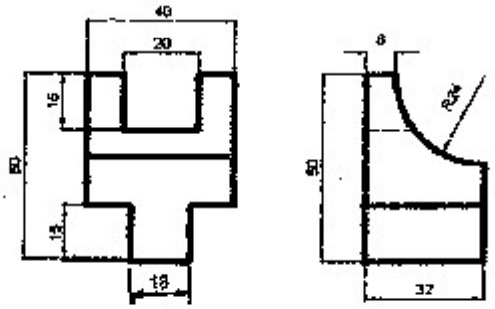
06 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2071 Bhadra

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)*

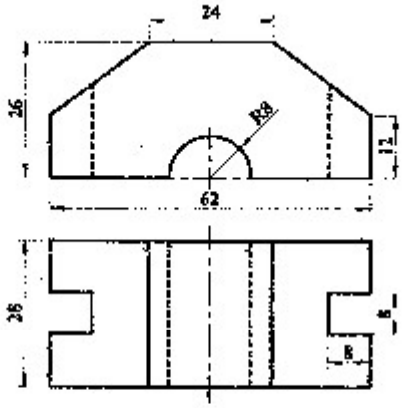
- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ *Attempt **All** questions.*
- ✓ *The figures in the margin indicate **Full Marks**.*
- ✓ *Assume suitable data if necessary.*

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



Front View Side View

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

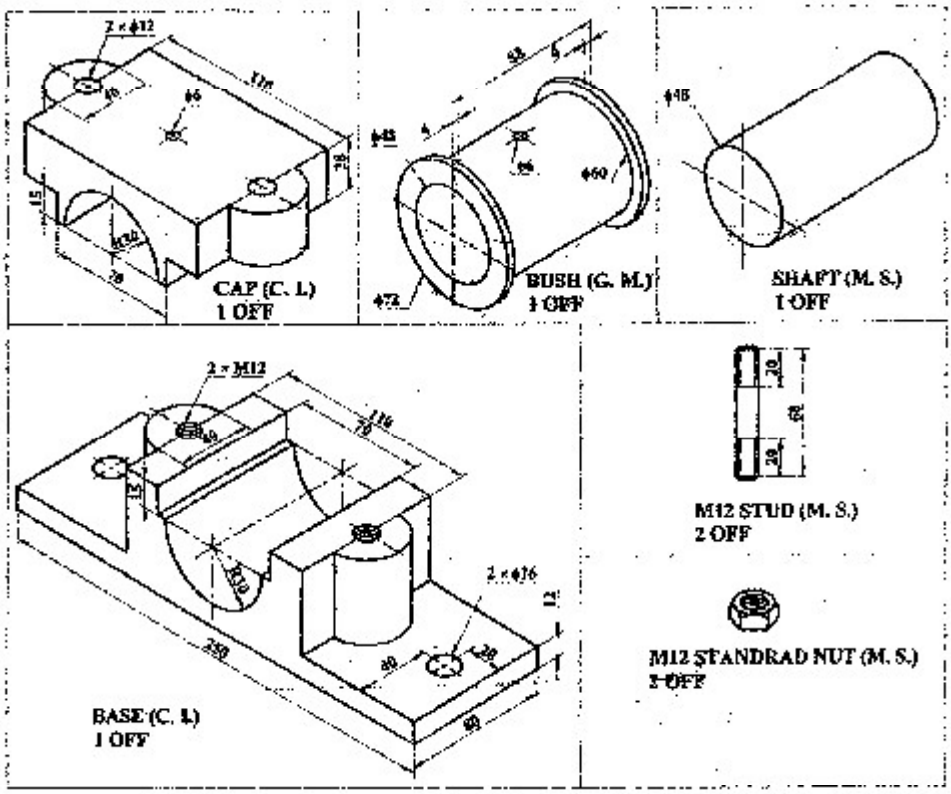


3. Determine the limit, tolerance, allowances and type of fit for 50 H7/p6. The value of fundamental deviation given by H is zero and p is above the basic line and value is 0.032 mm, and international tolerance given by 7 is 0.025 and 6 is 0.016 mm respectively. [4]

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]

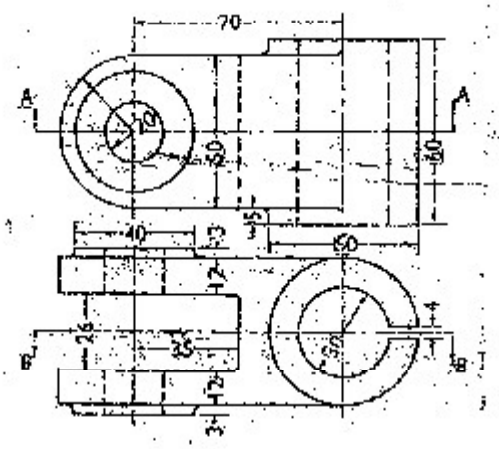


5. Draw the standard symbols for the following: [5]

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 <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 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 0.054 mm and 0.042 mm respectively. [5]

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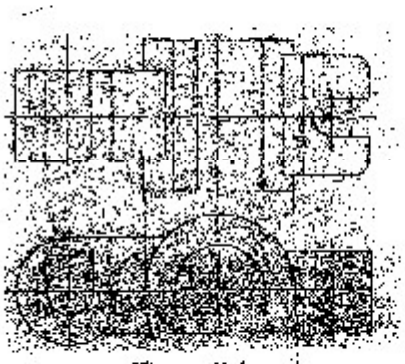

