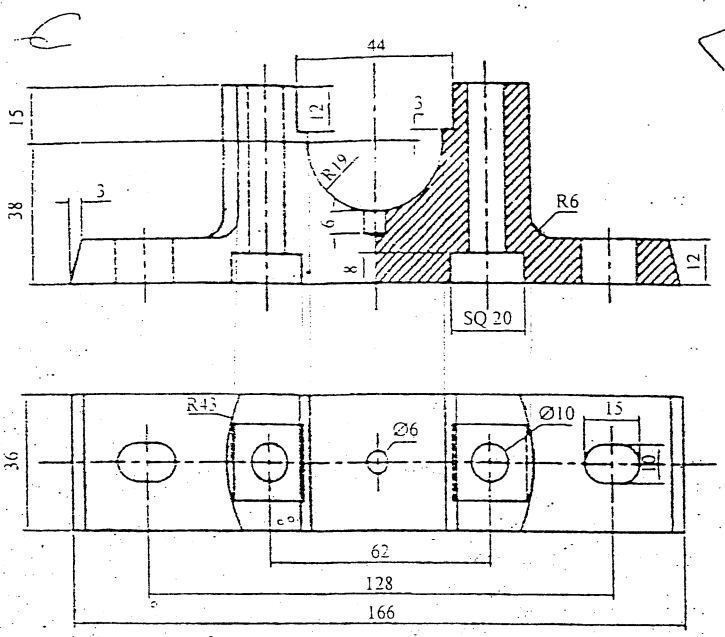
1. Orthographic views of an object are shown in figure. Draw its isometric view. [9]



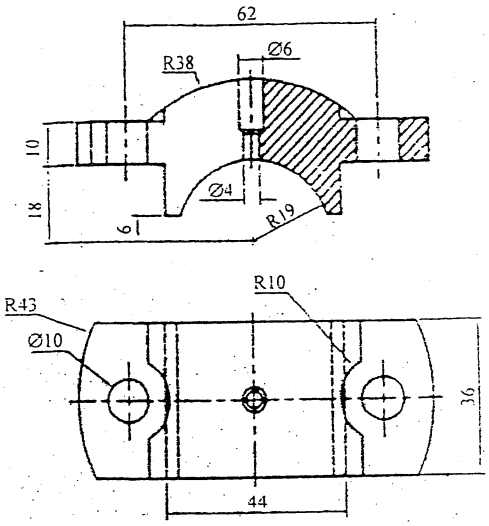
2. Orthographic views of an object are shown in figure. Draw its oblique view. [6]



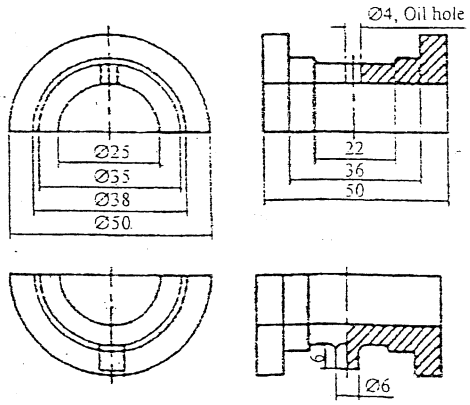
3. The production drawing of plumber block is shown in figure. Draw its assembled half sectional front view. [15]



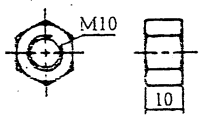
CASTING, C.I. 1 OFF



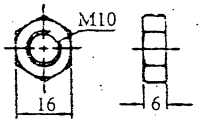
CAP, C.I. 1 OFF



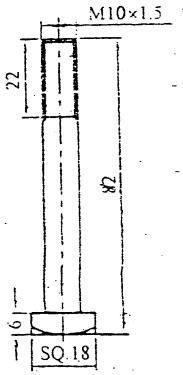
BRASS, G.M. 1 OFF



HEX. NUT, M.S. 1 OFF



LOCK NUT, M.S. 1 OFF



BOLT, M.S. 1 OFF

4. Determine the limits of dimensions and type of fit designated by H8/d9 for the basic size of 50mm, assuming fundamental deviation for H and d respectively as 0 μm and 80 μm below the basic size line and international tolerance grades for 8 and 9 as 39 μm and 62 μm respectively. [5]

OR

Sketch the plan and sectional elevation of double riveted zig-zag lap joint.

