USN | | | | | | | | | |

17ME36A/17ME46A/17MA36

Third/Fourth Semester B.E. Degree Examination, June/July 2019
(ME/MA)
COMPUTER AIDED MACHINE DRAWING

Time: 3 Hours **Max. Marks: 100**

Note: 1. Answer any ONE question from each of the parts A, B and C.
2. Use **FIRST ANGLE** projection only.
3. If any data is missing it may be suitably assumed and mentioned.
4. All the calculations should be on answer sheet supplied.
5. All the dimensions are in mm.
6. Drawing instruments may or may not be used for sketching.
7. **Part C Assembled View should be in 3D and other 2 views in 2D.**

PART – A

Q.No.1 Draw the (i) the sectional view from the front and (ii) the view from the left of a shaft support shown in the figure 1. **(25 Marks)**

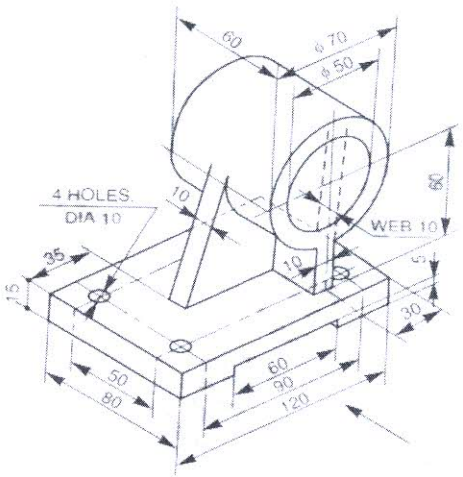

Figure. 1: Shaft support

Q.No.2 Draw the three views of an ISO threaded square head bolt 100mm long, 20mm diameter and thread length of 50mm and square assembly in the axis horizontal position. Show the assembly of bolt and nut in the view across corners. Indicate all actual dimensions. **(25 Marks)**

PART - B

Q.No.3 Draw the following sketch of a double riveted butt joint with double cover plates and zigzag riveting for thickness of plate 9mm (a) Sectional front view (b) A view looking from top. **(25 Marks)**

Q.No.4 Draw sectional front view and side view of a Universal Coupling to connect two rods of diameter 25mm, indicate all dimensions.. **(25 Marks)**

PART - C

Q.No.5 Figure 2 shows the details of a Machine vice. Assemble the parts of the Machine vice and show the following views.

a. Half sectional front view. b. Top view **(50 Marks)**

Q.No.6 Figure 3 shows the part drawing of a tail stock. Assemble the tail stock and show the following views.

a. Sectional front view showing the top spindle portion in section.

b. Left profile view **(50 Marks)**

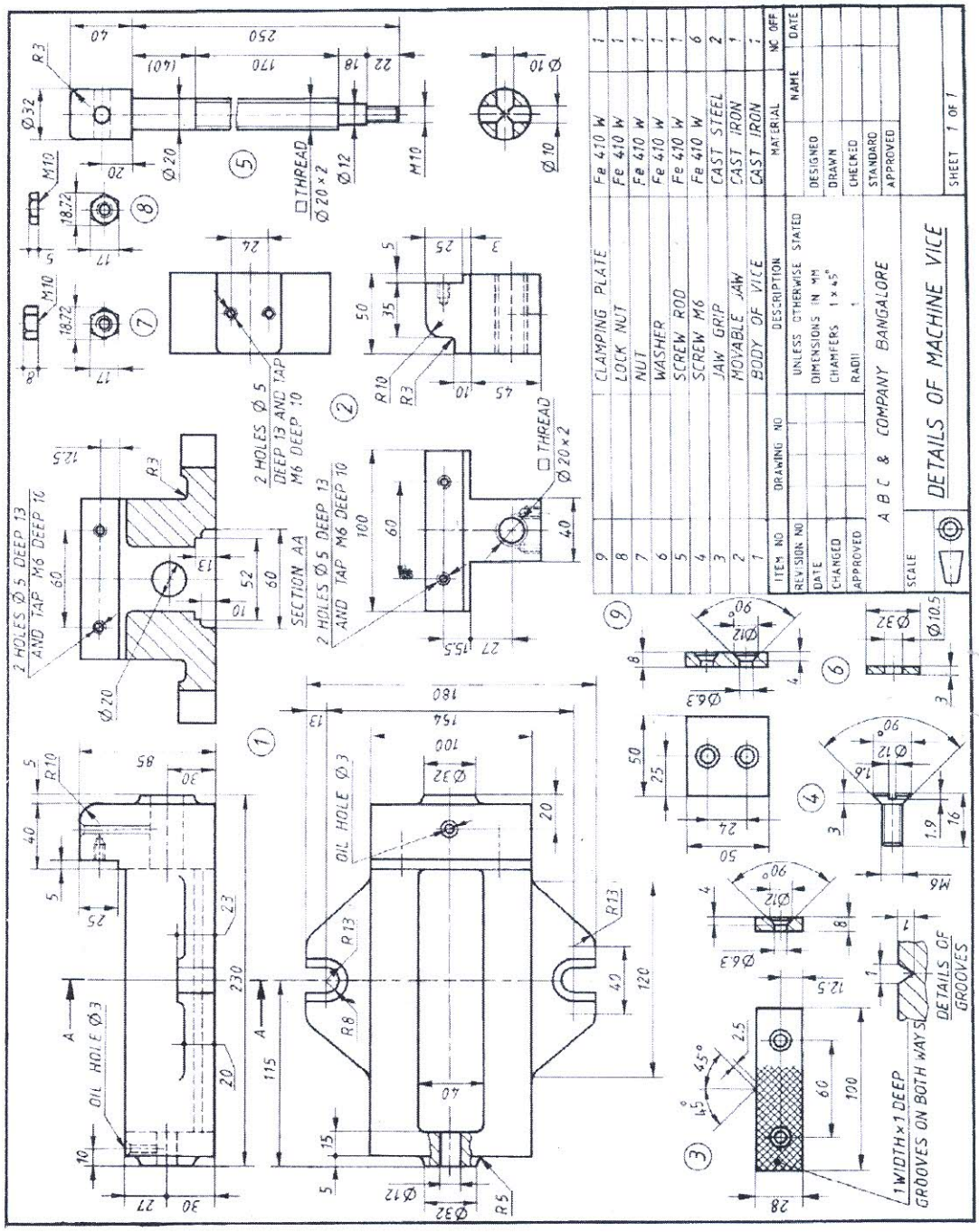

Figure 2: Details of Machine vice

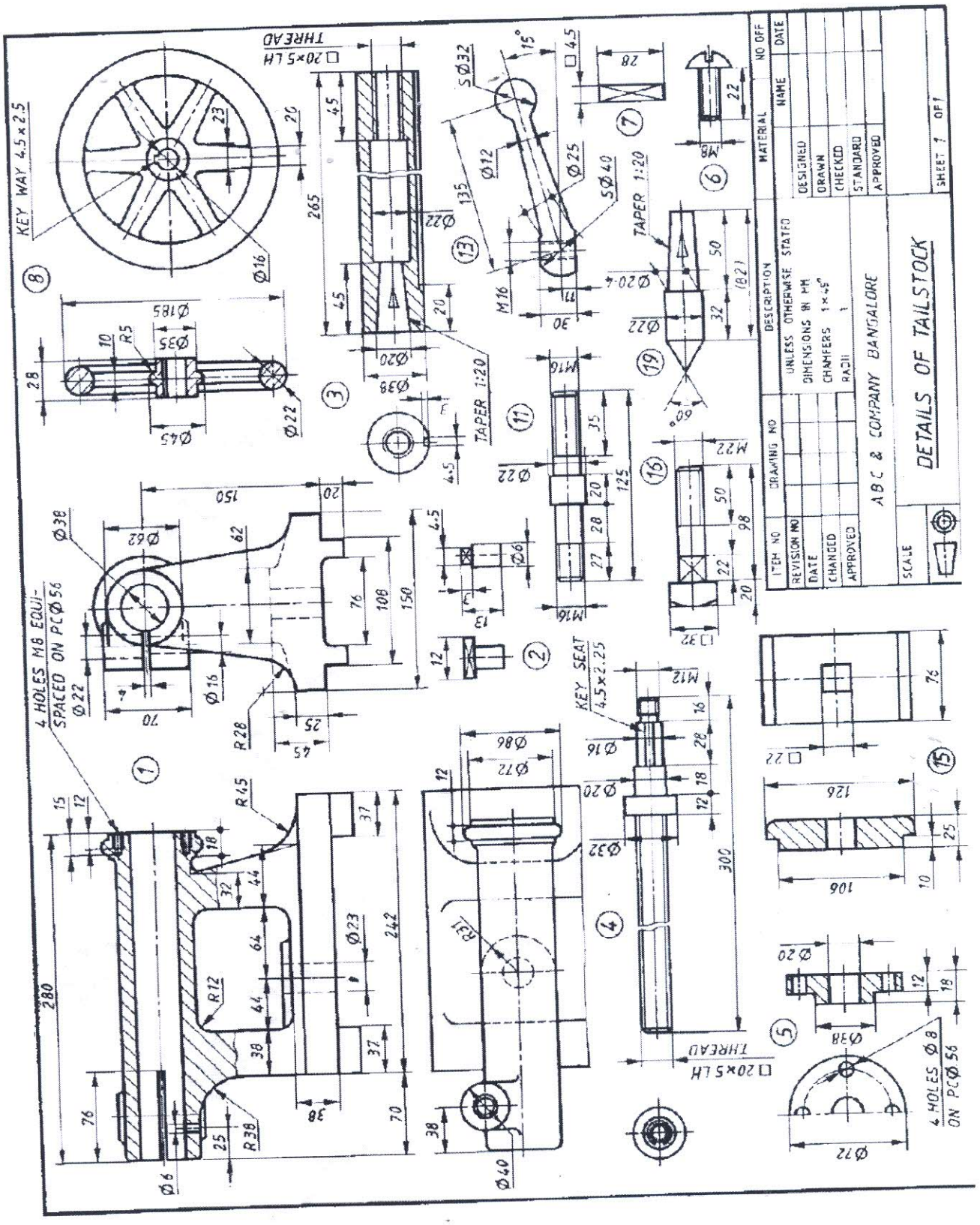

Figure 3 : Details of a tail stock

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15ME36A/46A

Third/Fourth Semester B.E. Degree Examination, June 2018

(ME/MA)

COMPUTER AIDED MACHINE DRAWING

Time: 3 Hours Max. Marks: 80

Note: 1. Answer any ONE question from each of the parts A, B and C.
2. Use **FIRST ANGLE** projection only.
3. Missing data if any may suitably be assumed.
4. All the calculations should be on answer sheet supplied.
5. All the dimensions are in mm.
6. **Part C Assembled View should be in 3D and other 2 views in 2D.**

PART – A

Q.No.1 A cone of side of base diameter 50mm and axis length 65mm is rests with its base on HP. Draw the true shape of the section made by a section plane perpendicular to the VP and inclined to the HP at 50° and passing through an end point on the circumference of the base circle of the cone. **(15 Marks)**

Q.No.2 Draw the following to indicate conventional representation of (a) Acme thread having a pitch of 45mm. Show at least 03 threads in section. **(15 Marks)**

PART - B

Q.No.3 Draw to 1:2 Scale the top and sectional front views of a double riveted lap joint with Zig – zag riveting. The thickness of the plates is 9mm. Show at least three rivets in each row. Indicate all the dimensions. Use snap head rivets. **(15 Marks)**

Q.No.4 Draw sectional front view and side view of a split Muff Coupling to connect two rods of diameter 20mm. Indicate all dimensions. **(15 Marks)**

PART - C

Q.No.5 Figure 1 shows the details of a "MACHINE VICE". Assemble the parts and draw
(a) Sectional Front View.
(b) Top View. **(50 Marks)**

Q.No.6 Figure 2 shows the details of a "TAIL – STOCK" of a lathe. Assemble the parts and draw.
(a) Sectional front view.
(b) Top view. **(50 Marks)**

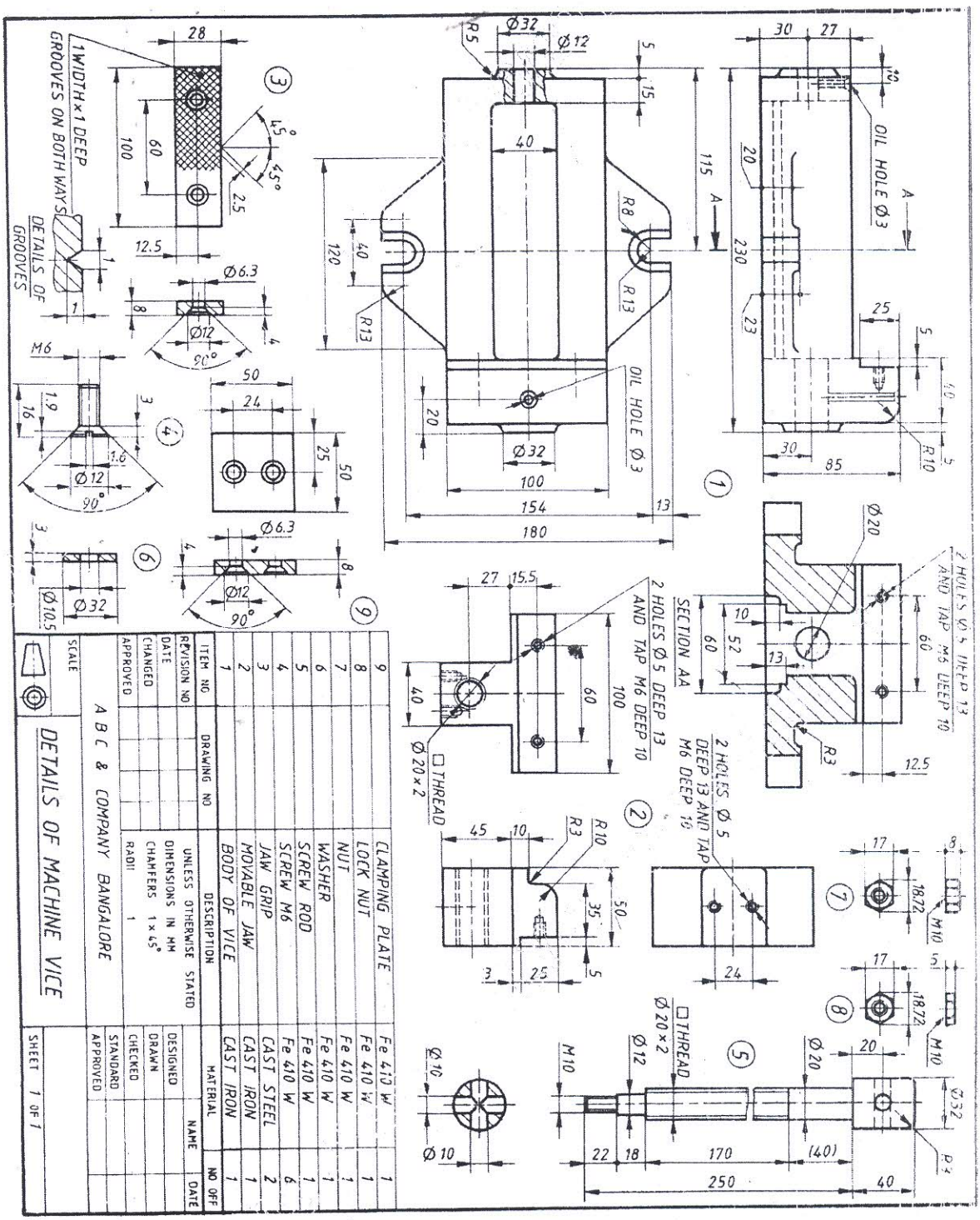

Figure 1. "MACHINE VICE".