Figure P.1

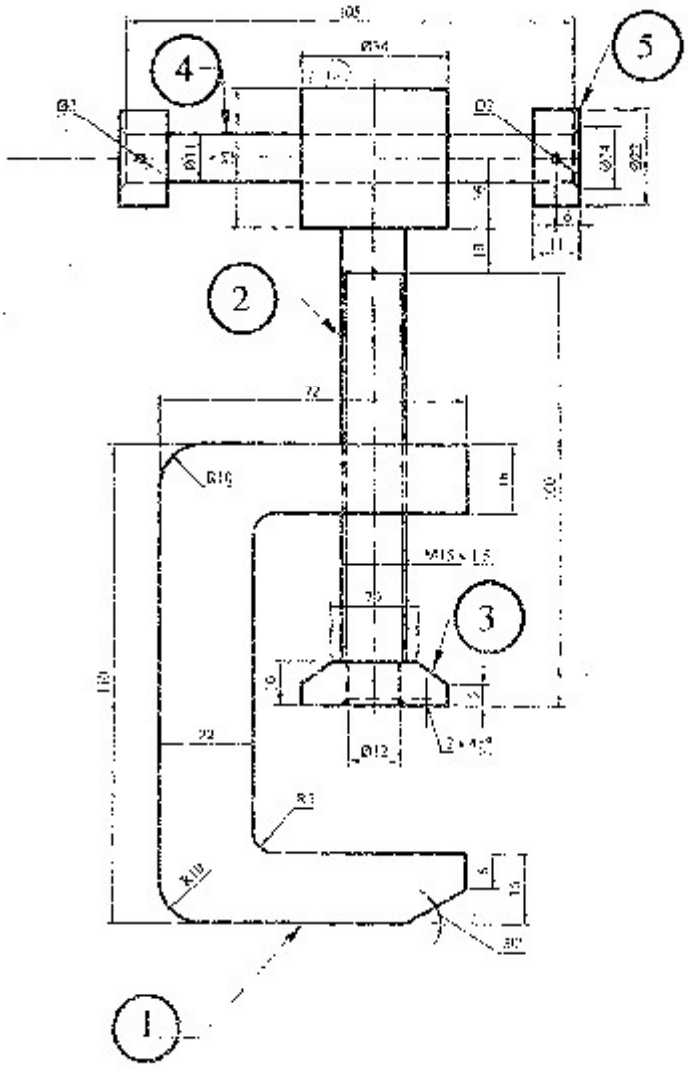

Figure P.4

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]**

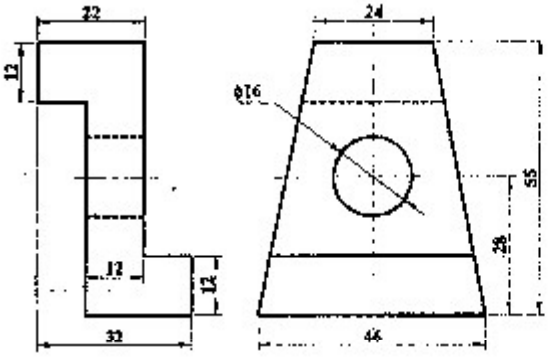

Figure P.1

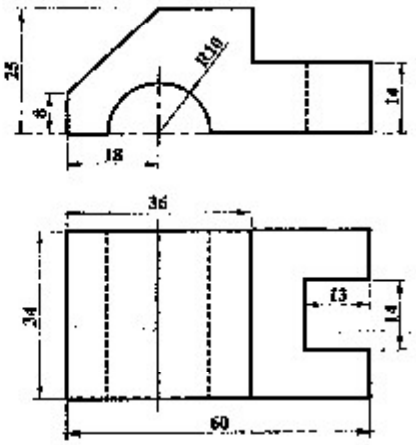

Figure P.2

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]**

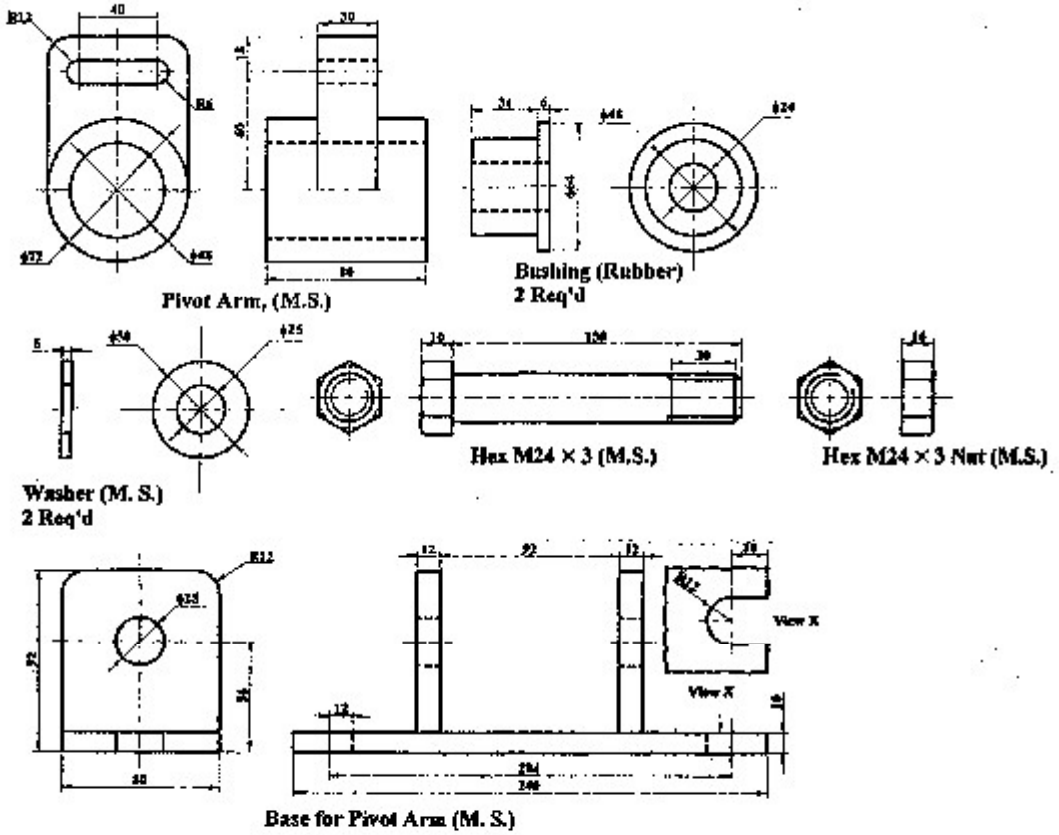

Figure P.5

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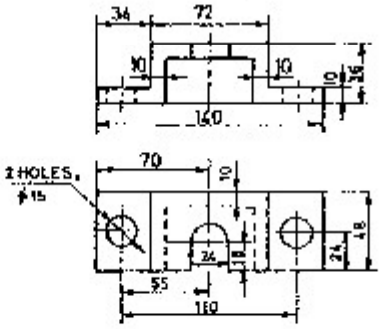
06 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2070 Magh

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

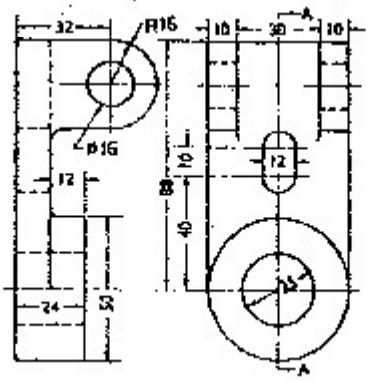
In the free hand sketch make complete fit analysis of the following symbols. 60S6/h12 given: F.D. for 'h' and 'S' are 0.00 and -0/42 respectively; ITG for 6 and 12 are 0.019 and 0.30 respectively. [Indicate type of fit, allowance, upper and lower deviation and shaft basis or hole basis system]