5. Draw the standard symbols for the followings: [5]

a) Seam Weld
b) Field Weld
c) Union
d) Globe Valve
e) Channel Section
f) I Beam
g) Two way Switch
h) 3-phase Motor
i) Depression Contours
j) Capacitor

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INSTITUTE OF ENGINEERING

Examination Control Division

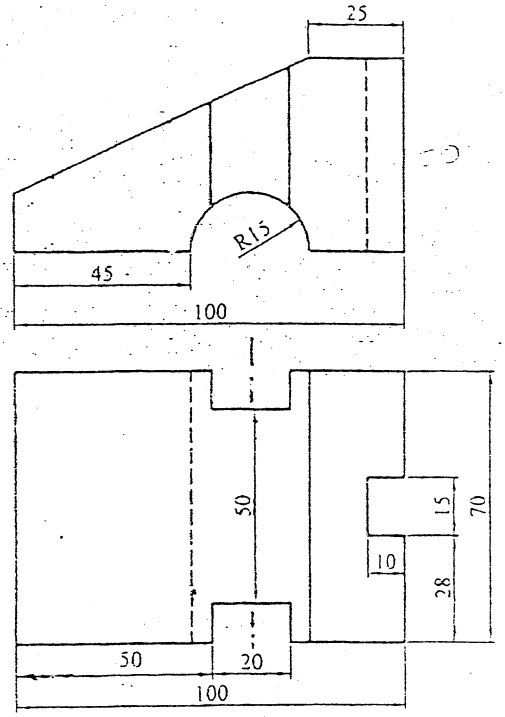
2066 Magh

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

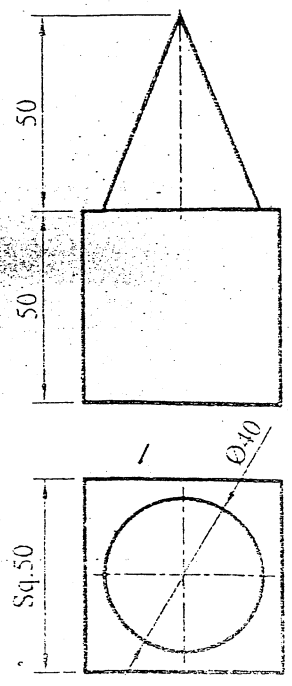
Subject: - Engineering Drawing II

- ✓ 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.*

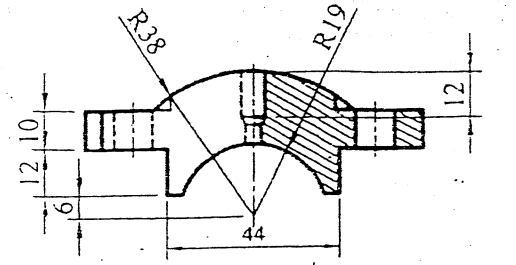
1. Orthographic views of an object are shown in given figure. Draw its oblique view. [9]