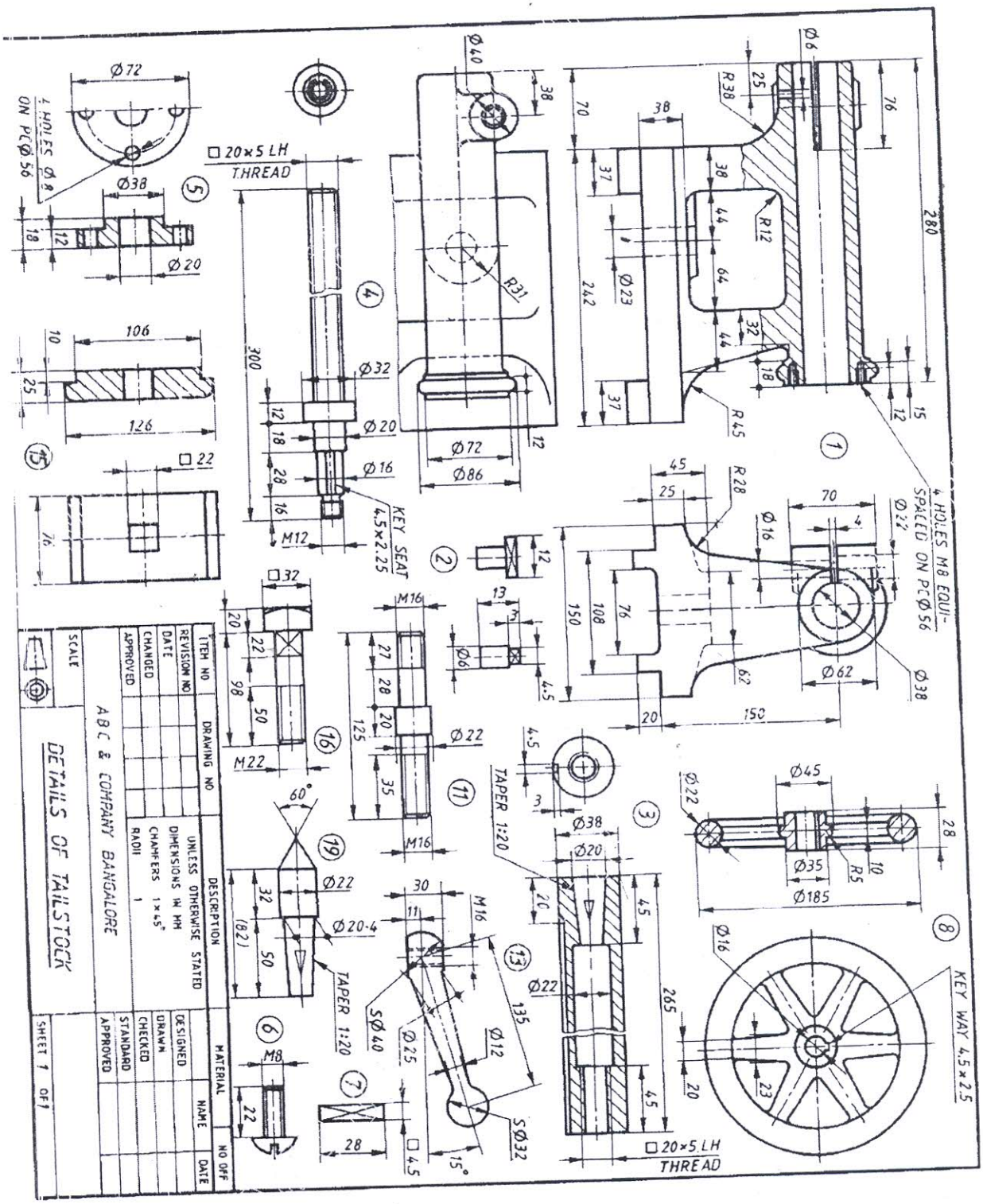

Figure 2. "TAIL – STOCK"

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15ME36A

Third Semester B.E. Degree Examination, December 2016

(ME/MA)

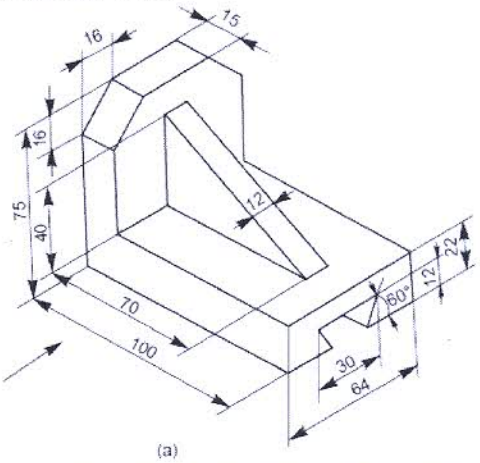
COMPUTER AIDED MACHINE DRAWING

Time: 3 Hours Max. Marks: 80

Note: 1. Answer any ONE question from each of the parts A, B and C.
2. Use **FIRST ANGLE** projection only.
3. Missing data if any may suitably be assumed.
4. All the calculations should be on answer sheet supplied.
5. All the dimensions are in mm.
6. **Part C Assembled View should be in 3D and other 2 views in 2D.**

PART – A

Q.No.1 The pictorial view of a Machine Part is shown below, Draw the following views: i) Front View and ii) Side View and iii) Top view. **(15 Marks)**



(a)

Q.No.2 Draw two views of the hexagonal headed bolt with nut for a 30mm diameter bolt. Take length of the bolt is 100mm. **(15 Marks)**

PART - B

Q.No.3 Draw to 1:2 scale the top and sectional front views of a double riveted lap joint with (i) Chain riveting. The thickness of the plates is 10mm. Show at least three rivets in each row. Indicate all the dimensions. Use snap head rivets. **(15 Marks)**

Q.No.4 Draw sectional front view and side view of a split Muff Coupling to connect two rods of diameter 20mm. indicate all dimensions. **(15 Marks)**

15ME36A

PART - C

Q.No.5 Figure 1. Shows the details of "SCREW JACK". Assemble the parts and draw the following views: (a) Front View showing right half in section (b) Top view. **(50 Marks)**

Q.No.6 Figure 2 shows the details of a "TAIL – STOCK" of a lathe. Assemble the parts and draw. (a) Sectional front view (b)Top view. **(50 Marks)**

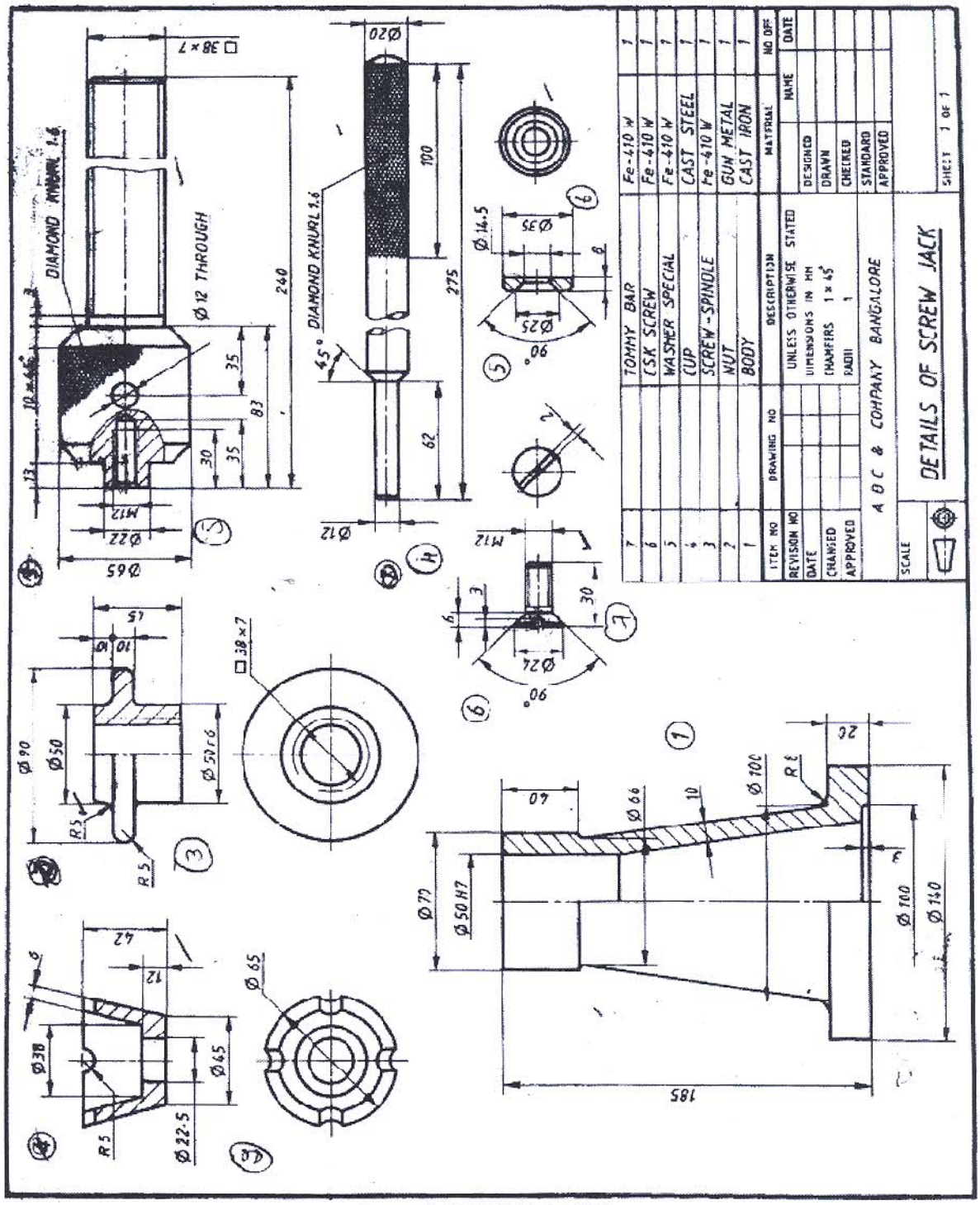


Figure 1. "SCREW JACK".

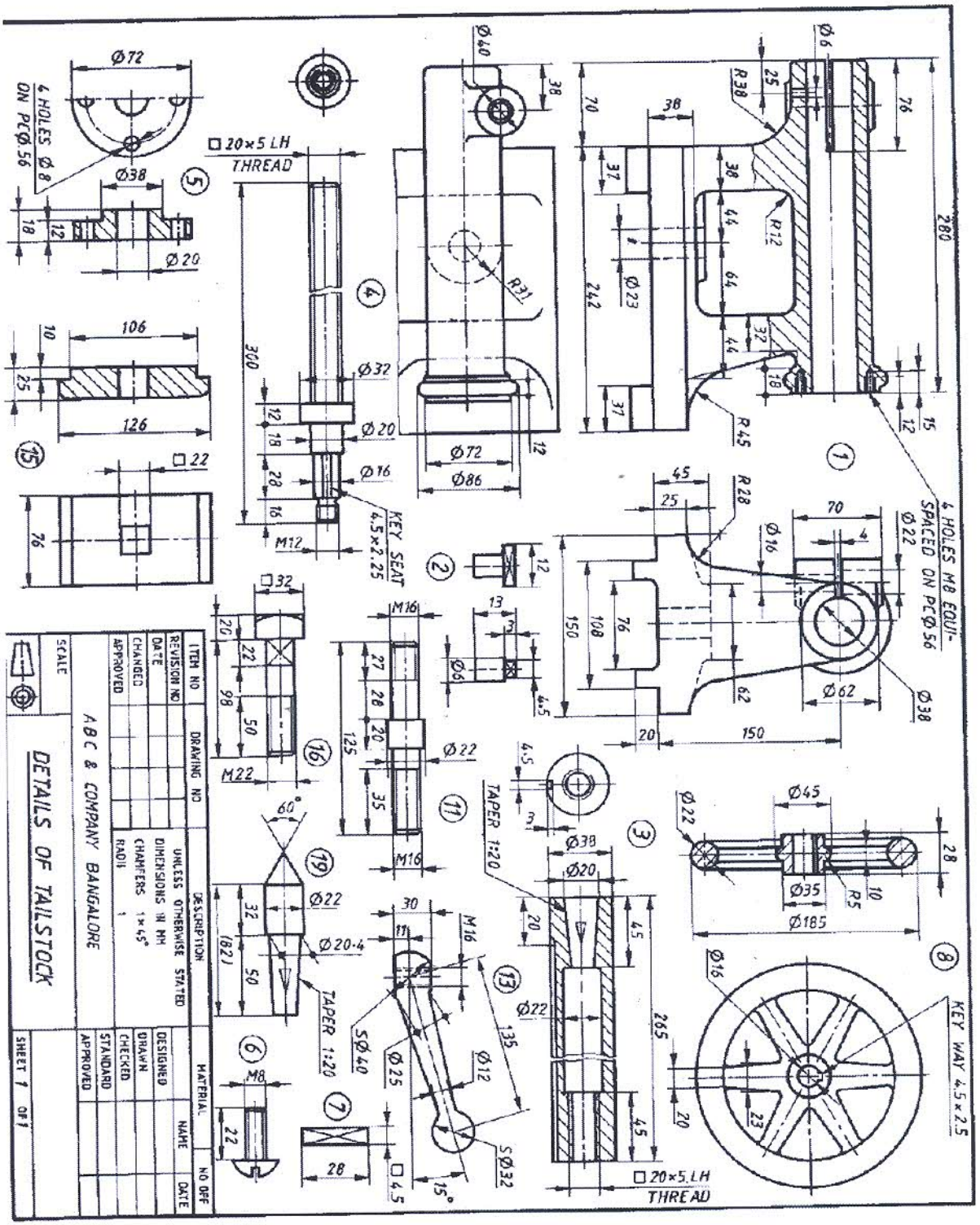


Figure 2 "TAIL – STOCK"

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10ME36A/46A

Third/Fourth Semester B.E. Degree Examination, May/June 2016

(ME/IP/IM/MA/AE)

COMPUTER AIDED MACHINE DRAWING

Time: 3 Hours | Max. Marks: 100

Note: 1. Answer any ONE question from each of the parts A, B and C.
2. Use **FIRST ANGLE** projection only.
3. Missing data if any may suitably be assumed.
4. All the calculations should be on answer sheet supplied.
5. All the dimensions are in mm.
6. **Part C Assembled View should be in 3D and other 2 views in 2D.**

Part - A

Q. No. 1. A cylinder of diameter of base 45 mm and height 70 mm long rests on its base on the HP. It is cut by a plane perpendicular to the VP and inclined at 30^0 to the HP and meets the axis at a height of 30 mm above the base. Draw the front view, sectional top view and true shape of section. **(20 Marks)**

Q. No. 2. Draw the following to indicate conventional representation of (a) BSW thread having pitch of 50 mm and (b) Acme thread having pitch of 60 mm, show at least 03 threads in section. **(20 Marks)**

Part - B

Q. No. 3. Draw sectional Front and Top views of the double riveted chain lap joint with plate thickness 14 mm. Indicate dimensions. **(20 Marks)**

Q. No. 4. Draw sectional front view and side view of a split muff coupling to connect two shafts of diameter 25 mm. Indicate dimensions. **(20 Marks)**

Part - C

Q. No. 5. Following figure 1 shows the details of Plummer block. Assemble the parts of the Plummer block and draw i) Front view in half section ii) Top view. **(60 Marks)**

Q. No. 6. Details of Tool Head of a Shaper are shown in following figures 2 and 3. Assemble the parts and draw the following views. i) Sectional front view, ii) Top view. **(60 Marks)**

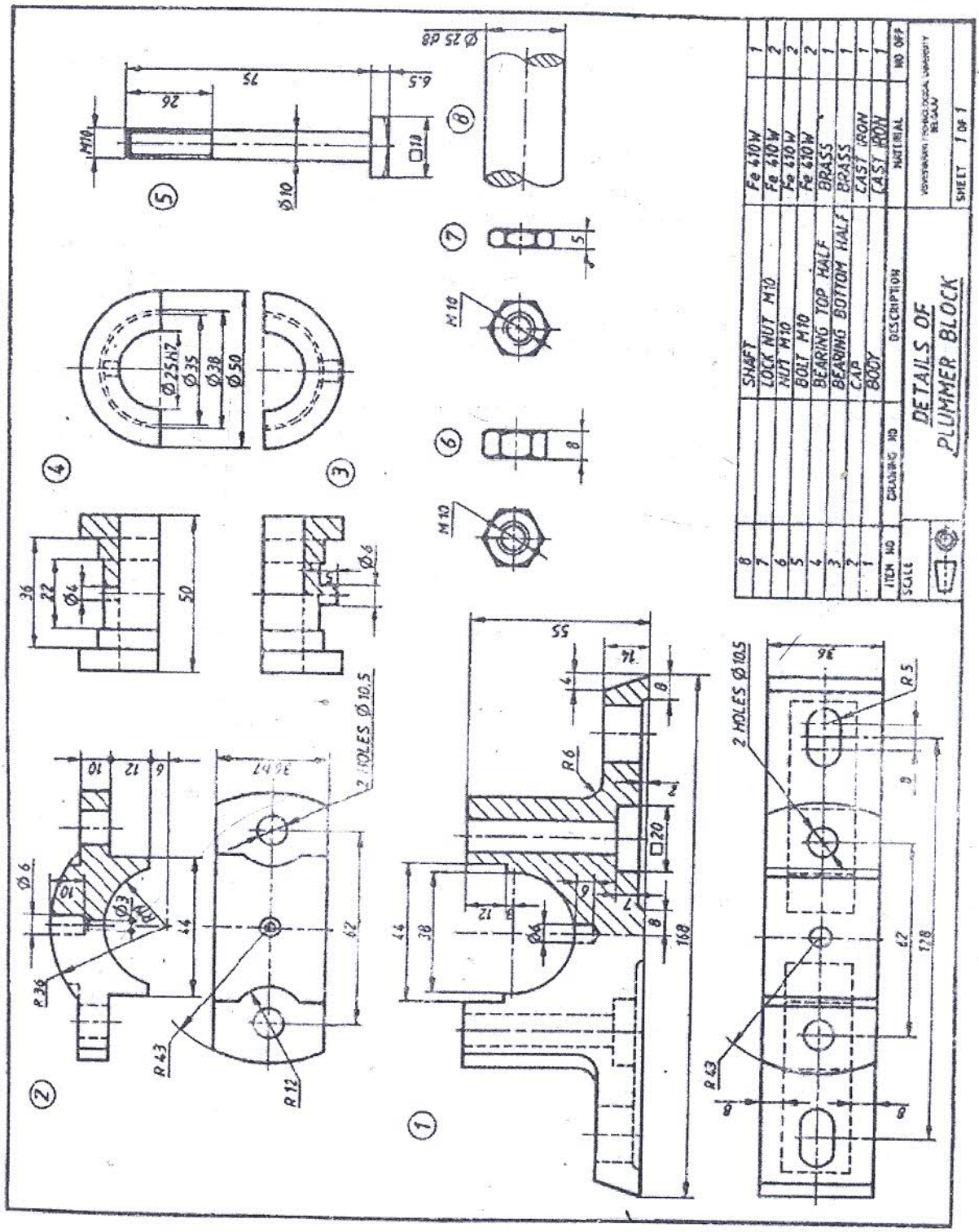
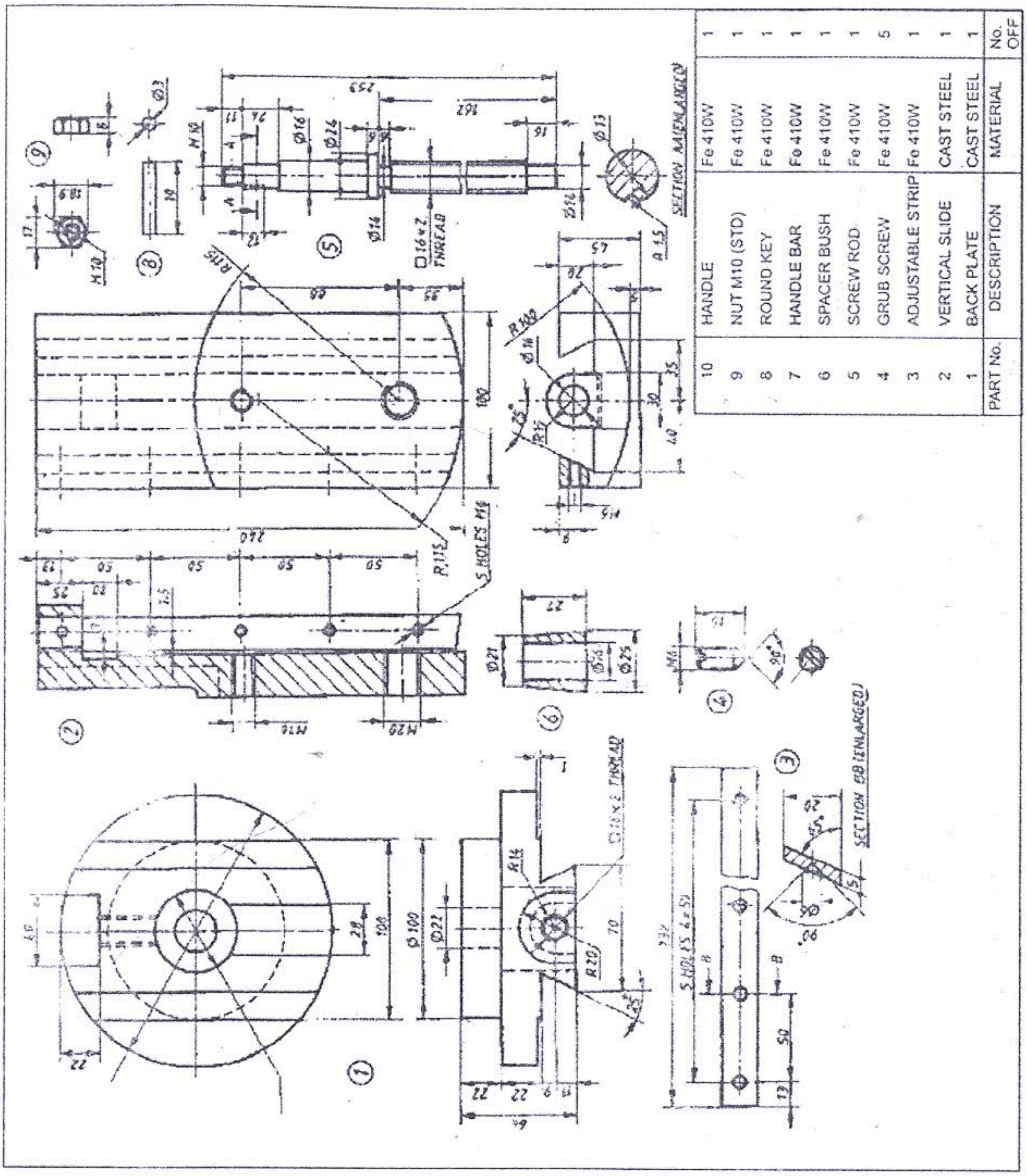