4. Sketch symbols of followings:

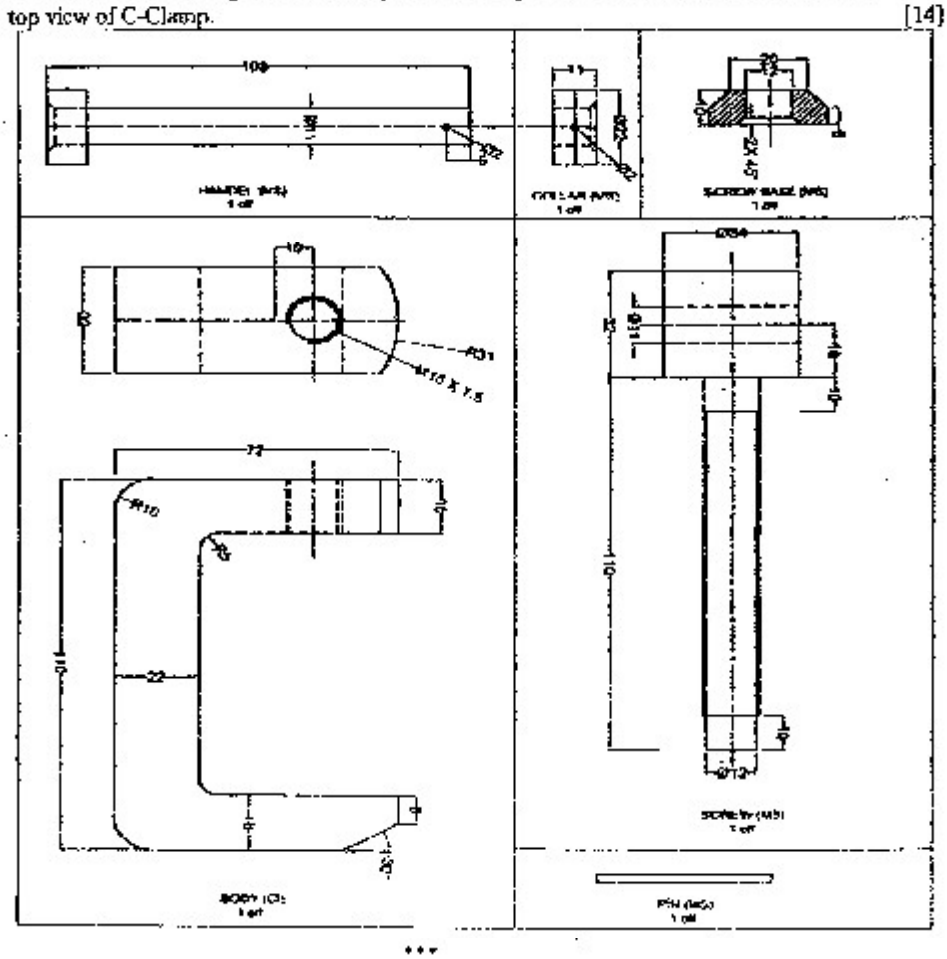
i) Pond	vi) Surface to be obtained without removal of material
ii) School	vii) Surface to be coated
iii) Amplifier	viii) Fluorescent bulb
iv) Nipple	ix) Fillet weld
v) 90° elbow	x) Cross

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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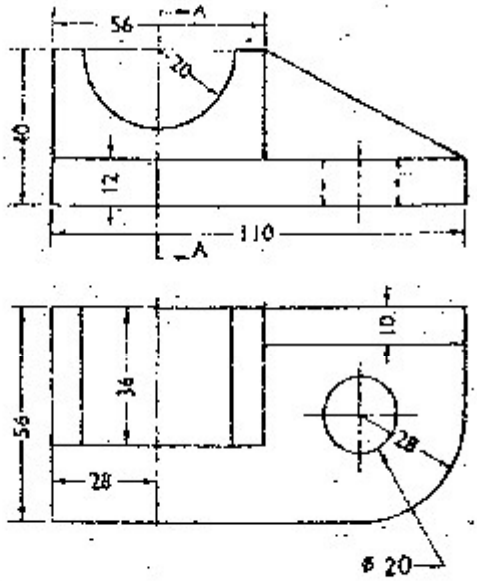
06 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2070 Bhadra

Exam.	Regular		
Level	BE	Full Marks	40
Programme	All (Except B.Arch.)	Pass Marks	16
Year / Part	1 / II	Time	3 hrs.

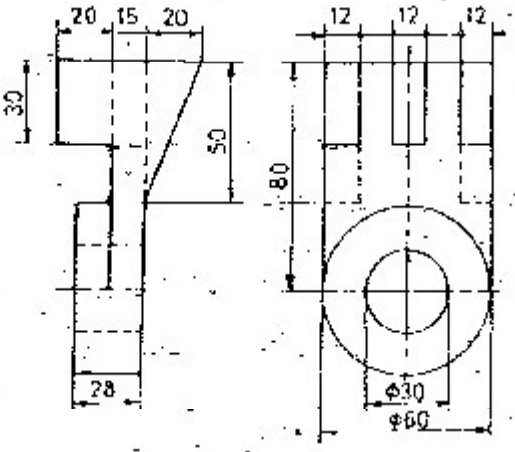
Subject: - Engineering Drawing II *(ME451)*

- ✓ 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

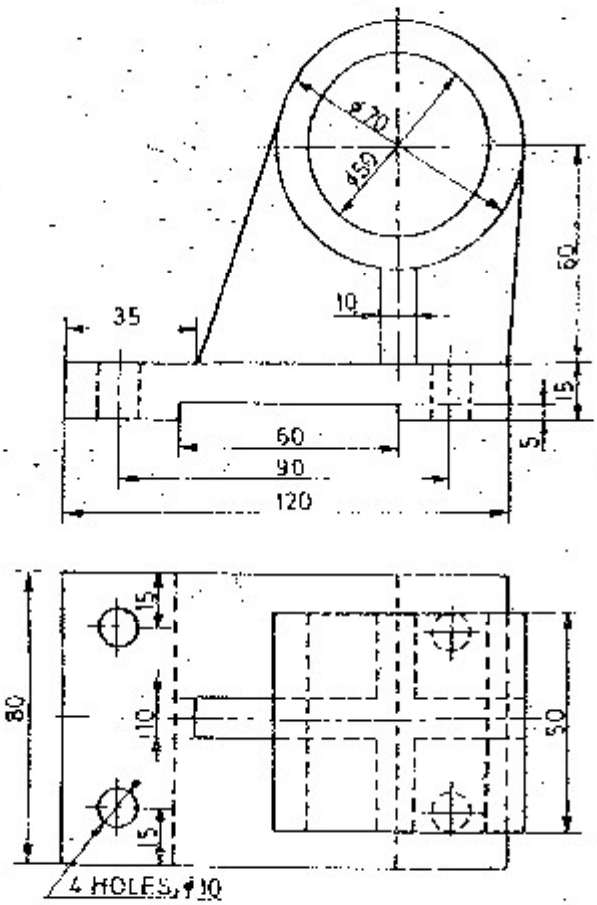
Determine the limits of dimensions and type of fit designated by H7/s6 for the basic size of 100 mm. Take fundamental deviation for H and s respectively as 0.000 and 0.071 mm and international tolerance grades for 7 and 6 as 0.035 and 0.022 mm respectively. [5]