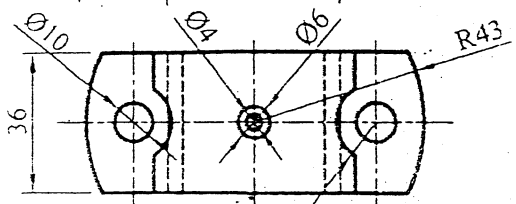


2. Draw the oblique view of object from the given orthographic views as shown in given figure. [6]



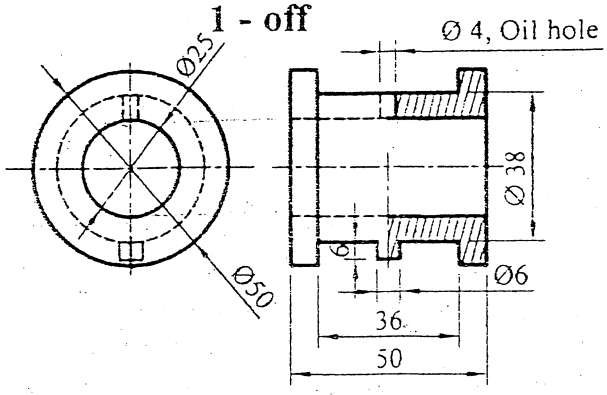
Plummer block in given figure. [15]

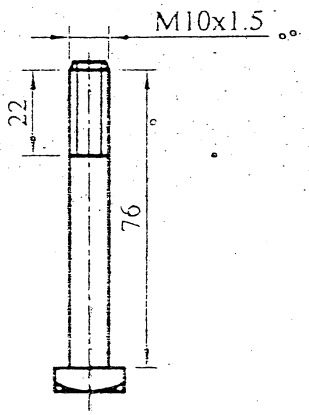




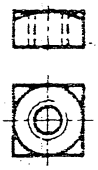
Cap, CI
1 - off

Brass, GM
1 - off

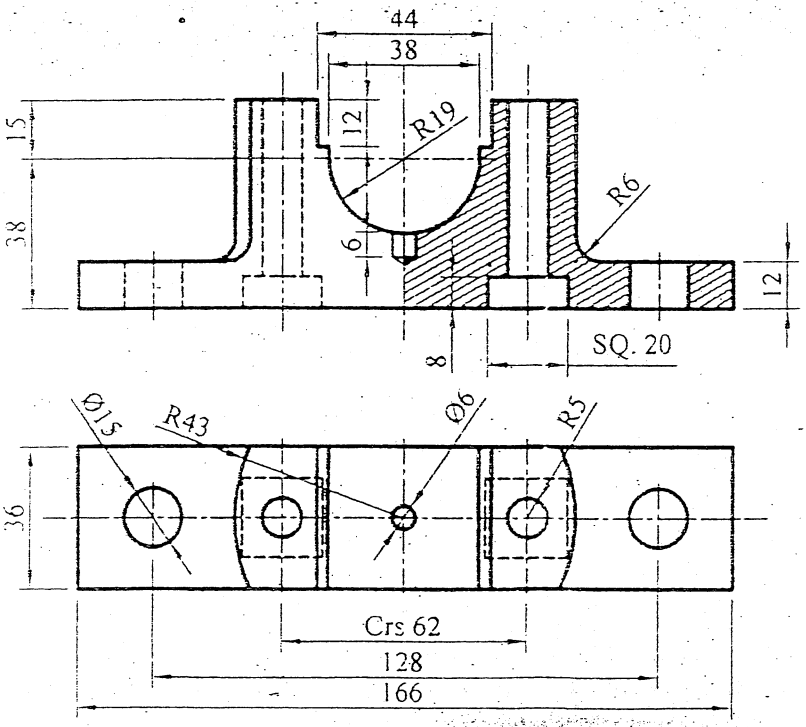




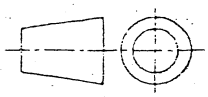
Sq. M10x1.5 Bolt
2 - off



Sq. M10x1.5 Nut
2 - off



Casting, CI
1- off



All dimensions are in mm.

4. Determine limits, tolerance, allowance and type of fit designated by 55T8/h5. The value of fundamental deviation 'T' is –0.024mm . International tolerance grades values for 8 and 5 are 0.031mm and 0.013mm respectively. [5]

5. Draw the standard symbols for the following: [5]

a) Seam Weld
b) Cap
c) Incandenscent lamp
d) Surface produced by casting
e) Nipple
f) Tubular structural member
g) Resistor
h) Depression counter
i) Bell
j) End view of external thread

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