DETAILS OF
PLUMMER BLOCK
SHEET 1 OF 1
SHAFT
LOCK NUT M10
NUT M10
BOLT M10
BEARING TOP HALF
BEARING BOTTOM HALF
CAP
BODY
DESCRIPTION
MATERIAL
NO OFF
2 HOLES Ø10.5
R43
R12
R36
R6
R5
Ø25 d8
M10

Figure 1



PART No.	DESCRIPTION	MATERIAL	No. OFF
10	HANDLE	Fe 410W	1
9	NUT M10 (STD)	Fe 410W	1
8	ROUND KEY	Fe 410W	1
7	HANDLE BAR	Fe 410W	1
6	SPACER BUSH	Fe 410W	1
5	SCREW ROD	Fe 410W	1
4	GRUB SCREW	Fe 410W	5
3	ADJUSTABLE STRIP	Fe 410W	1
2	VERTICAL SLIDE	CAST STEEL	1
1	BACK PLATE	CAST STEEL	1

Figure 2

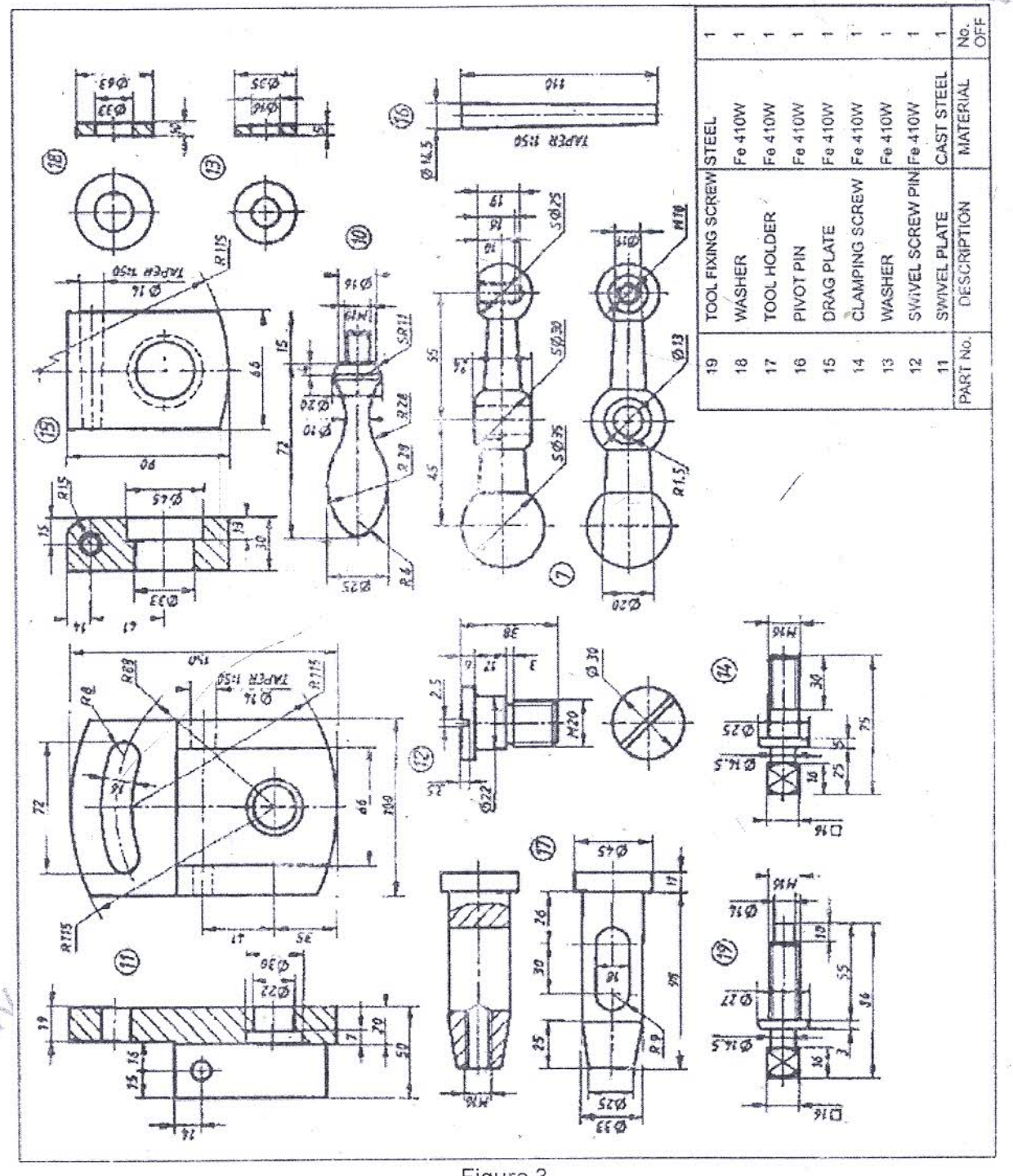

PART No. | DESCRIPTION | MATERIAL | No. OFF
19 | TOOL FIXING SCREW | STEEL | 1
18 | WASHER | Fe 410W | 1
17 | TOOL HOLDER | Fe 410W | 1
16 | PIVOT PIN | Fe 410W | 1
15 | DRAG PLATE | Fe 410W | 1
14 | CLAMPING SCREW | Fe 410W | 1
13 | WASHER | Fe 410W | 1
12 | SWIVEL SCREW PIN | Fe 410W | 1
11 | SWIVEL PLATE | CAST STEEL | 1

Figure 3

USN | | | | | SRI SAI RAM COLLEGE OF ENGINEERING | | | | | | | | | | 10ME36A/46A

Third/Fourth Semester B.E. Degree Examination, June 2015

(ME/IP/IM/MA/AE)

COMPUTER AIDED MACHINE DRAWING

Time: 3 Hours Max. Marks: 100

Note: 1. Answer any ONE question from each of the parts A, B and C.
2. Use **FIRST ANGLE** projection only.
3. Missing data if any may suitably be assumed.
4. All the calculations should be on answer sheet supplied.
5. All the dimensions are in mm.
6. **Part C Assembled View should be in 3D and other 2 views in 2D.**

Part A

Q. No. 1. An equilateral triangular pyramid of base side, 40 mm and height 70 mm rests with its base on the HP such that one of its slant edges parallel to VP. A section plane perpendicular to VP and inclined at 63^0 to HP cuts the pyramid by passing through one of its lateral faces at a height of 9mm above the HP. Draw the front view, sectional top view and sectional side view along with the cut solid. **(20 Marks)**

Q. No. 2. Draw two views of stud with nut and lock nut for a 25 mm dia. stud using simple assembly. **(20 Marks)**

Part B

Q. No. 3. Draw double riveted butt joint with double cover plates and zigzag riveting as indicated below. i) Sectional front-view ii) Top-view.
Take a plate thickness = 10 mm and indicate clearly all dimensions on the drawing. Use a scale of full size. **(20 Marks)**

Q. No. 4. Draw sectional front view and side view of a Oldham's coupling to connect two shafts of diameter 20 mm. Indicate dimensions. **(20 Marks)**

Part C

Q. No. 5. Following figure 1 shows the details of Rams bottom safety valve. Assemble the parts and draw i) Front view in half section ii) Top view. **(60 Marks)**

Q. No. 6. Details of Screw Jack is shown in following figure 2. Assemble the parts and draw the following views. i) Right half sectional front view, ii) Top view **(60 Marks)**

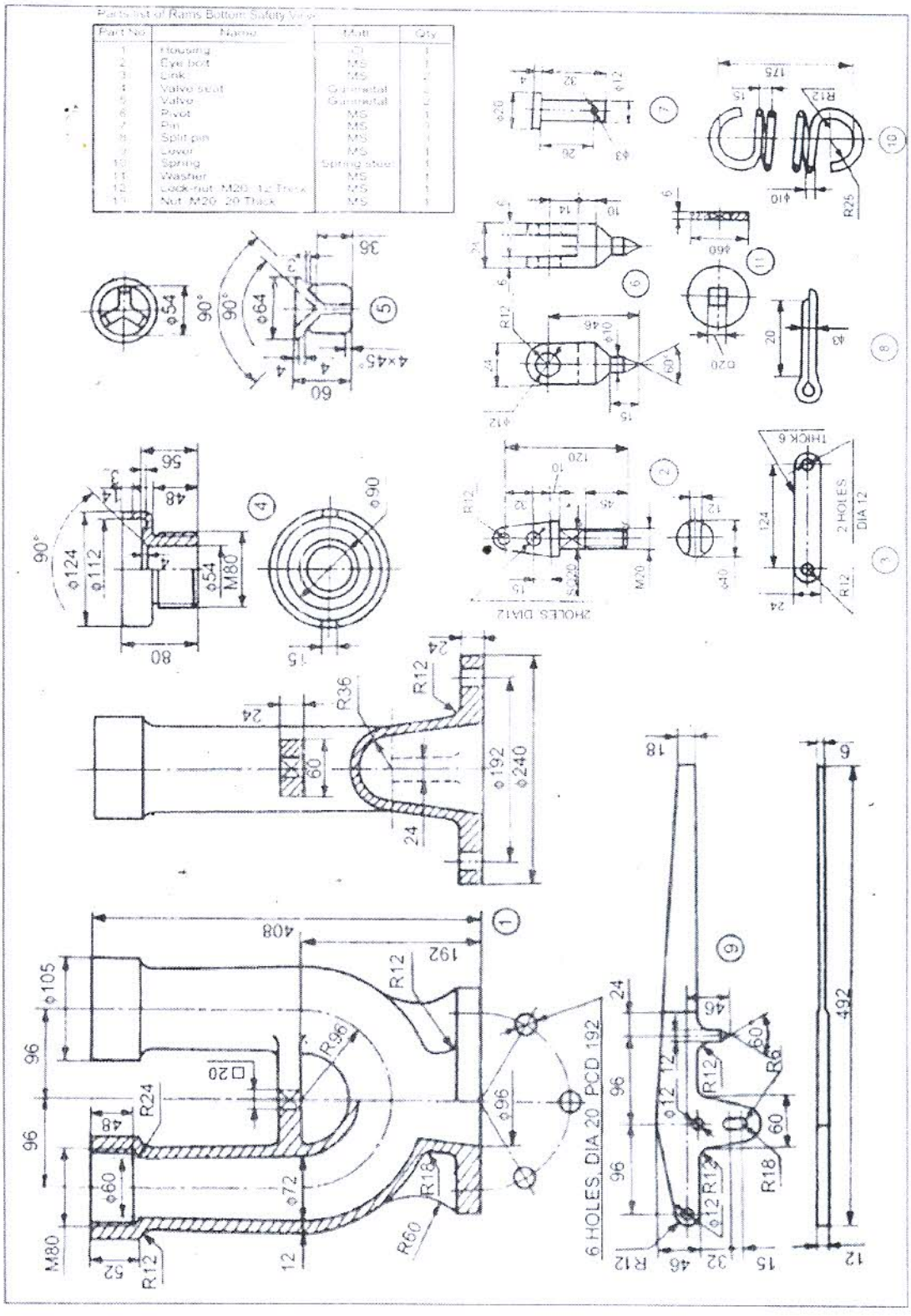

Part List of Rams Bottom Safety Valve
Part No
Name
Matl
Qty
Housing
CI
Eye bolt
MS
Link
MS
Valve seat
Gunmetal
Valve
Gunmetal
Pivot
MS
Pin
MS
Split pin
MS
Lever
MS
Spring
Spring steel
Washer
MS
Lock-nut, M20, 12 Thick
MS
Nut, M20, 20 Thick
MS
6 HOLES DIA 20 PCD 192
2 HOLES DIA 12
THICK 6

Figure 1

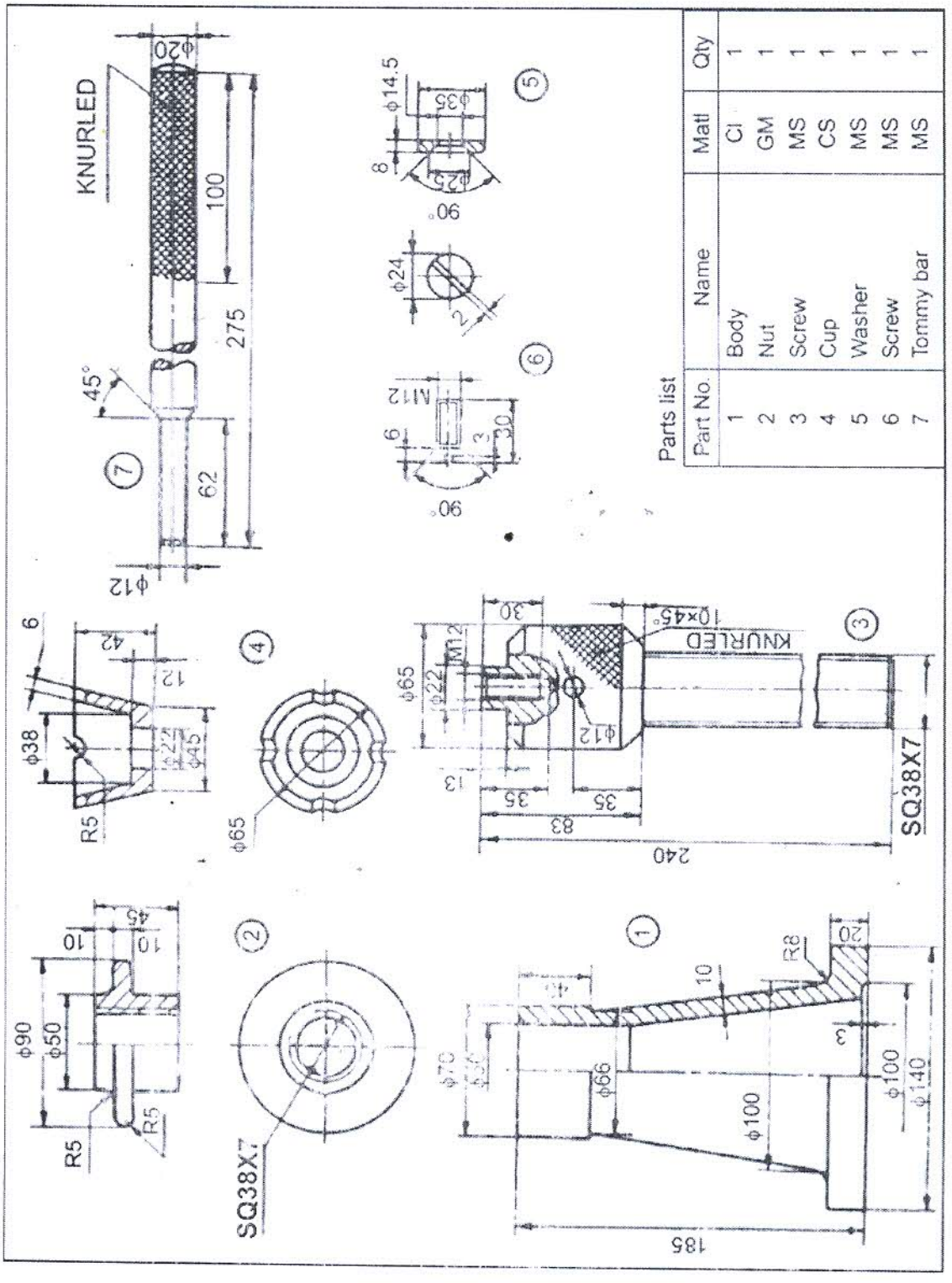

KNURLED
Parts list
Part No. | Name | Matl | Qty
1 | Body | CI | 1
2 | Nut | GM | 1
3 | Screw | MS | 1
4 | Cup | CS | 1
5 | Washer | MS | 1
6 | Screw | MS | 1
7 | Tommy bar | MS | 1
SQ38X7
SQ38X7
KNURLED
10×45°
240
185

Figure 2

SHIRDI SAI ENGINEERING COLLEGE

USN | | | | | | | | | |

10ME36A/46A

Third/Fourth Semester B.E. Degree Examination, Nov./Dec. 2013

(ME/IP/IM/MA/AE)