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]



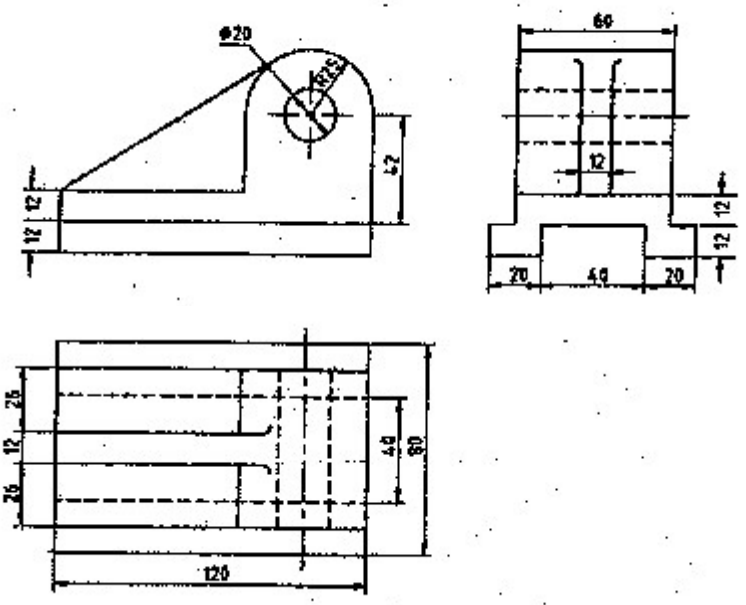
06 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2069 Bhadra

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]



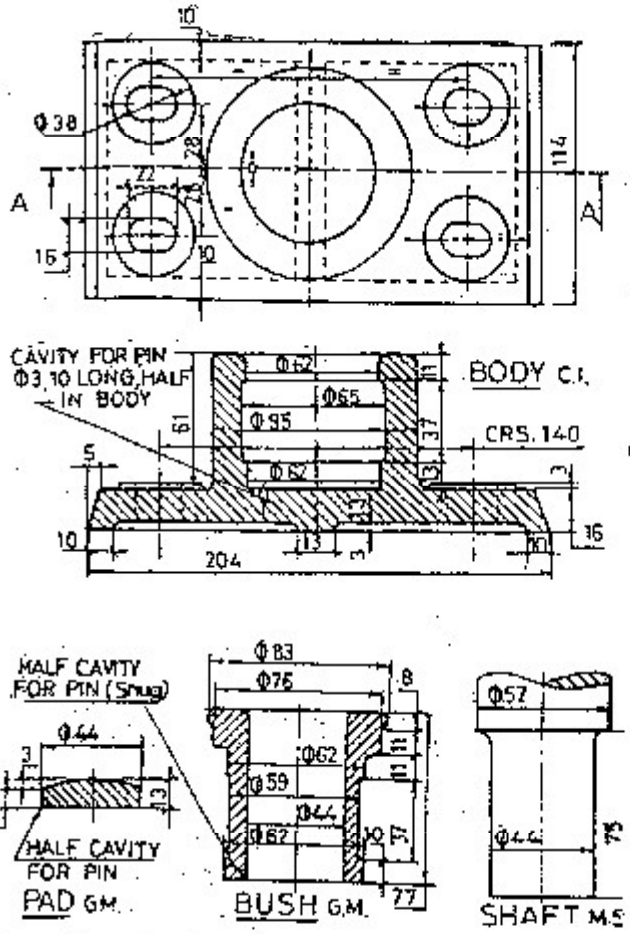
2. A solid square prism of 30mm side and height 60mm is resting with its base on the ground plane such that its rectangular faces are inclined at 45 degree to the picture plane and the vertical edge nearer to the PP is 15mm behind it. The station point is 60mm in front of PP, 100mm above ground plane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

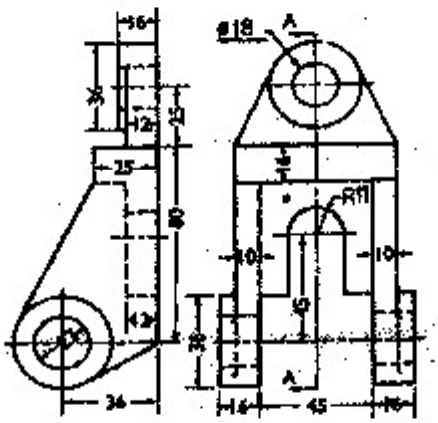
OR

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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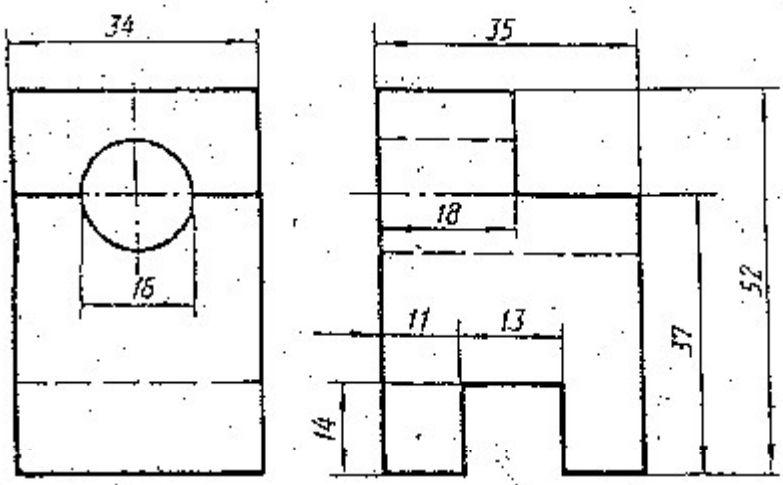
06 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2068 Bhadra

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

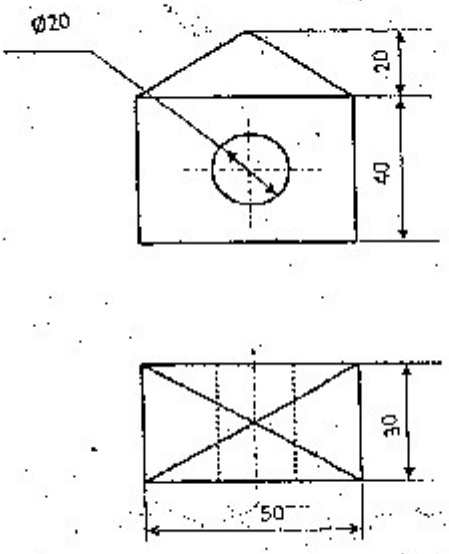
Subject. - Engineering Drawing II

- ✓ 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]

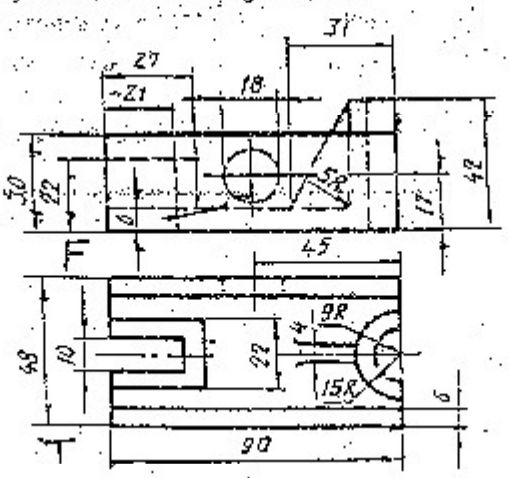


3. Draw the standard symbols for the following. [5]

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]

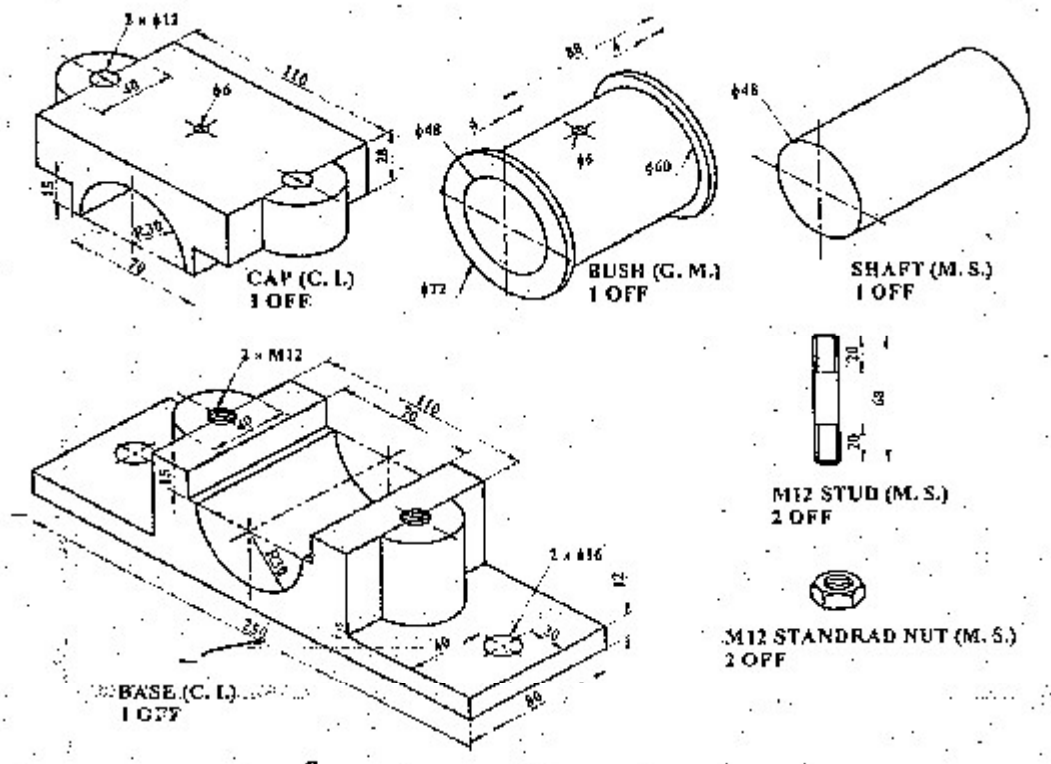


4. Determine the limits of dimensions and type of fit designated by 60 H8/f7, assuming fundamental deviation for H and f respectively as 0 μm above the basic size line and 25μm below the basic size line and the values of international tolerance grades for 8 and 7 as 39 μm and 25 μm. [5]

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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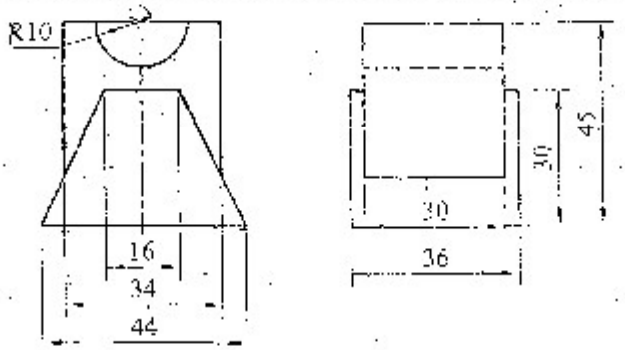
08 TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2067 Mangsir

Exam	Regular / Back		
Level	BE	Full Marks	80
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.*

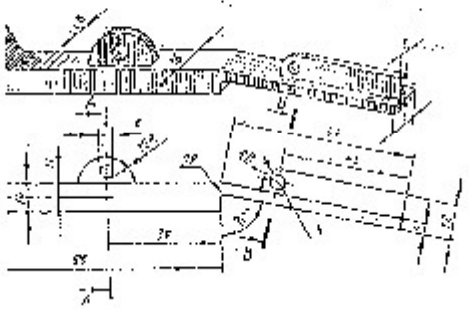
1. Orthographic views of an object are shown in figure below. Draw its isometric view [10]



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) Channel

5 Determine limits, tolerance, allowance and types of fit designated by 80H8/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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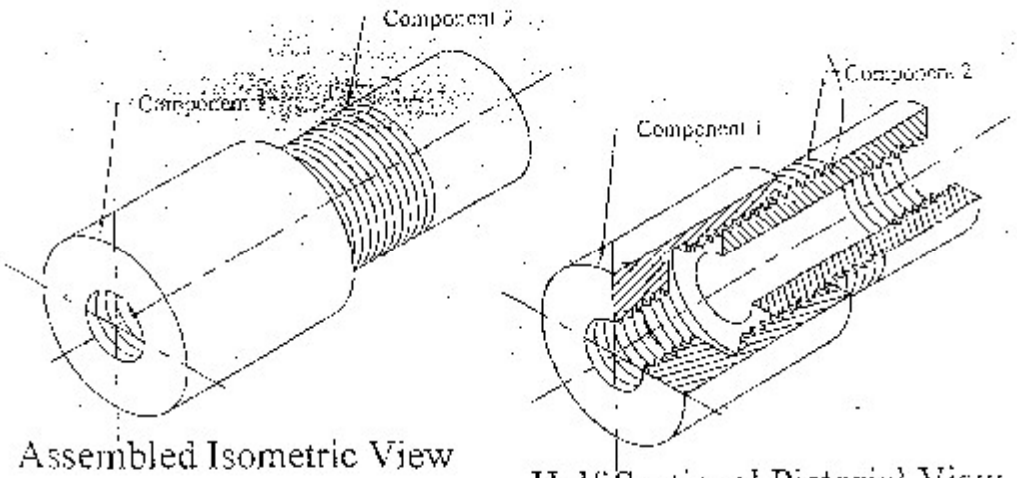
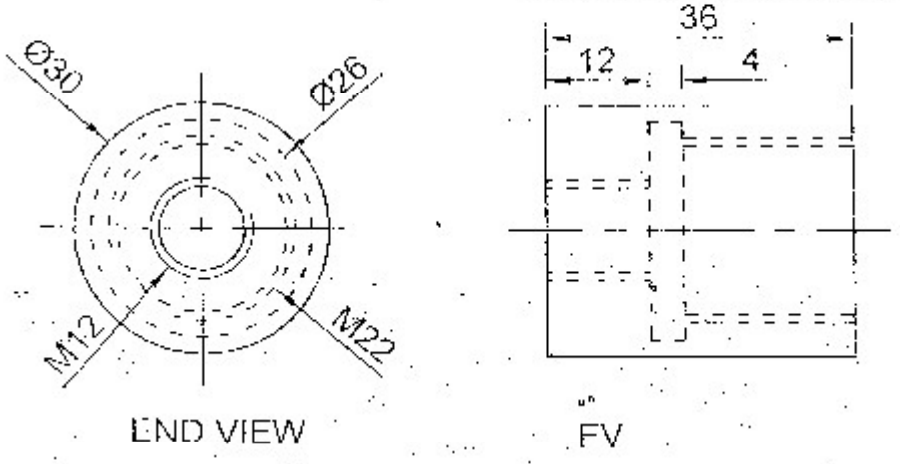