COMPUTER AIDED MACHINE DRAWING

Time: 3 Hours Max. Marks: 100

Note: 1. Answer any ONE question from each of the parts A, B and C.
2. Use **FIRST ANGLE** projection only.
3. Missing data if any may suitably be assumed.
4. All the calculations should be on answer sheet supplied.
5. All the dimensions are in mm.
6. Drawing instruments may or may not be used for sketching
7. **Part C Assembled View should be in 3D and other 2 views in 2D.**

PART – A

1. An equilateral triangular pyramid of base side, 40mm and height 70mm rests on one of its base on HP such that one of its slant edge parallel to VP. A section plane perpendicular to VP and inclined at 63° to HP cuts the pyramid by passing through one of its lateral faces at a height of 9mm above Hp. Draw the front view, sectional side view along with the cut solids. **(20Marks)**

2. Draw the following to indicate conventional representation of (a) BSW thread having pitch of 50mm and (b) Acme thread having a pitch of 45mm. Show at least 03 threads in section. **(20Marks)**

PART – B

3. Draw to 1:2 Scale the top and sectional front views of a double riveted lap joint with Zig – Zag riveting. The thickness of the plates is 9mm. Show atleast three rivets in each row. Indicate all the dimensions. Use snap head rivets. **(20Marks)**

4. Draw sectional front view and side view of a split Muff Coupling to connect two rods of diameter 20mm. Indicate all dimensions. **(20Marks)**

PART – C

5. Figure 1. Shows the details of "SCREW JACK" Assemble the parts and draw the following views: (a) Front View showing right half in section
(b) Top view **(60Marks)**

6. Figure 2 shows the details of an "I.C.ENGINE CONNECTING ROD". Assemble the parts and draw the following views. Dimension the drawings.
(a) Front View with top half in section. (b) Top View. **(60 Marks)**

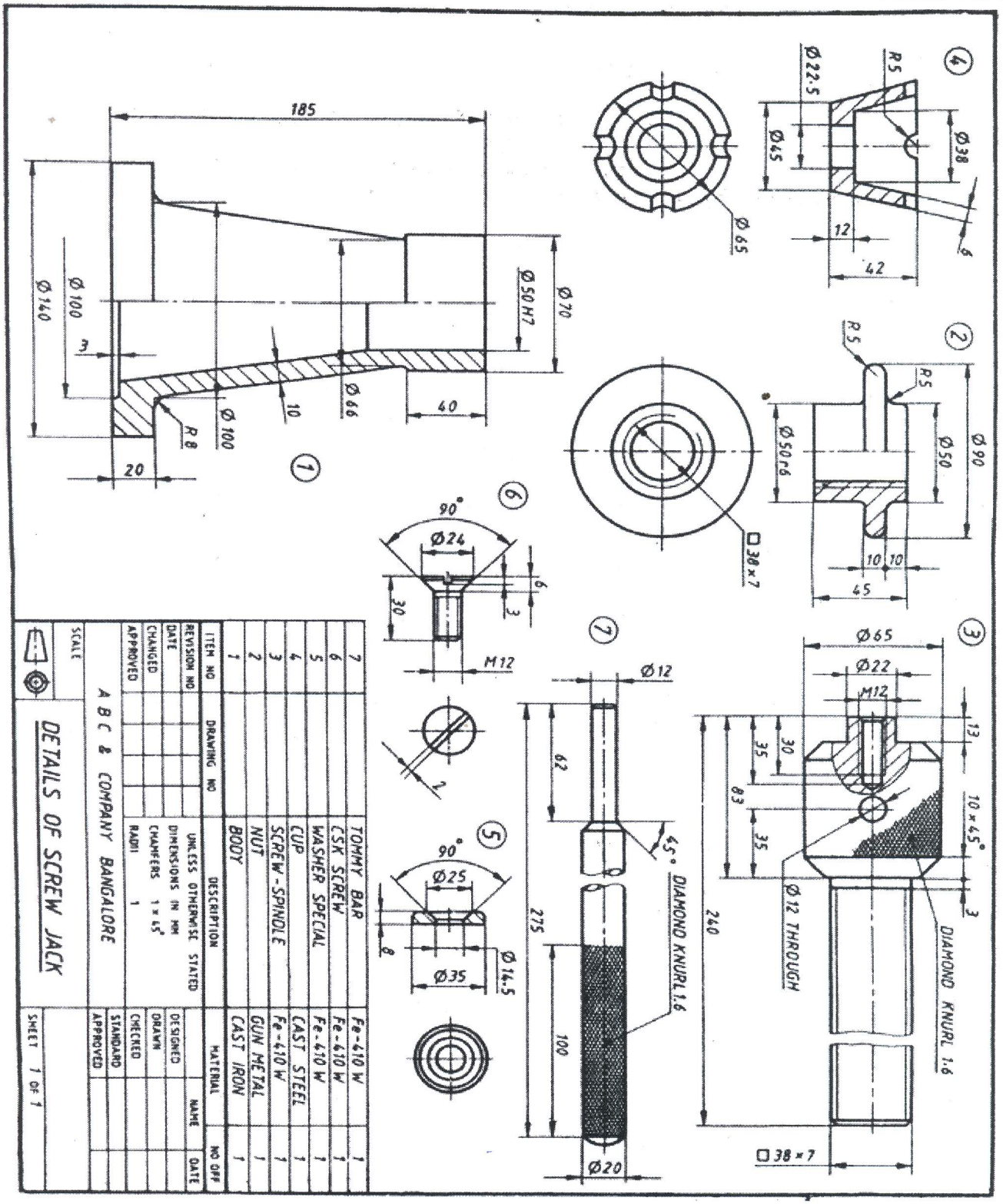

185
Ø140
Ø100
Ø100
Ø66
Ø50 H7
Ø70
40
10
20
R8
Ø65
Ø22.5
R5
Ø45
Ø38
12
42
6
R5
R5
Ø50 n6
Ø50
Ø90
10
10
45
□30 x 7
90°
Ø24
6
3
30
M12
1
90°
Ø25
8
Ø35
Ø14.5
Ø12
62
45°
DIAMOND KNURL 1.6
275
100
Ø20
Ø65
Ø22
M12
13
35
30
Ø3
35
10 x 45°
3
Ø12 THROUGH
DIAMOND KNURL 1.6
240
□38 x 7
1
2
3
4
5
6
7
ITEM NO
DESCRIPTION
MATERIAL
NO OFF
1
BODY
CAST IRON
1
2
NUT
GUN METAL
1
3
SCREW-SPINDLE
Fe-410 W
1
4
CUP
CAST STEEL
1
5
WASHER SPECIAL
Fe-410 W
1
6
CSK SCREW
Fe-410 W
1
7
TOMMY BAR
Fe-410 W
1
DRAWING NO
REVISION NO
DATE
CHANGED
APPROVED
UNLESS OTHERWISE STATED
DIMENSIONS IN MM
CHAMFERS 1 x 45°
RADII 1
A B C & COMPANY BANGALORE
DETAILS OF SCREW JACK
SCALE
SHEET 1 OF 1
NAME
DATE
DESIGNED
DRAWN
CHECKED
STANDARD
APPROVED

Figure-1

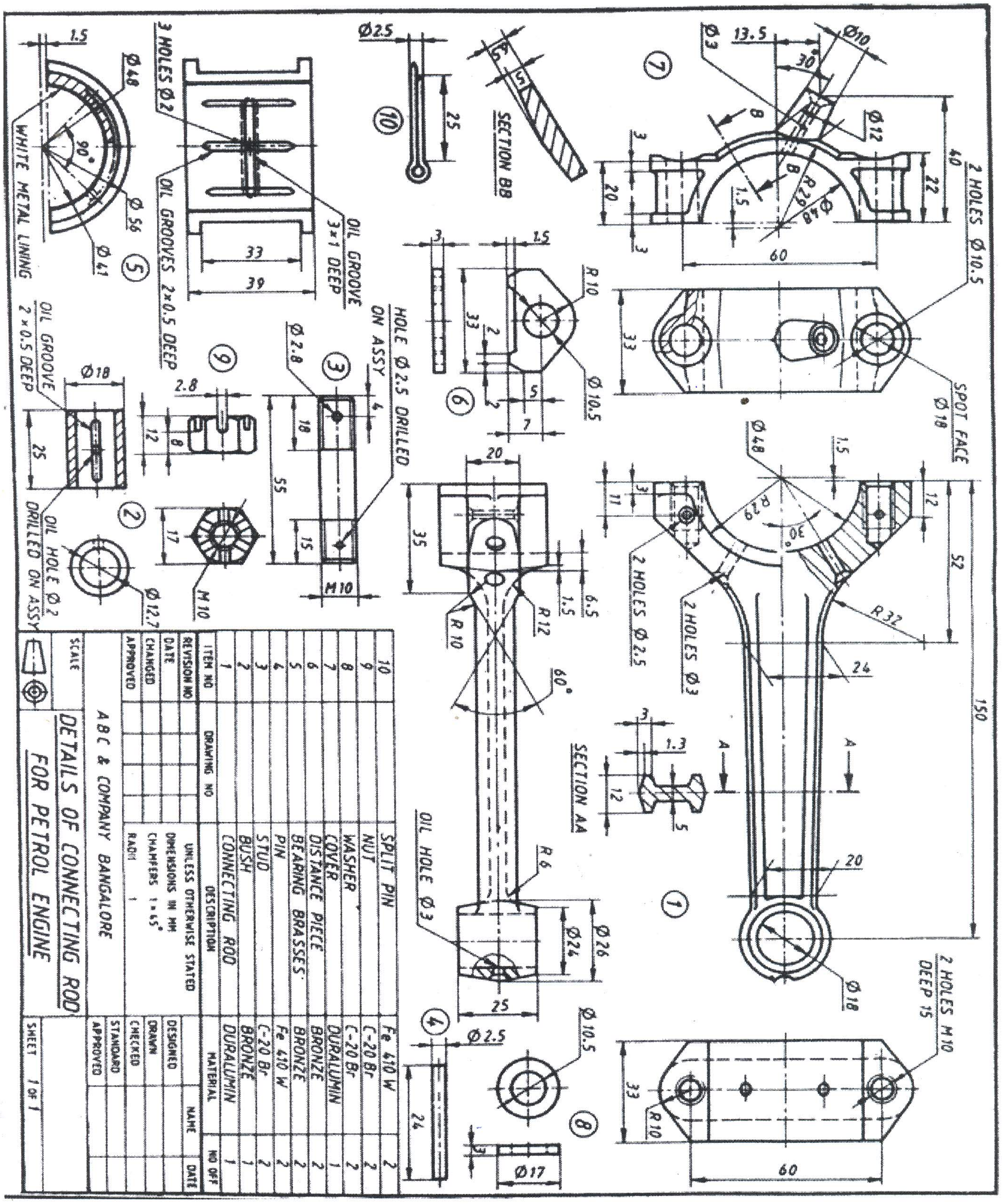

DETAILS OF CONNECTING ROD FOR PETROL ENGINE
ABC & COMPANY BANGALORE
1 CONNECTING ROD DURALUMIN 1
2 BUSH BRONZE 1
3 STUD C-20 Br 2
4 PIN Fe 410 W 2
5 BEARING BRASSES BRONZE 2
6 DISTANCE PIECE BRONZE 2
7 COVER DURALUMIN 1
8 WASHER C-20 Br 2
9 NUT C-20 Br 2
10 SPLIT PIN Fe 410 W 2
UNLESS OTHERWISE STATED DIMENSIONS IN MM
SECTION AA
SECTION BB
SHEET 1 OF 1

Figure-2

USN | 1 | SB | 10 | ME | 084 |

10ME36A/46A

Third/Fourth Semester B.E. Degree Examination, December 2012

(ME/IP/IM/MA/AE)

COMPUTER AIDED MACHINE DRAWING

Time: 3 Hours Max. Marks: 100

Note: 1. Answer any ONE question from each of the parts A, B and C.
2. All the calculations should be on the answer sheet supplied.
3. Missing data may be assumed.

Part A

Q. No. 1. A cone of base diameter 50mm and height 60mm stands with its base on the HP. It is cut by a VT inclined at 70^0 to the reference line XY and is passing through the apex of the cone. Draw its front view, sectional top view and true shape of section. **20 Marks**

Q. No. 2. Draw the following profiles .
a) BSW thread
b) ISO thread of pitch 40 mm **20 Marks**

Part B

Q. No. 3. Draw sectional FV & TV of the double riveted chain butt joint with double strap, taking t = 12mm. Indicate dimensions. **20 Marks**

Q. No. 4. Draw sectional FV & side view of a protected type flange coupling to connect two shafts of diameter 30mm. Indicate dimensions. **20 Marks**

Part C

Q. No. 5. Following figure 1 shows the details of Rams bottom safety valve. Assemble the parts and draw i) Front view in half section ii) Top view **60 Marks**

Q. No. 6. Details of "SCREW JACK" are shown in following figure 2. Assemble the parts and draw the following views of the assembly:
i. Front view showing right half in section.
ii. Top view. **60 Marks**

Parts list

Part No.	Name	Matl	Qty
1	Housing	CI	1
2	Eye bolt	MS	1
3	Link	MS	2
4	Valve seat	Gunmetal	2
5	Valve	Gunmetal	2
6	Pivot	MS	1
7	Pin	MS	3
8	Split pin	MS	3
9	Lever	MS	1
10	Spring	Spring steel	1
11	Washer	MS	1
12	Lock-nut, M20, 12 Thick	MS	1
13	Nut, M20, 20 Thick	MS	1

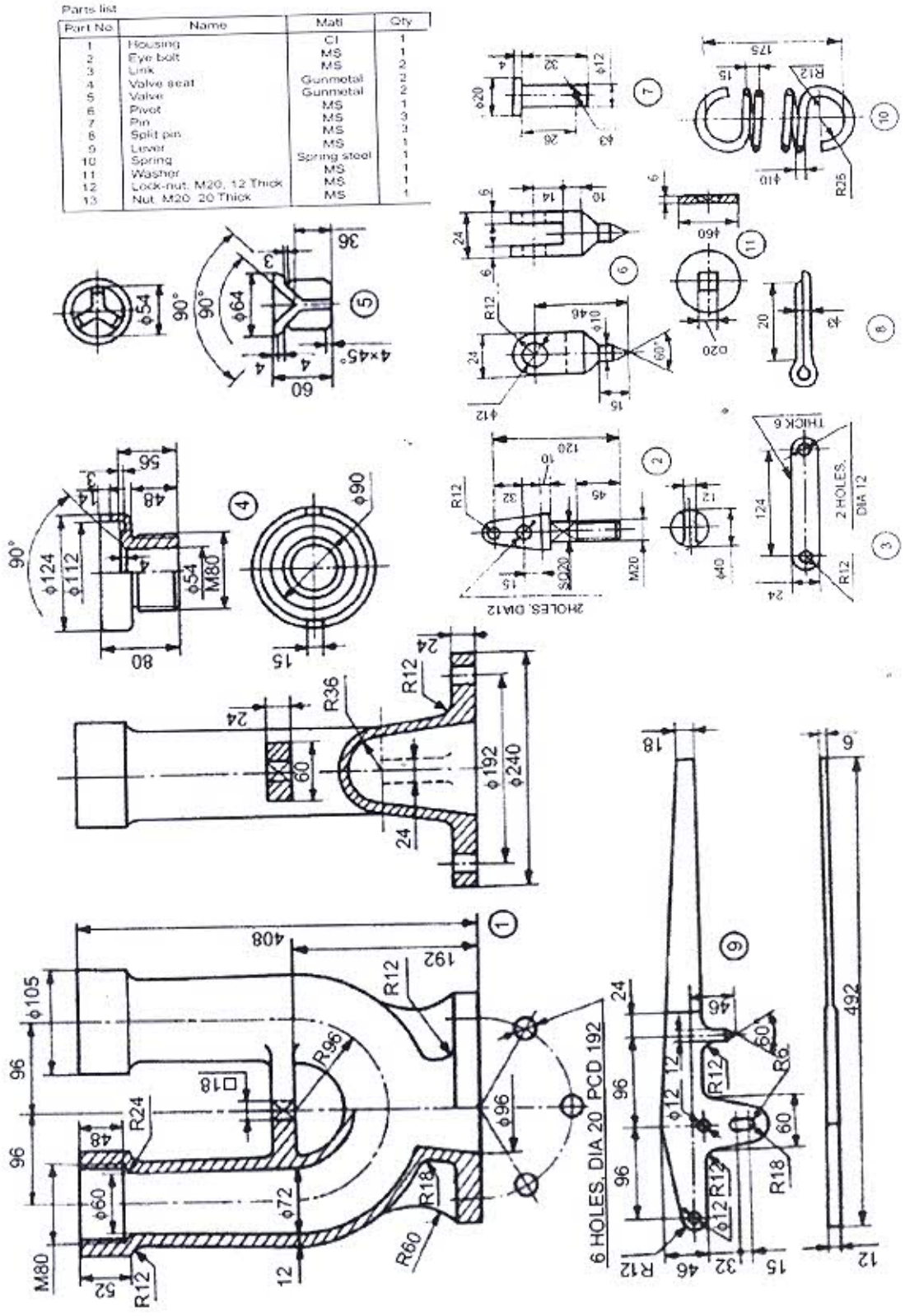
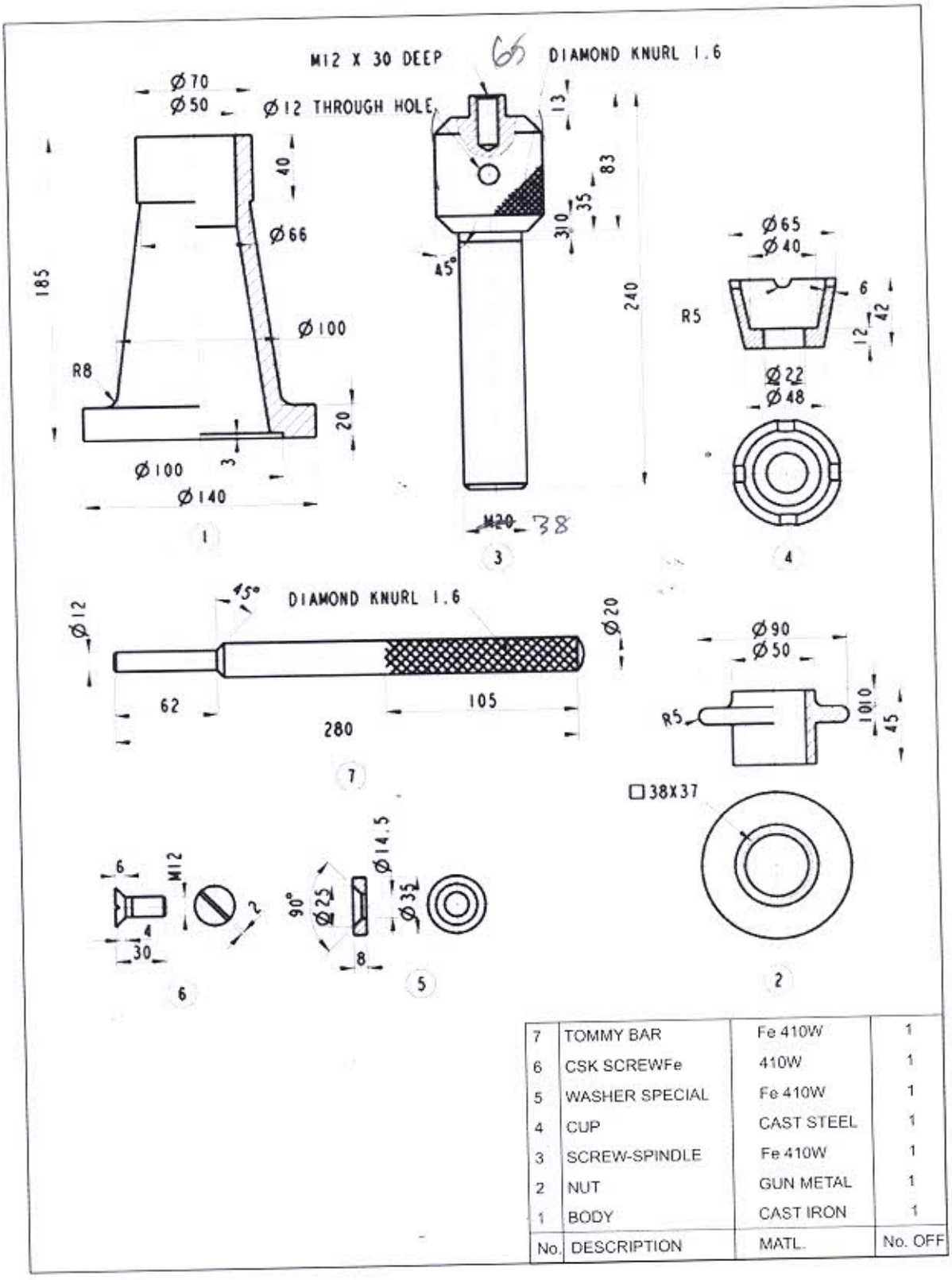