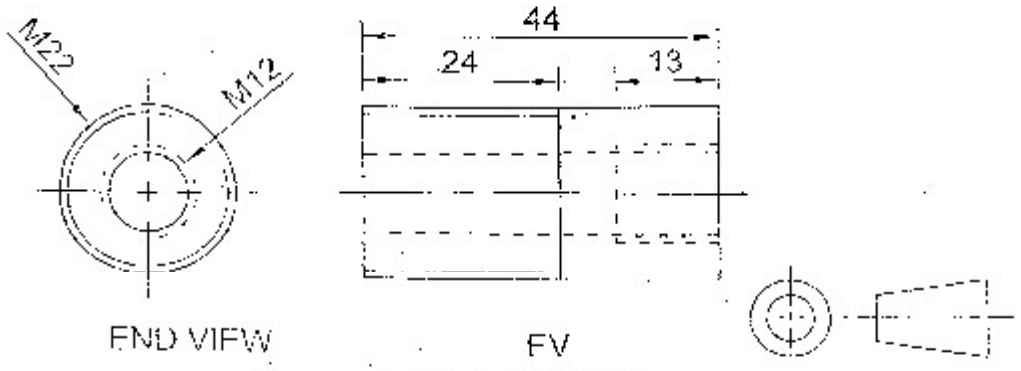
Assembled Isometric View

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]

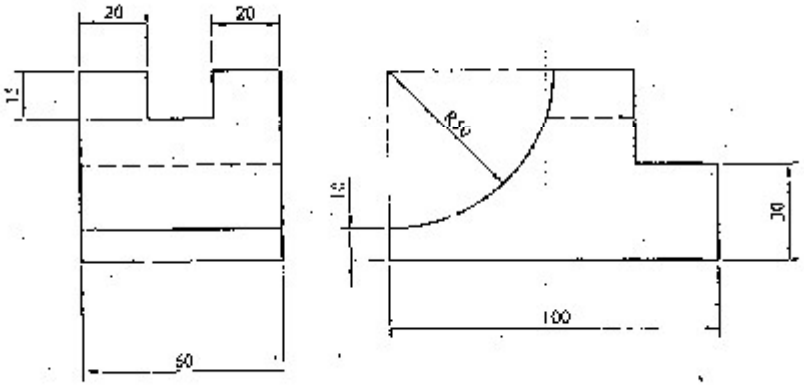


Figure 1

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

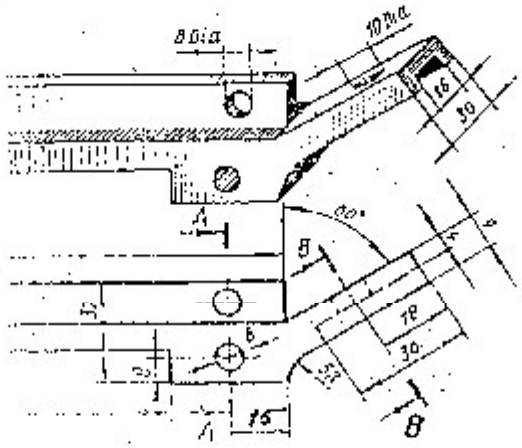


Figure 4

OR

OR

Sketch the symbols for the following: [5]

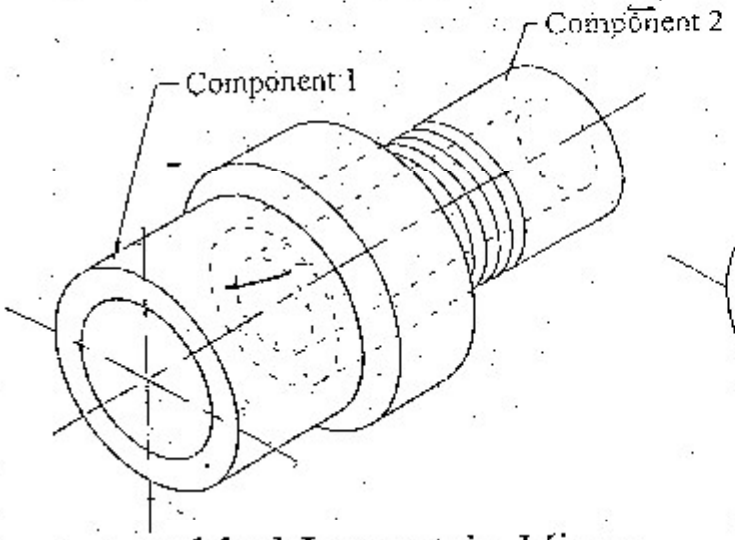
a) Sinigle U Butt weld
b) Reducing pressure valve
c) Wall mounted fan
d) Siren
e) Rectifier
f) Antenna
g) Capacitor
h) Multidirectional lay
i) Embankment
j) Thermocouple

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 8 and 7 are 0.024 mm and 0.021 mm respectively. The value of fundamental deviation given by 'h' is zero. [5]