Figure 1



No.	DESCRIPTION	MATL.	No. OFF
7	TOMMY BAR	Fe 410W	1
6	CSK SCREWFe	410W	1
5	WASHER SPECIAL	Fe 410W	1
4	CUP	CAST STEEL	1
3	SCREW-SPINDLE	Fe 410W	1
2	NUT	GUN METAL	1
1	BODY	CAST IRON	1

Figure 2

SHIRDI SAI ENGG COLLEGE

25/05/2012 – 8.30am to 11.30am

USN | | | | | | | | | |

10ME36A/46A

Third/Fourth Semester B.E. Degree Examination, June 2012

(ME/IP/IM/MA/AE)

COMPUTER AIDED MACHINE DRAWING

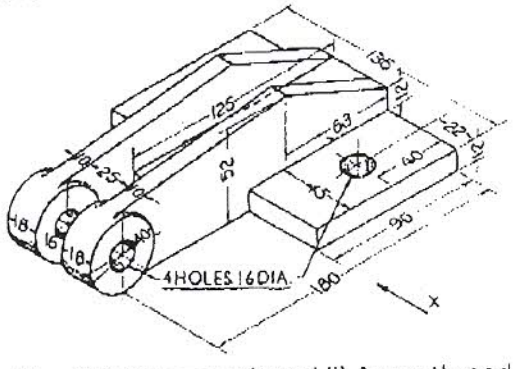
Time: 3 Hours Max. Marks: 100

Note: 1. Answer any ONE question from each of the parts A, B and C.
2. Use FIRST ANGLE Projections only.
3. If any data is missing it may be suitably assumed and mentioned.
4. All the calculations should be on the answer sheet supplied.
5. All the dimensions are in mm.
6. Drawing instruments may or may not be used for sketching.
7. Part C assembled view should be in 3-D and other views in 2-D

PART – A

1) Draw the following views for the given machine component.
   a) Sectional Front View
   b) Top view and
   c) Left side view

[20 Marks]



2) Draw the profile of i) ISO screw thread ii) Acme thread of pitch 40mm. Indicate all the proportions and dimensions. [20 Marks]

PART – B

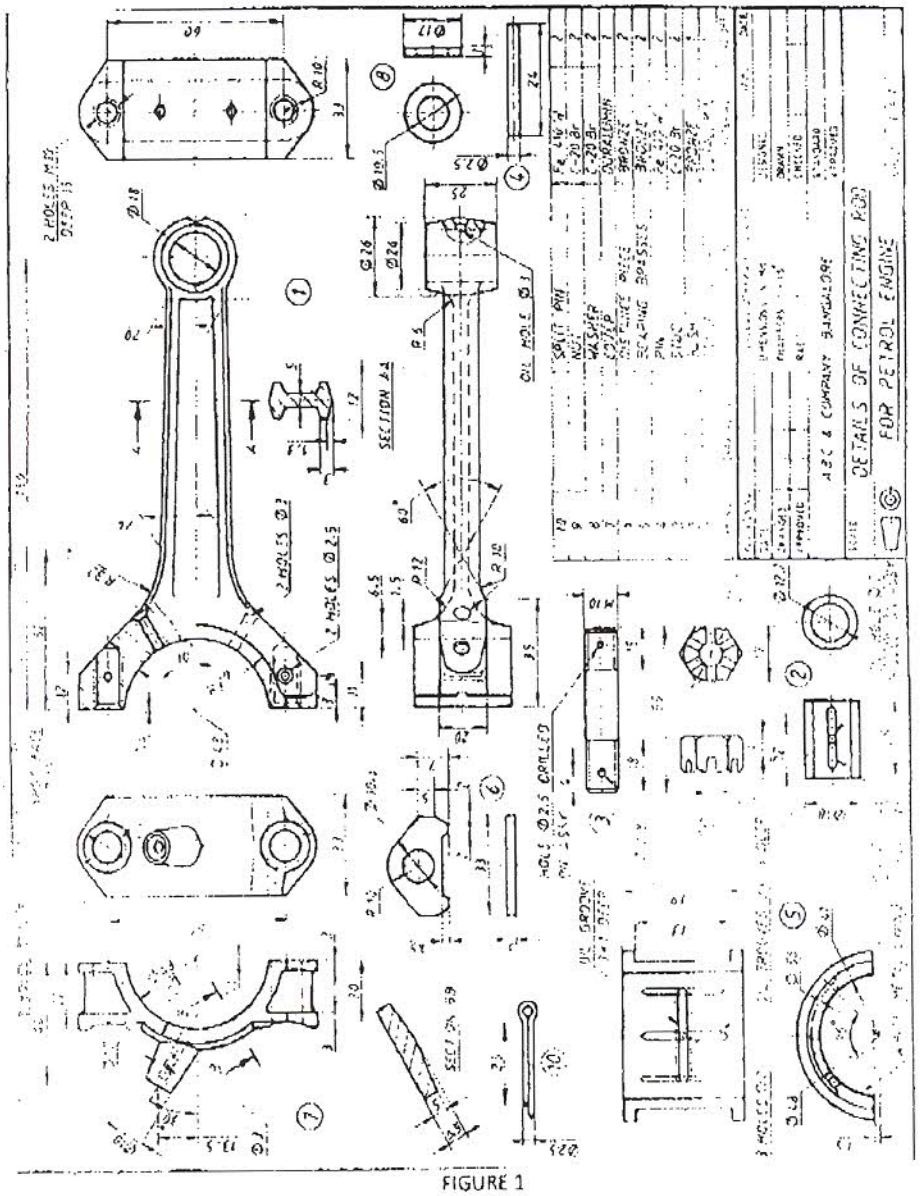
3) Draw the sectional front view and side view of a socket and spigot joint for to connect two rods of diameter 25mm each. [20 Marks]

4) Draw the side view and sectional front view of an Oldham's coupling by taking the shaft diameter as 20mm. [20 Marks]

SHIRDI SAI ENGG COLLEGE

PART – C

5) Figure 1. Shows the details of a I.C .Engine Connecting Rod. Assemble the parts and draw i) Sectional Front View ii) Top view iii) Assembled 3D view. [60 Marks]



Details of a Petrol Engine Connecting Rod

FIGURE 1

6) Figure 2. Shows the details of a Machine Vice. Assemble the parts and draw i) Sectional Front View ii) Top view iii) Assembled 3D view. [60 Marks]

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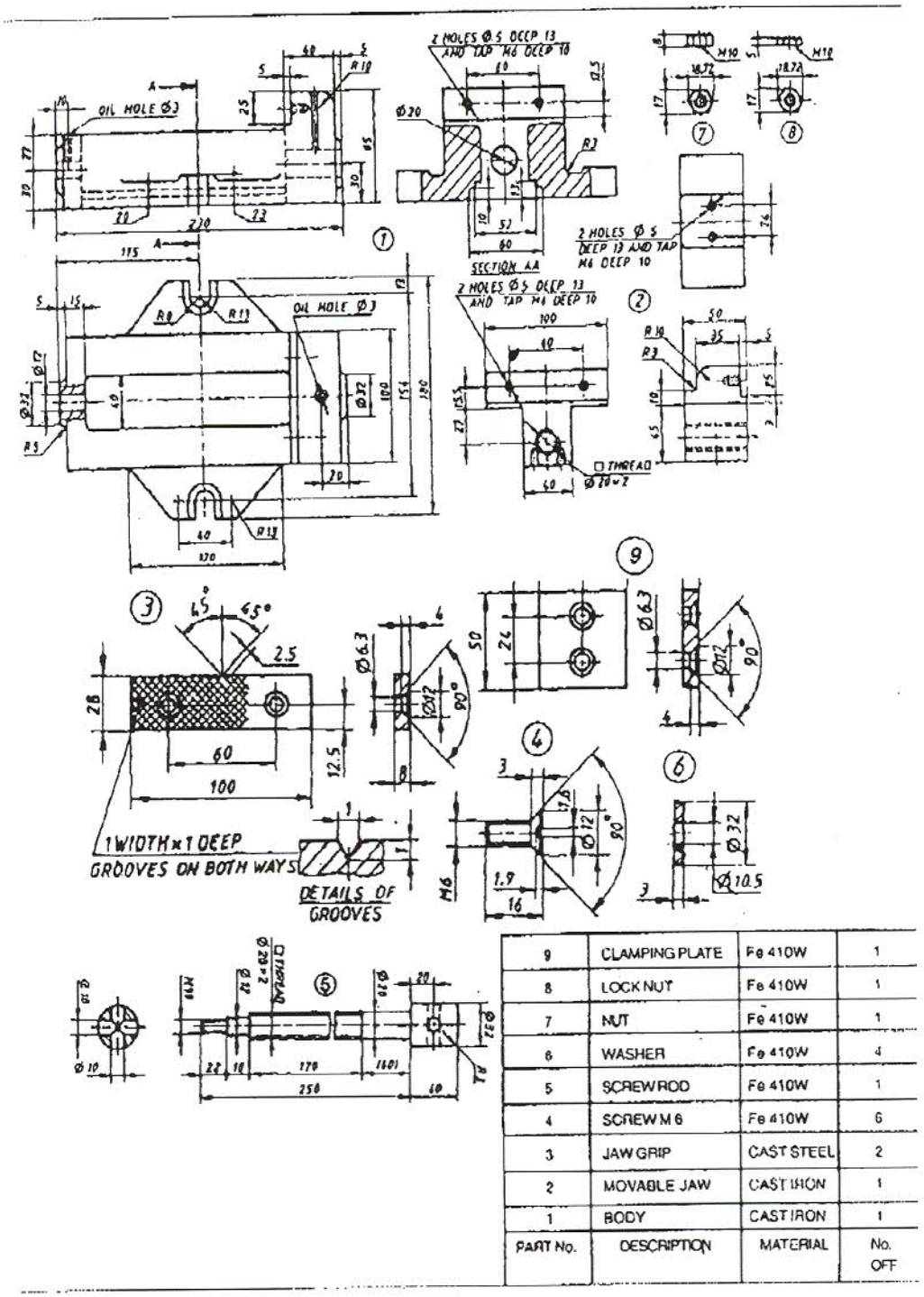


PART No.	DESCRIPTION	MATERIAL	No. OFF
9	CLAMPING PLATE	Fe 410W	1
8	LOCK NUT	Fe 410W	1
7	NUT	Fe 410W	1
6	WASHER	Fe 410W	4
5	SCREW ROD	Fe 410W	1
4	SCREW M 6	Fe 410W	6
3	JAW GRIP	CAST STEEL	2
2	MOVABLE JAW	CAST IRON	1
1	BODY	CAST IRON	1

FIGURE 2

USN | | | | | | | | | | |

ME36

Third Semester B.E. Degree Examination, June / July 08
Machine Drawing

Time: 4 hrs. Max. Marks:100

Note : *1. Answer any ONE question from each of the parts A, B and C.*
2. Use Fist Angle projection only.
3. All dimensions are in mm.

PART - A

1 a. A right regular hexagonal pyramid with edge of base 40 mm and height 100 mm stands with its base on HP with two of its base edges parallel to VP. It is cut by a plane passing through a point on the axis 50 mm from the base and inclined at 20^0 to be the horizontal plane and perpendicular to the profile plane. Project the sectional view and the true shape of section. **(10 Marks)**

b. The pictorial view of a machine part is shown in Fig. Q 1(b). Draw the following views –
i) Sectional Front View, looking in the direction F, takes section along SS.
ii) Right Side View, iii) Top View. **(20 Marks)**

2 a. Draw the three views of an ISO threaded square head bolt 100 mm long, 20 mm diameter and a thread length of 50 mm and square assembly in the axis horizontal position. Show the assembly of bolt and nut in the view across corners. Indicate all actual dimensions. **(10 Marks)**

b. The pictorial view of machine component is shown in Fig. Q 2(b). Draw the following views :i) Front View, looking in the direction of F ii)Sectional Left Side View taking section along SS iii) Top View. **(20 Marks)**

PART - B

3 Draw free hand proportionate sketch of Pin or Knuckle Joint as per the instructions given below: i) Sectional Front View ii) Top View.
Diameter of the Rods : 20 mm and full scale. **(20 Marks)**

4 Draw free hand proportionate sketch of a pin type flexible coupling as per the instruction given below : i) Half Sectional Front View ii) Right Side View
Diameter of the Shaft : 25 mm and full scale. **(20 Marks)**

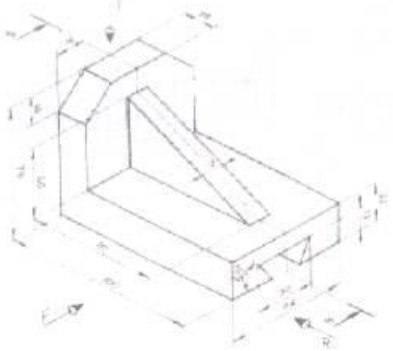


Fig. Q 1(b)

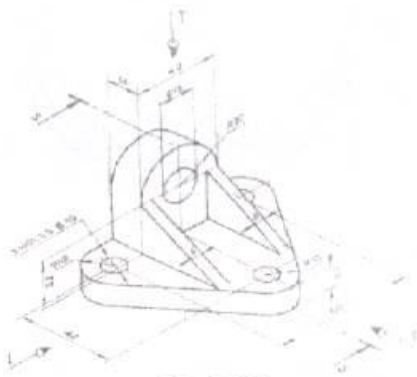
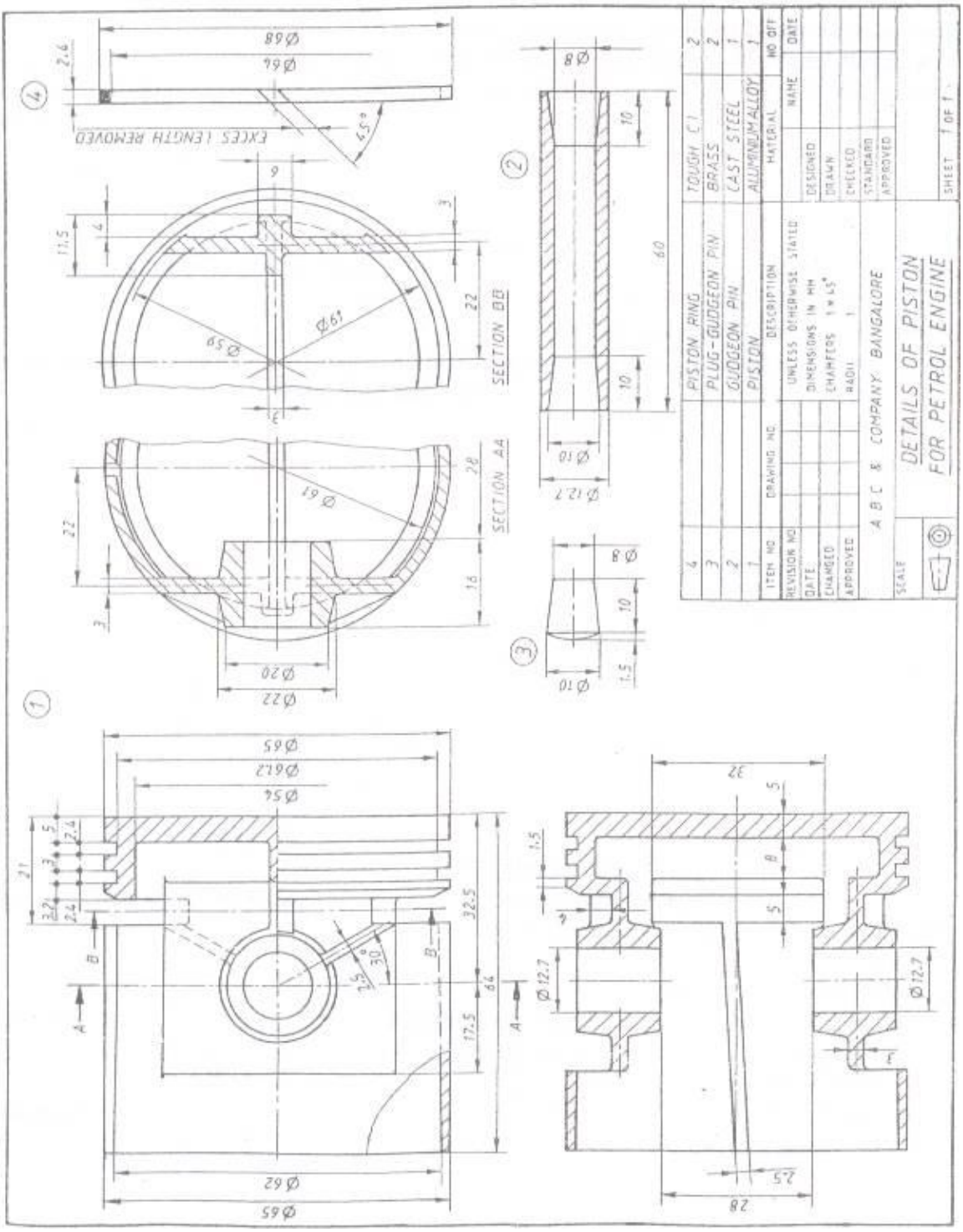


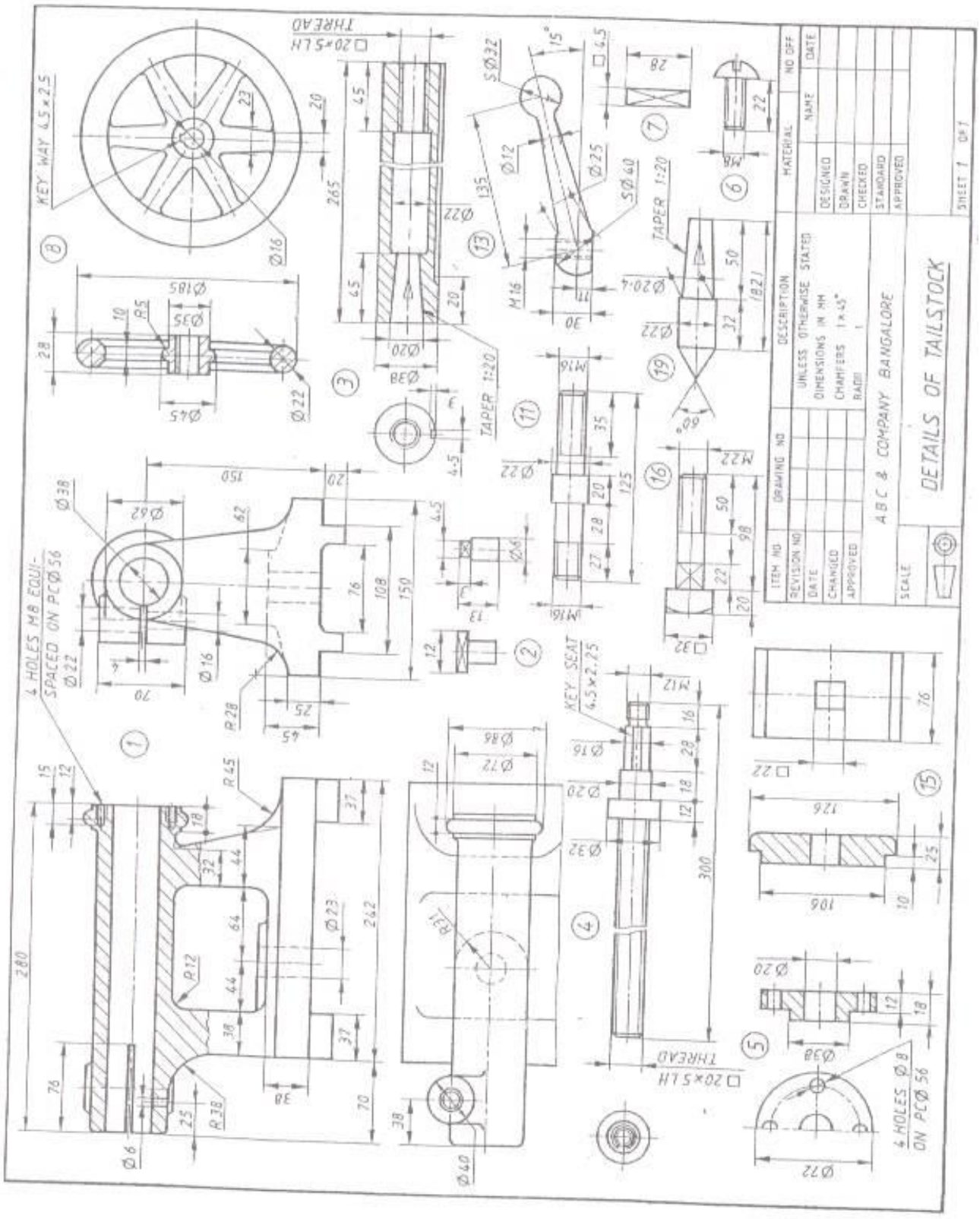
Fig. Q 2(b)

PART - C

5 Details of a "Petrol engine piston" shown in the Fig. Q 5. Assemble the parts and draw the following views of the assembly SCALE 2 : 1.
i) Front View
ii) Half Sectional Top View
iii) Left Side View in section, section plane along AA. **(50 Marks)**

6 Details of a "Tailstock of a lathe" are shown in the Fig. Q 6. Assemble the parts and draw the following views of the assembly. SCALE 1 : 2.
i) Sectional Front View ii) Top view. **(50 Marks)**


DETAILS OF PISTON
FOR PETROL ENGINE
A B C & COMPANY BANGALORE
PISTON RING
PLUG-GUDGEON PIN
GUDGEON PIN
PISTON
TOUGH C.I
BRASS
CAST STEEL
ALUMINUM ALLOY
SECTION BB
SECTION AA
EXCESS LENGTH REMOVED



Details of a Tailstock Fig 6

Fig 4 / 06

6 papers
13 sheets

USN | | | | | | | | | | |

ME36

Third Semester B.E. Degree Examination, Dec. 07 / Jan. 08
Machine Drawing

Time: 4 hrs. Max. Marks:100

Note : *1. Answer any ONE question from each part.*
2. Missing data, if any, may be suitably be assumed.
3. Use appropriate B.I.S. conventions for all the drawings.

PART A

1 a. A pentagonal pyramid having its base edge 35 mm and height 80 mm rests on its base on HP, so that one of its base edge is parallel to VP and nearer to it. The pyramid is intercepted by a section plane passing through the middle of the axis and making an inclination of 45^0 with HP. Draw the sectional top view and true shape of the section. **(10 Marks)**

b. Fig.1(b) shows pictorial view of a machine part. Draw the following views of the part to full size: i) Front view ii) Sectional view along SS iii) Top view. The centerhole of 20 mmΦ can be taken as a through hole. **(20 Marks)**

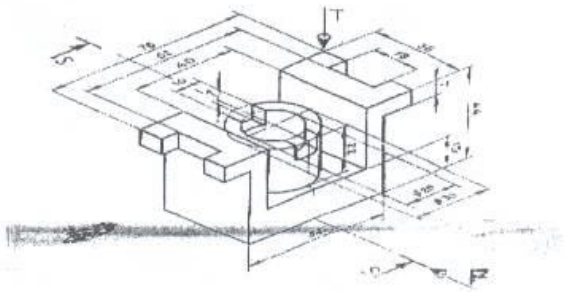


Fig.1(b)

2 a. The pictorial view of a machine part is shown in fig.2(a). Draw the following views of the part to 1:1 size: i) Front view ii) Left view in section along PP viewing in the direction L iii) Top view. **(20 Marks)**

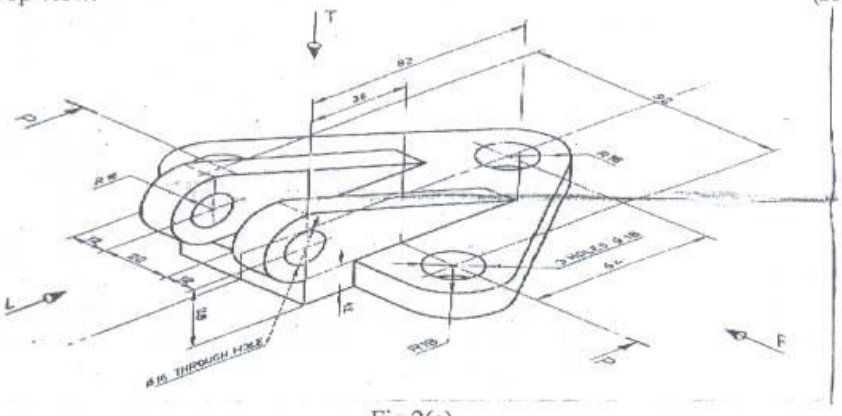


Fig.2(a)

b. i) Draw the proportionate sketch of locking of nut for a 20 mm diameter bolt using split pin.

ii) Draw the proportionate sketch showing the assembly of woodruff key for a shaft of diameter 25 mm. **(10 Marks)**

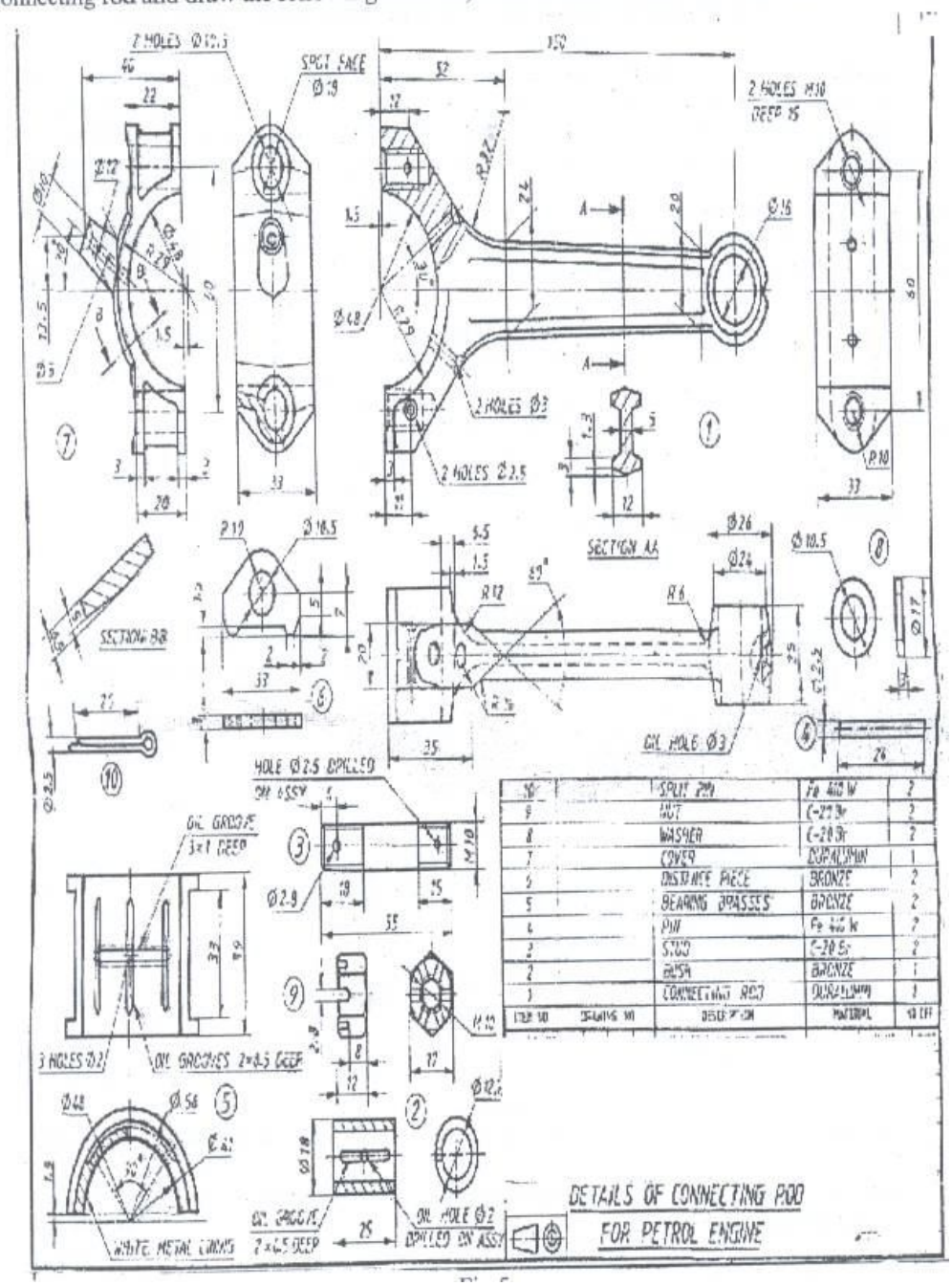
PART B

3 Draw a free hand sketch showing two views of a Knuckle joint for rod of diameter 25 mm. **(20 Marks)**

4 Draw a free hand sketch of an universal coupling (Double Fork type), for a shaft of diameter 30 mm, showing following views:
a. Front views
b. Right profile view. **(20 Marks)**

PART C

5 Part drawings of connecting rod of a petrol engine is shown in fig.5. Assemble the parts of connecting rod and draw the following views: a) Sectional front view b) Top view. **(50 Marks)**

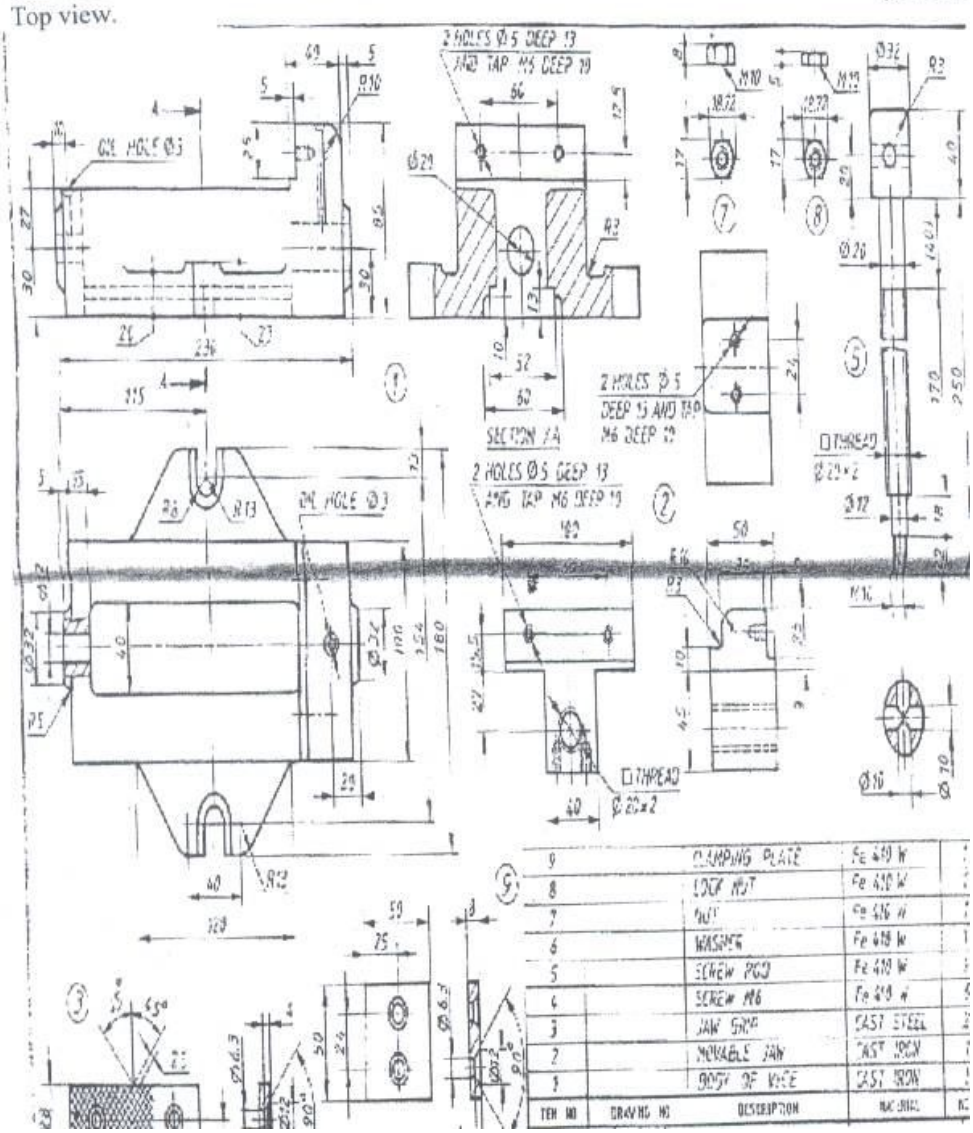


6 Fig.6 shows the details of a machine vice. Draw to the full size, the following ... assembly:

a. Half sectional front view showing fixed jaw in section

b. Top view.

(50 Mark



ME36

USN

NEW SCHEME

Third Semester B.E. Degree Examination, July 2007
ME / IP / IM / MA / AU / MI
Machine Drawing

Time: 4 hrs.] [Max. Marks:100

Note : *1. Answer any ONE question from each Parts A, B and C.*
2. Use first angle projection only.
3. Missing data may suitably be assumed.
4. All dimensions are in mm.