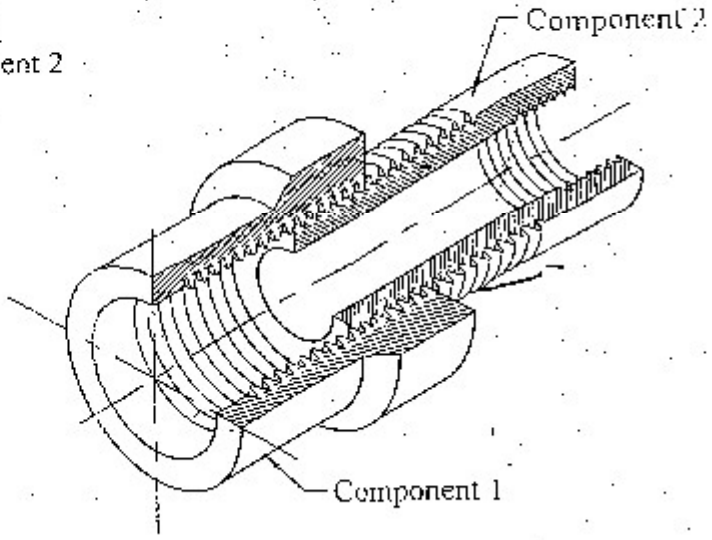
OR

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

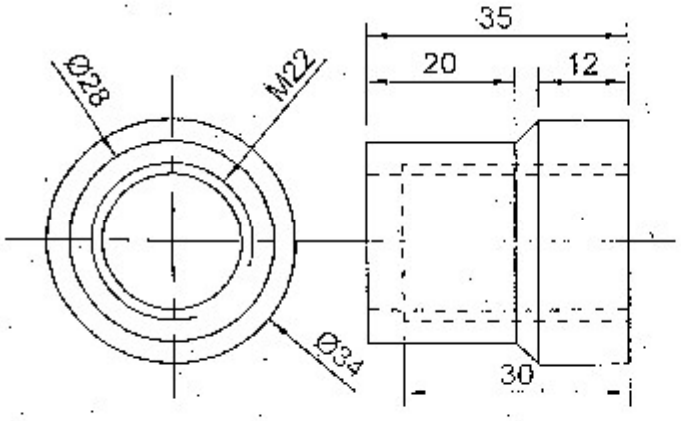
***



Assembled Isometric View

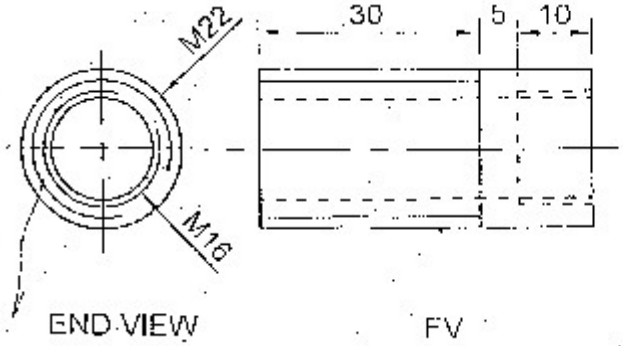


Half Sectional Pictorial View



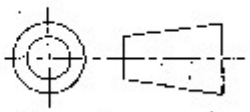
END VIEW FV

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



END VIEW FV

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



All dimensions are in mm

Fig. 3

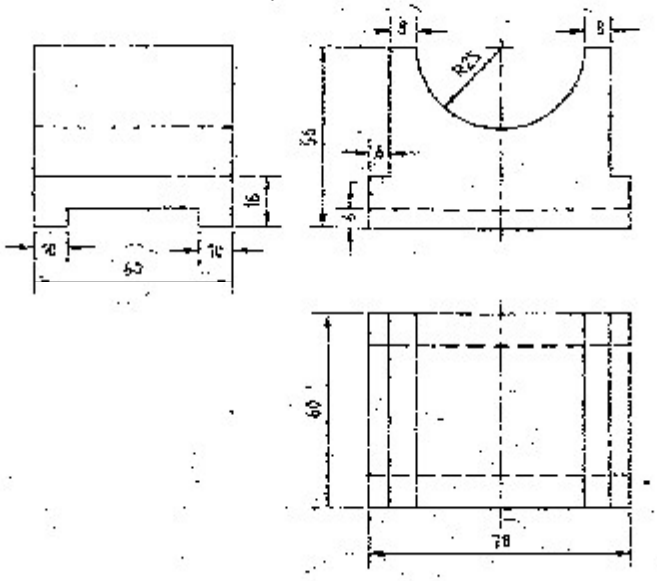
TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
Examination Control Division
2066 Magh

Exam.	Regular/Back		
Level	BE	Full Marks	80
Programme	BCE, B.Agri.	Pass Marks	36
Year / Part	I / II	Time	3 hrs.

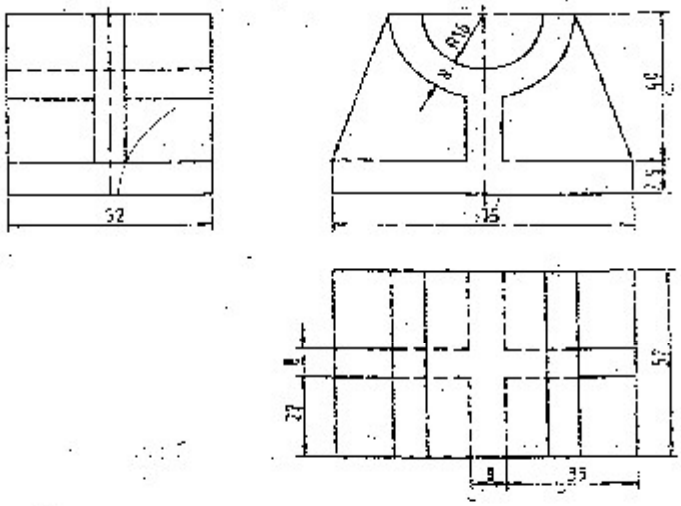
Subject: - Engineering Drawing II

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

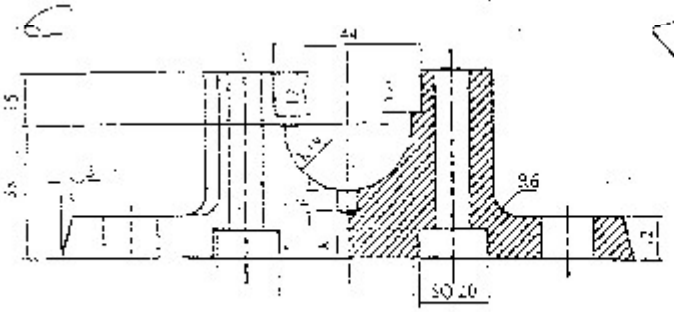
1. Orthographic views of an object are shown in figure. Draw its isometric view. [9]



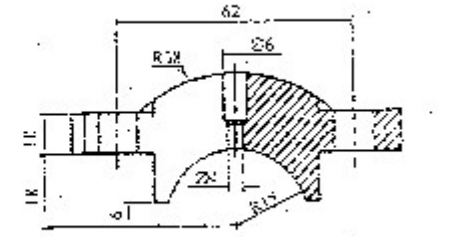
2. Orthographic views of an object are shown in figure. Draw its oblique view. [6]