Part – A

1 a. A cube of 30 mm sides rests with one of the square faces on HP and is rotated in counter clockwise direction, such that one of its vertical square faces is inclined at 30^0 to VP. A section plane perpendicular to HP and inclined at 30^0 to VP passes through the cube at a distance of 5 mm from its axis and in front of it. The inclination of the section plane is such that its right end is nearer to the observer in the top view. Draw the sectional view and the true shape of section. **(10 Marks)**

b. Draw the following orthographic views of the machine component shown in Fig.1(b)
i) Front view looking in the direction F.
ii) Sectional left view for the sectional plane SS looking in the direction L.
iii) Top view. **(20 Marks)**

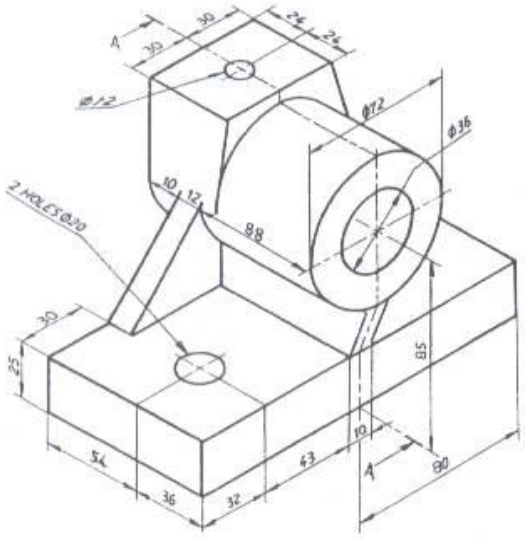


Fig 2 (a)

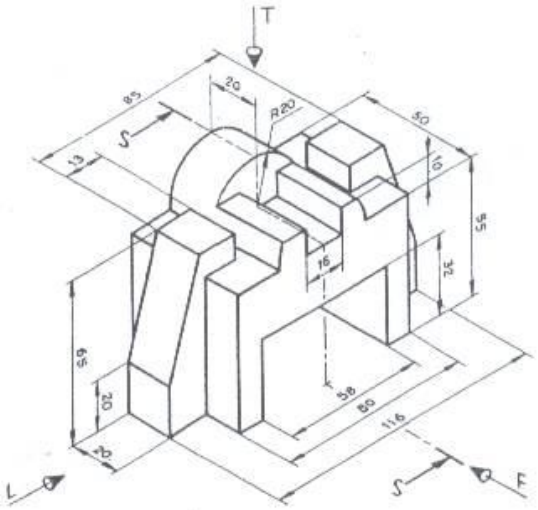


Fig 1 (b)

2 a. The pictorial view of a machine component is shown in Fig.2(a). Draw the following views.
i) Sectional front view taking section AA along the axis of symmetry
ii) Top view
iii) Right view **(20 Marks)**

Contd.... 2

b. Draw the proportionate sketches of the following :
   i) Acme thread
   ii) Flanged nut. **(10 Marks)**

Part – B

3 Draw to 1 : 1 scale, top and sectional front views of a double riveted chain lap joint. The thickness of the plate is 9 mm. Show atleast three rivets. Use snap head rivets. Indicate all the dimensions. **(20 Marks)**

4 Draw to 1 : 1 scale, the following views of a protected type flange coupling (diameter of shaft = 20 mm) :
a. Front view with top half in section
b. Left view looking from the nut end.
Indicate important dimensions, add parts list. **(20 Marks)**

Part – C

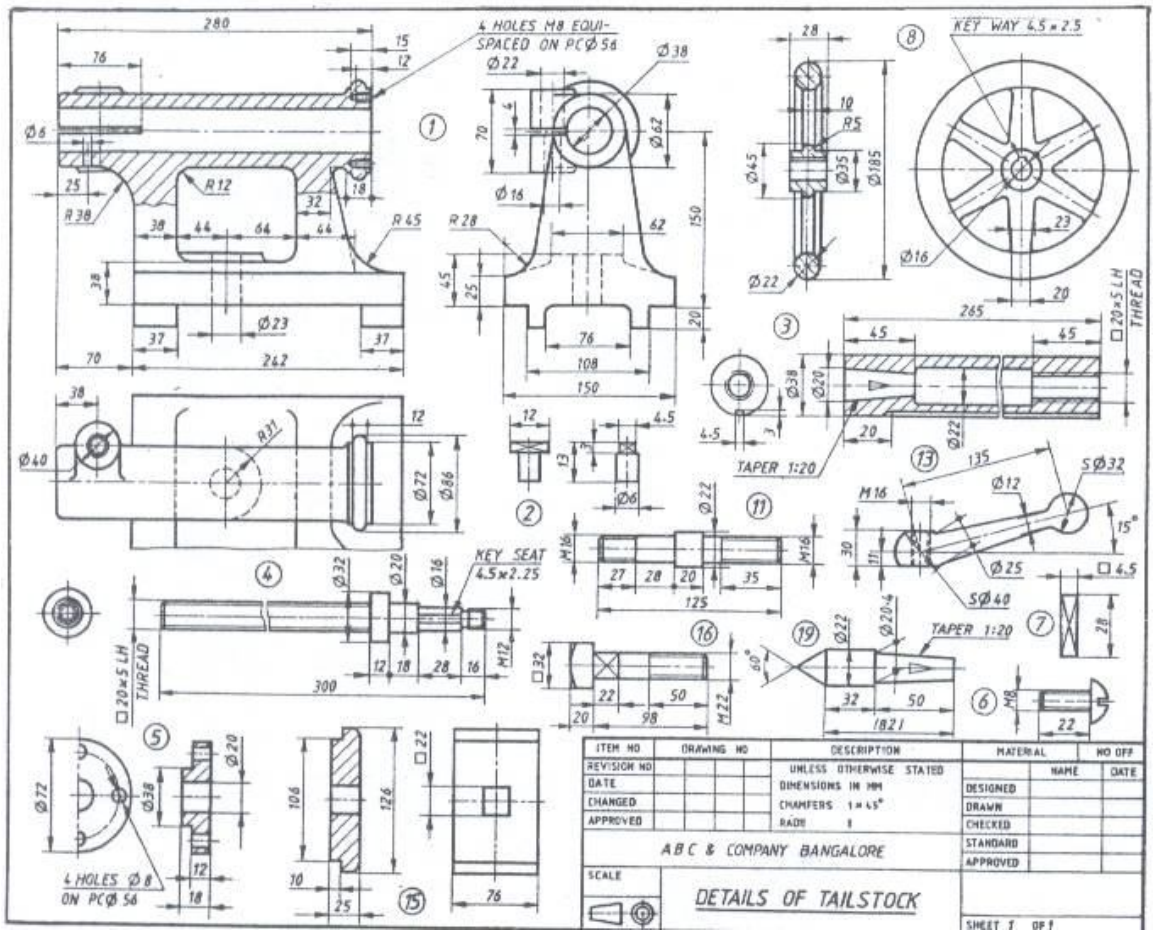
5 The details of a tail stock of lathe are shown in Fig.5. Assemble the parts and draw the following views of the assembly to 1 : 2 scale.
a. Sectional front view **(35 Marks)**
b. Top view. **(15 Marks)**
Parts list for this :

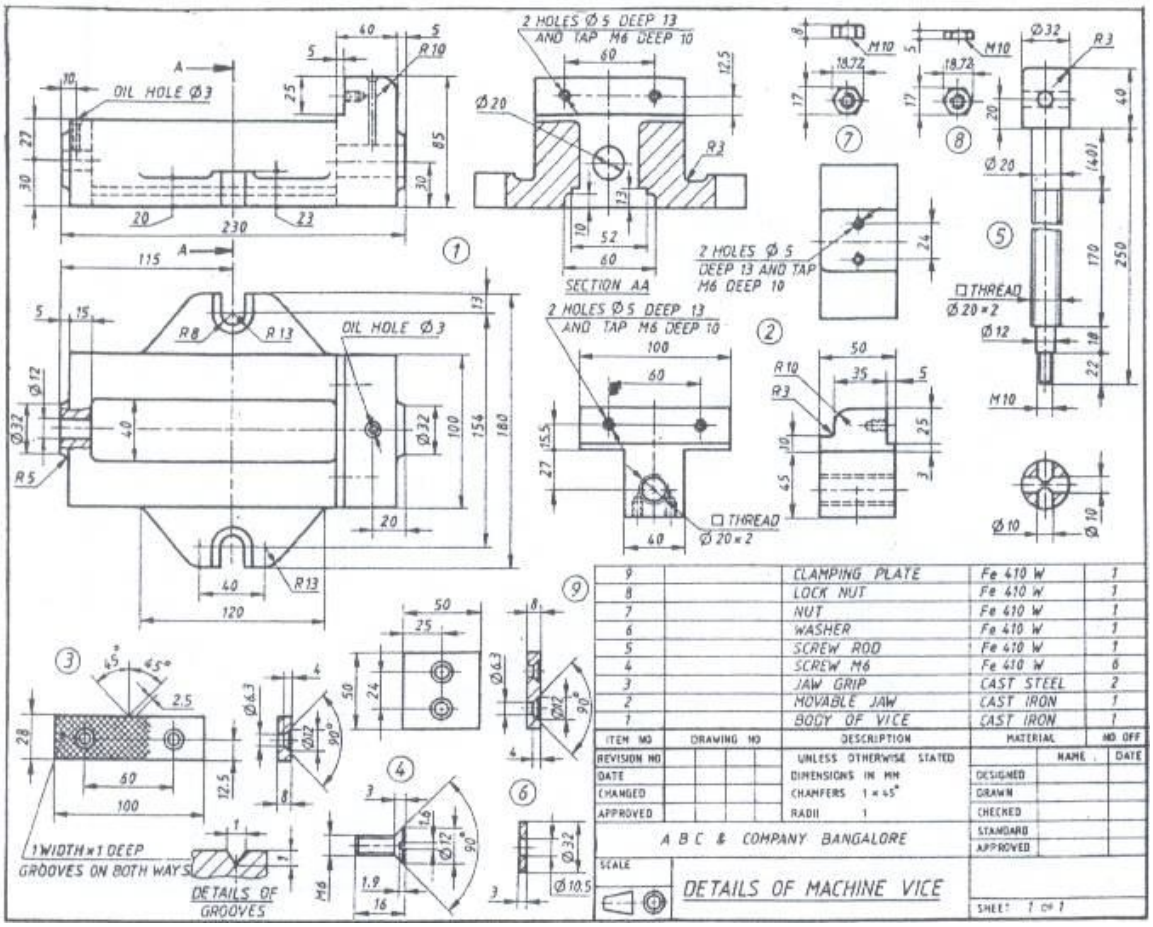
PART NO	DESCRITION	MATERIAL	NO. OFF
1	BODY	CAST IRON	1
2	FEATHER	Fe 410 W	1
3	BARREL	CAST IRON	1
4	SCREW SPINDLE	Fe 410 W	1
5	FLANGE	CAST IRON	1
6	SCREW	Fe 410 W	4
7	FEATHER KEY	Fe 410 W	1
8	HAND WHEEL	CAST IRON	1
9*	WASHER M12 STD	Fe 410 W	1
10*	HEX NUT M12	Fe 410 W	1

PART NO	DESCRITION	MATERIAL	NO. OFF
11	STUD	Fe 410 W	1
12*	WASHER M16 STD	Fe 410 W	2
13	HANDLE	CAST IRON	1
14	HEX. NUT M16	Fe 410 W	1
15	CLAMPING PLATE	CAST IRON	1
16	SQ. HEAD BOLT	Fe 410 W	4
17*	WASHER M22 STD	Fe 410 W	1
18	HEX. M22	Fe 410 W	1
19	CENTRE	CAST STEEL	1

*NOT DRAWN - COMMERCIAL

6 The details of a machine vice are given in Fig.6. Assemble the parts and draw the following views of the assembly to 1 : 2 scale
a. Sectional front view. **(30 Marks)**
b. Top view. **(20 Marks)**
Indicate the important dimensions of the views.


4 HOLES M8 EQUI-SPACED ON PCØ56
KEY WAY 4.5 × 2.5
KEY SEAT 4.5×2.25
TAPER 1:20
TAPER 1:20
20×5 LH THREAD
20×5 LH THREAD
4 HOLES Ø8 ON PCØ56
ABC & COMPANY BANGALORE
DETAILS OF TAILSTOCK
ITEM NO
DRAWING NO
DESCRIPTION
MATERIAL
NO OFF
REVISION NO
DATE
CHANGED
APPROVED
UNLESS OTHERWISE STATED
DIMENSIONS IN MM
CHAMFERS 1 × 45°
RADII
NAME
DATE
DESIGNED
DRAWN
CHECKED
STANDARD
APPROVED
SCALE
SHEET 1 OF 1



ITEM NO	DRAWING NO	DESCRIPTION	MATERIAL	NO OFF
9		CLAMPING PLATE	Fe 410 W	1
8		LOCK NUT	Fe 410 W	1
7		NUT	Fe 410 W	1
6		WASHER	Fe 410 W	1
5		SCREW ROD	Fe 410 W	1
4		SCREW M6	Fe 410 W	6
3		JAW GRIP	CAST STEEL	2
2		MOVABLE JAW	CAST IRON	1
1		BODY OF VICE	CAST IRON	1

REVISION NO		UNLESS OTHERWISE STATED		NAME / DATE
DATE		DIMENSIONS IN MM	DESIGNED	
CHANGED		CHAMFERS 1 × 45°	DRAWN	
APPROVED		RADII 1	CHECKED	
			STANDARD	
			APPROVED	

SCALE

SHEET 1 OF 1

ME36

USN | | | | | | | | | | |

NEW SCHEME

Third Semester B.E. Degree Examination, Dec.06/Jan. 07
ME / IP / IM / MA / AU / MI
Machine Drawing

Time: 4 hrs.] [Max. Marks:100

Note: *1. Answer any One question from each Part A, Part B, Part B and Part C.*
2. Missing data if any may be suitably assumed .

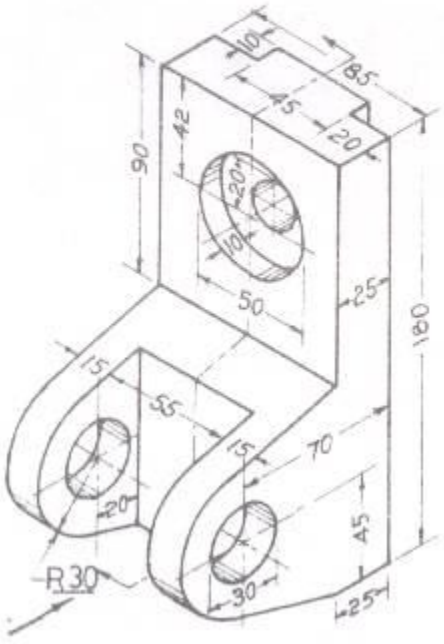
PART A

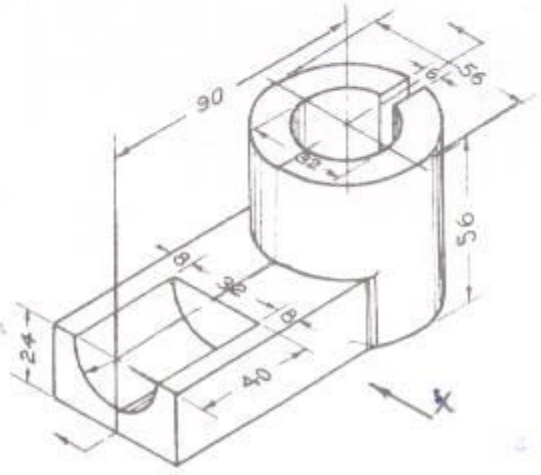
1 a. A cylinder of 50mm diameter and 70mm long is resting on a point on HP, with its axis inclines at 30^0 to HP and parallel to V.P. A section plane, which is inclined at 45^0 to VP and perpendicular to HP cuts the solid. The section plane passes through the axis at 30mm from one of its ends. Draw the projections of the cut solid. **(10 Marks)**

b. The pictorial view of a sliding block shown in fig.1(b). Draw the following views i) Front view ii) Sectional side view and iii) Top view. **(20 Marks)**

2 a. The diameter of the shaft is 25mm. Draw the two views of the following :
i) Castle nut. Ii) Taper sunk key. **(10 Marks)**

b. Fig.2(b) shows the machine component. Draw the following views
i) Sectional front view ii) Side view from the left and iii) Top view. **(20 Marks)**





PART - B

3 Draw the top view and sectional front view of double rivetes butt joint with double cover plates with zig – zag riveting. The thickness of plate is 14mm. Show at least three rivets in one row and two rivets in the adjoining rows. Indicate all the dimensions. Use snap head rivets and show all calculation on the drawing sheet. **(20 Marks)**

4 Draw i) Half sectional front view with top half in section
ii) Side view of a protected flanges coupling to connect two shafts of diameter 25mm each. **(20 Marks)**

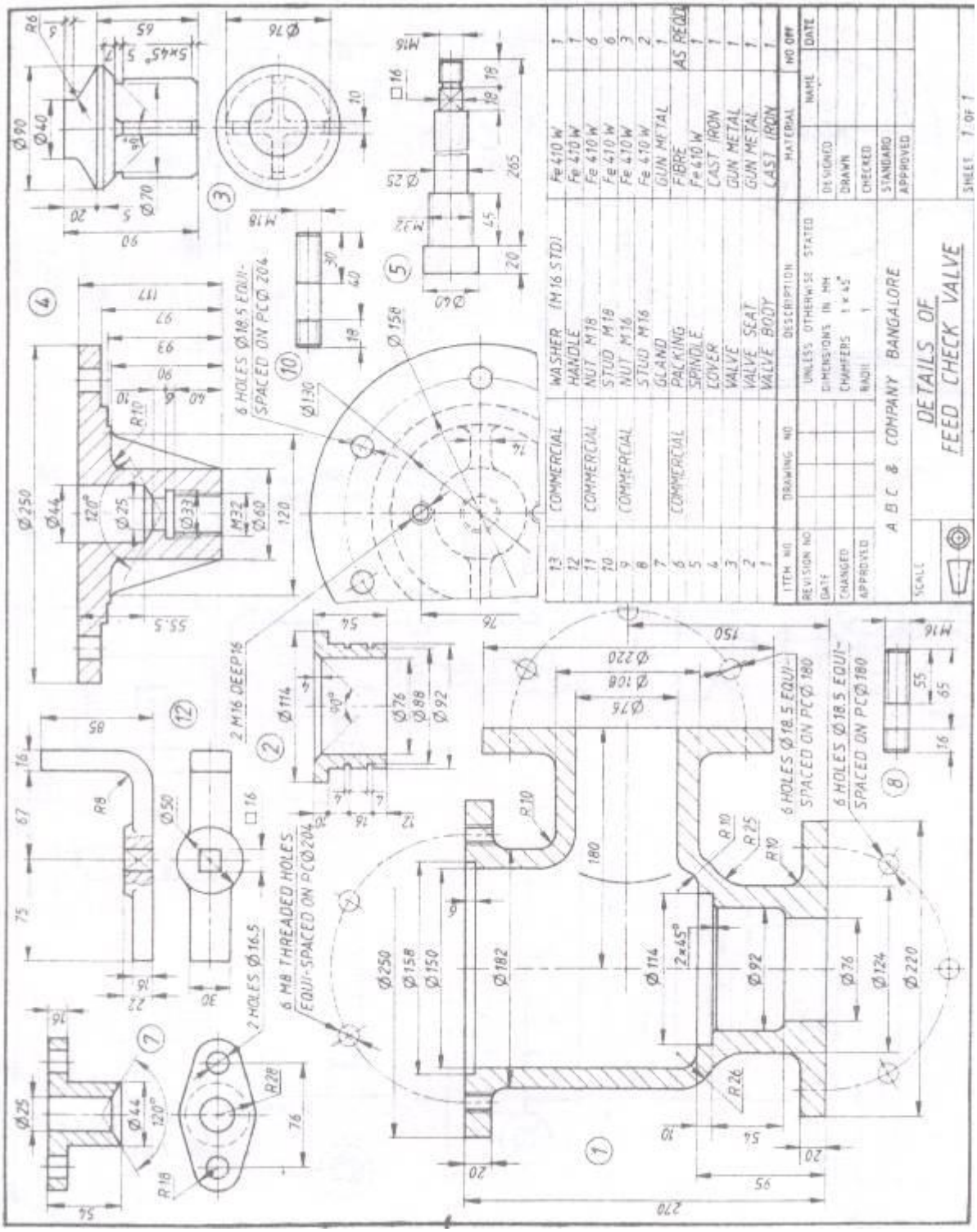
PART - C

5 Fig. 5 shows the details of a Tail – stock of a lathe. Assemble the parts and draw.
a. Sectional front view. **(30 Marks)**
b. Top View. **(10 Marks)**
c. Left side view. **(10 Marks)**