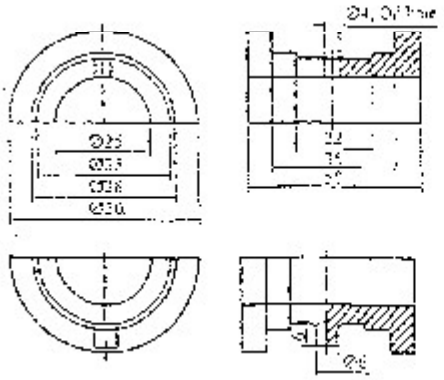
3. The production drawing of plumber block is shown in figure. Draw its assembled half sectional front view. [15]



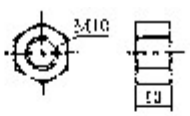
CASTING, C.I. 1 OFF



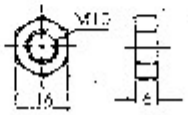
CAP, C.I. 1 OFF



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, and standard 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) Union
c) Channel Section
d) Globe Valve
e) Two way Switch
f) 3-phase Motor
g) Depression Contours
h) Capacitor

***

INSTITUTE OF ENGINEERING

Examination Control Division

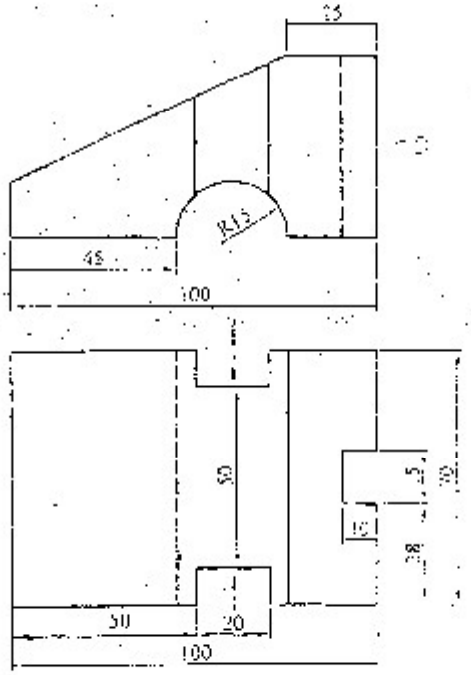
2066 Magh

Level	BE	Full Marks	80
Programme	BEL, BEX, BCT, BME, BIE	Pass Marks	16
Year / Part	I / II	Time	3 hrs

Subject: - Engineering Drawing II

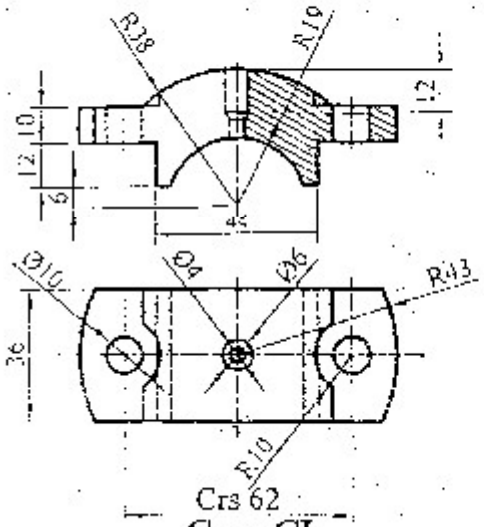
- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ *Attempt <u>All</u> questions.*
- ✓ *The figures in the margin indicate **<u>Full Marks</u>**.*
- ✓ *Assume suitable data if necessary.*

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



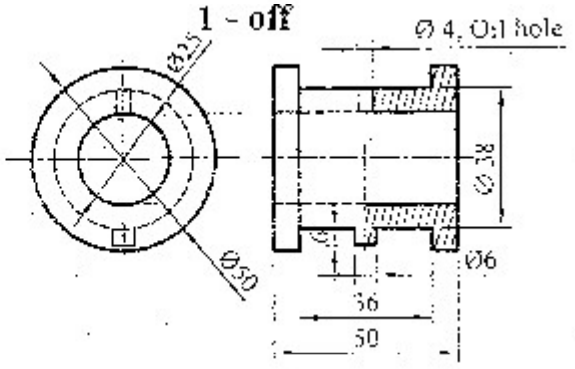
2. Draw the oblique view of object from the given orthographic views as shown in given figure. [6]

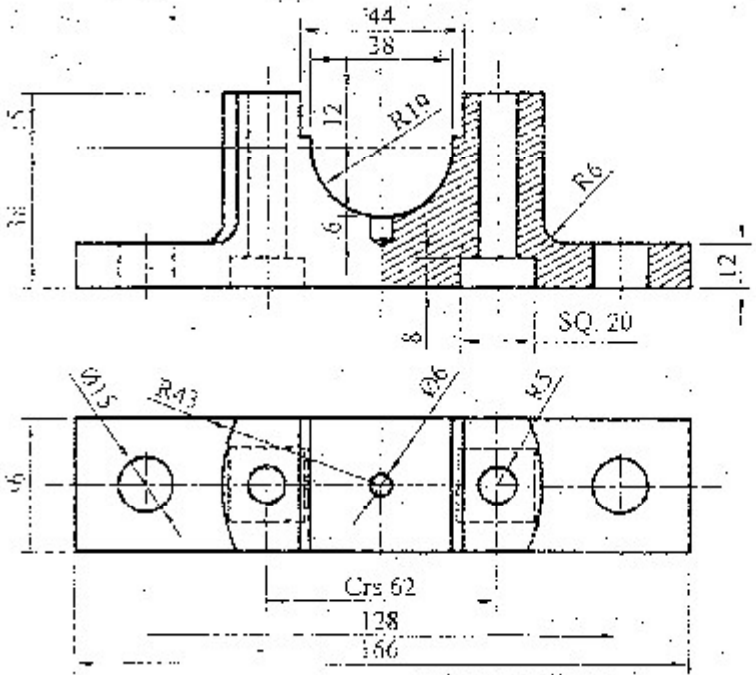
Plummer block in given figure. [15]



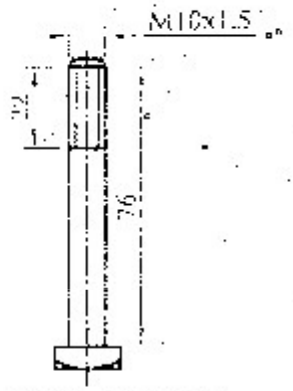
Cap, CI
1 - off

Brass, GM
1 - off

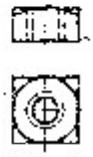




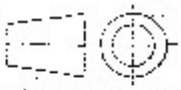
Casting, CI
1 - off



Sq. M10x1.5 Bolt
2 - off



Sq. M10x1.5 Nut
2 - 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 0.051mm and 0.013mm respectively. [5]

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

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