6 Fig. 6 shows the details of a Feed check valve. Assemble the parts and draw:
a. Sectional front view. **(30 Marks)**
b. Top view. **(10 Marks)**
c. Right side view. **(10 Marks)**

*****

Contd...3


A B C & COMPANY BANGALORE
DETAILS OF
FEED CHECK VALVE
ITEM NO
DRAWING NO
DESCRIPTION
MATERIAL
NO OFF
REMARKS
WASHER (M16 STD)
HANDLE
NUT M18
STUD M18
NUT M16
STUD M16
GLAND
PACKING
SPINDLE
COVER
VALVE
VALVE SEAT
VALVE BODY
GUN METAL
FIBRE
CAST IRON
6 HOLES Ø18.5 EQUI-SPACED ON PCD 204
2 M16 DEEP
6 M8 THREADED HOLES EQUI-SPACED ON PCD 204
2 HOLES Ø16.5
6 HOLES Ø18.5 EQUI-SPACED ON PCD 180
DIMENSIONS IN MM
UNLESS OTHERWISE STATED
DESIGNED
DRAWN
CHECKED
STANDARD
APPROVED
DATE
NAME

10

ME36

USN | | | | | | | | | | |

NEW SCHEME

Third Semester B.E. Degree Examination, July 2006
ME/IP/AU/IM/MA
Machine Drawing

Time: 4 hrs.] [Max. Marks:100

Note: *1. Answer any ONE question from each of the parts A, B and C.*
2. Use FIRST ANGLE projection only.
3. Missing data if any may suitably be assumed.
3. All the calculations should be on drawing sheet only.
4. All dimensions are in mm.

PART-A

1 a. A tetrahedron of edges 75 mm long is lying on H.P. on one of its faces. It is cut by a section plane inclined to H.P, such that the true shape of section is a trapezium of parallel sides 40 mm and 25 mm. Draw the front view, sectional top view and true shape of the section. **(10 Marks)**

b. The pictorial view of a machine part is shown in fig.Q1(b). Draw the following views:
i) Sectional front view, looking in the direction A, taking section along SS.
ii) Side view looking in the direction B.
iii) Top view. **(20 Marks)**

2 a. Draw the proportionate sketches neatly of the following:
i) Knuckle Thread (External).
ii) Flanged Nut of M.20. **(10 Marks)**

b. The pictorial view of a machine component is shown in fig.Q2(b). Draw the following views:
i) Sectional front view, looking in the direction X taking section along SS.
ii) Side view looking in the direction of Y.
iii) Top view. **(20 Marks)**

PART-B

3 Draw free hand proportionate sketch of a double riveted butt joint with double cover plates and zigzag riveting as indicated below:
i) Sectional front-view ii) Top-view.
Take a plate thickness = 10 mm; and indicate clearly all dimensions on the drawing. Use a scale of full size. **(20 Marks)**

4 Prepare free hand sketches of a protected type flange coupling as per instructions given below:
i) Sectional elevation with top half in section. ii) Right view.
Take diameter of shaft X = 30 mm and a scale of 1:1
Indicate important dimensions on the sketches. **(20 Marks)**

PART-C

5 Details of a "PLUMMER BLOCK" are shown in fig.Q5. Assemble the parts and draw the following views of the assembly:
i) Front view showing right half in section. **(35 Marks)**
ii) Side view with left half in section. **(15 Marks)**
Take a scale of 1:1, and indicate the important dimensions of the views.

6 Details of a "FEED CHECK VALVE" are shown in fig.Q6. Assemble the

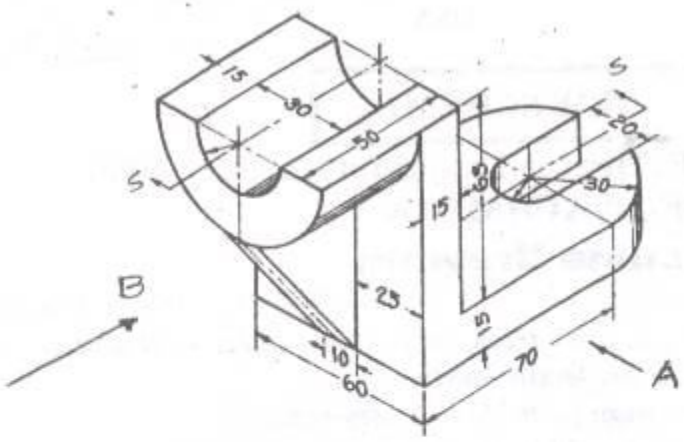


Fig: Q .1 (b)

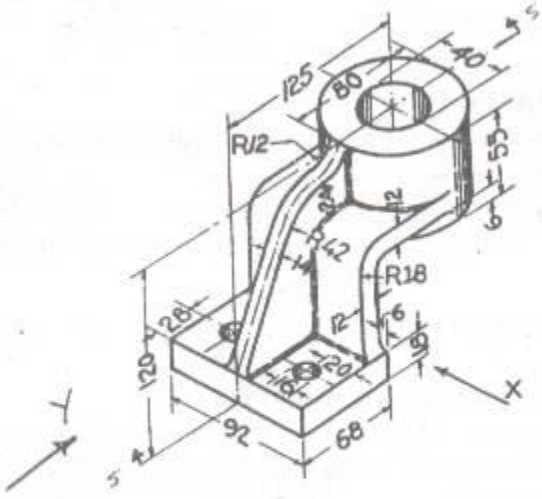
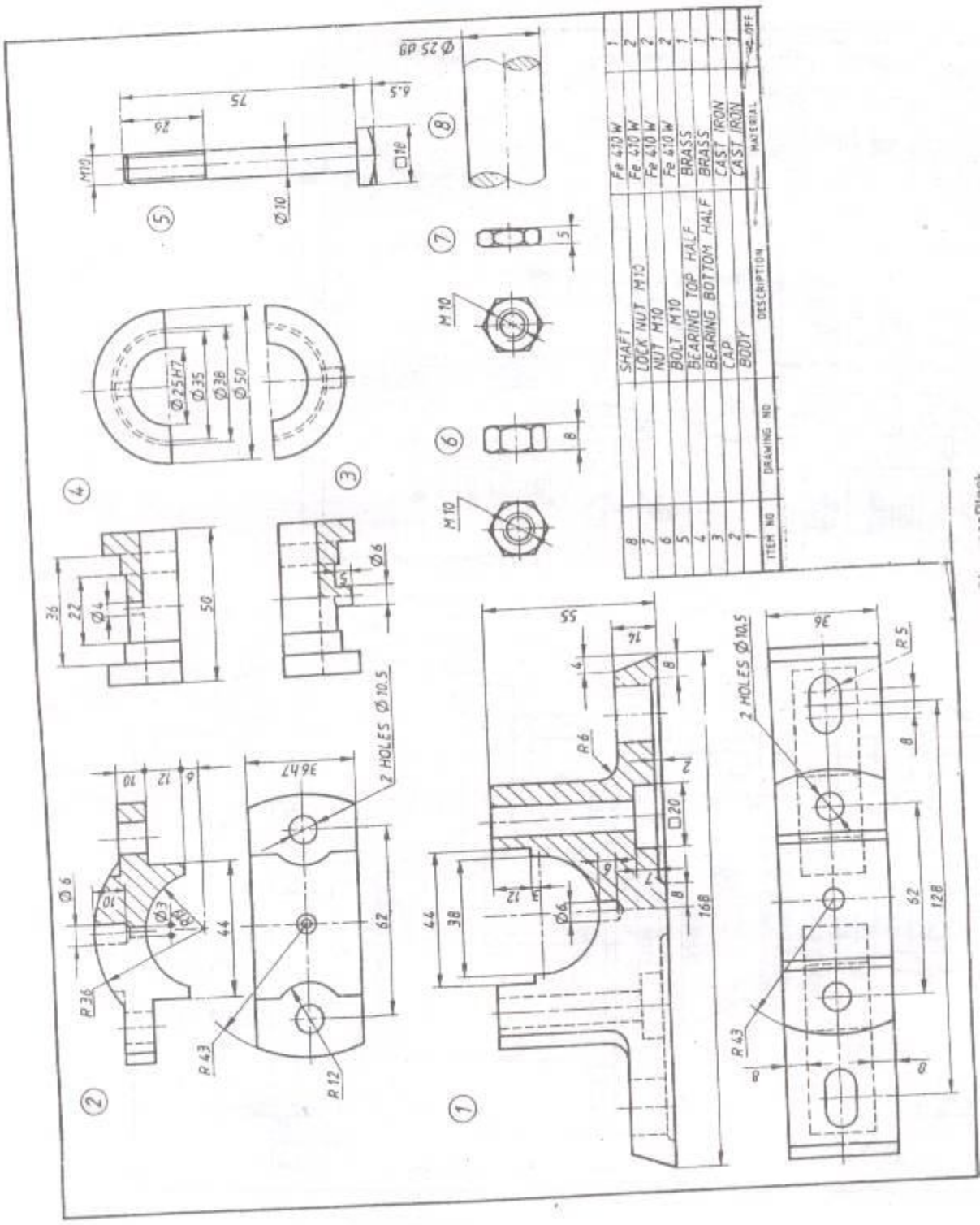
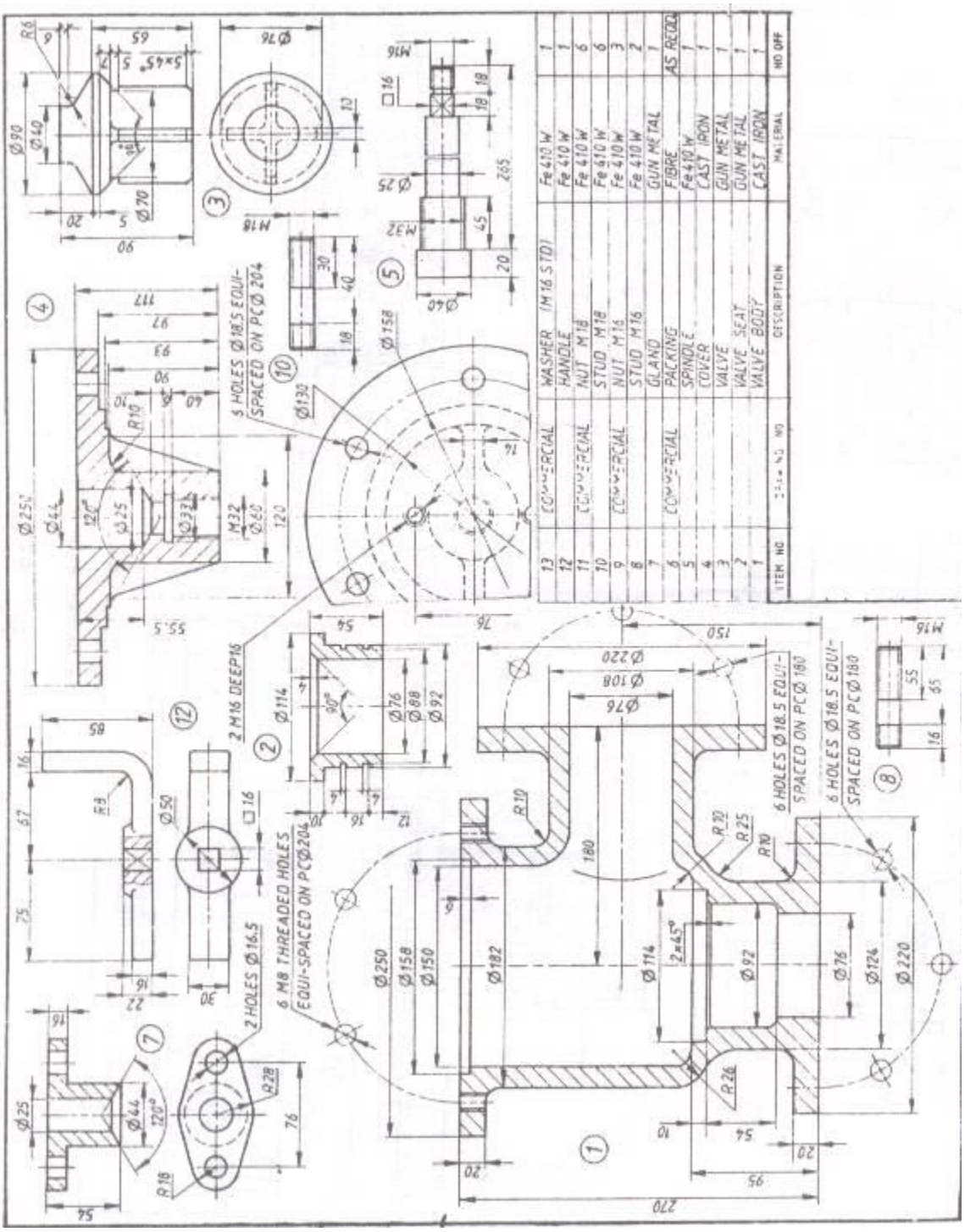


Fig: Q .2 (b)

page 3

ME 36


SHAFT
LOCK NUT M10
NUT M10
BOLT M10
BEARING TOP HALF
BEARING BOTTOM HALF
CAP
BODY
DESCRIPTION
MATERIAL
DRAWING NO
ITEM NO
Fe 410 W
BRASS
CAST IRON
2 HOLES Ø10.5
R43
R12
R36
R6
R5


ITEM NO
DESCRIPTION
MATERIAL
NO OFF
1 VALVE BODY CAST IRON 1
2 VALVE SEAT GUN METAL 1
3 VALVE GUN METAL 1
4 COVER CAST IRON 1
5 SPINDLE Fe 410 W 1
6 PACKING FIBRE AS REQD
7 GLAND GUN METAL 1
8 STUD M16 Fe 410 W 2
9 NUT M16 Fe 410 W 3
10 STUD M18 Fe 410 W 6
11 NUT M18 Fe 410 W 6
12 HANDLE Fe 410 W 1
13 WASHER IM 16 STD Fe 410 W 1
COMMERCIAL
6 HOLES Ø18.5 EQUI-SPACED ON PCØ 180
2 M16 DEEP16
6 M8 THREADED HOLES EQUI-SPACED ON PCØ204
2 HOLES Ø16.5
5 HOLES Ø18.5 EQUI-SPACED ON PCØ 204

NEW SCHEME

ME36

Reg. No. | | | | | | | | | | |

Third Semester B.E. Degree Examination, January/February 2006

Common to ME/IP/IM/MA/AU/MI

Machine Drawing

Time: 4 hrs.) (Max.Marks : 100

Note: *1. Any one full question is to be answered in each Part.*
2. Use first angle projections, missing data may suitably be assumed.

PART - A

1. (a) A regular pentagonal prism, side of base $25mm$ and $54mm$ long, lies on one of its rectangular faces on HP, such that its axis is inclined to VP at 45^0. A section plane, perpendicular to both the HP and VP cuts the prism, meeting its axis at a distance of $5mm$ from the end face which is away from VP. Draw the front and the top views of the prim. Also project its profile view, showing true shape of the section. **(10 Marks)**

(b) Draw the following orthographic views of the machine component shown in Fig. 1.

i) Full sectional front view in the direction of F. **(10 Marks)**

ii) Top view looking from the direction of T. **(6 Marks)**

iii) Left profile view in the direction of L. **(4 Marks)**

2. (a) Draw the following orthographic views of the machine component shown in Fig. 2.

i) Front view **(6 Marks)**

ii) Top view **(4 Marks)**

iii) Full sectional right profile view **(10 Marks)**

(b) Draw the front view and right side view of the assembly of the hexagonal headed bolt, square headed nut and washer for $25mm$ diameter. The bolt head should be at the right side.

i) Front view **(06 Marks)**

ii) Side view **(04 Marks)**

PART - B

3. Draw the following views of a SOCKET and SPIGOT COTTER JOINT used for joining two rods of diameter $20mm$:

a) Sectional front view **(12 Marks)**

b) A view looking from socket end **(8 Marks)**

4. Draw the following views of a 'universal coupling' used to connect two $20mm$

PART - C

5. The part drawings of a fuel injector are given in Fig. 3. Assemble the parts and draw the following views of the fuel injector :

a) Half sectional front view with left half in section. **(35 Marks)**

b) Top view **(15 Marks)**

6. The part drawings of a machine vice are given in Fig. 4. Assemble the parts and draw the following views of the machine vice :

a) Sectional front view **(30 Marks)**

b) Top view **(20 Marks)**

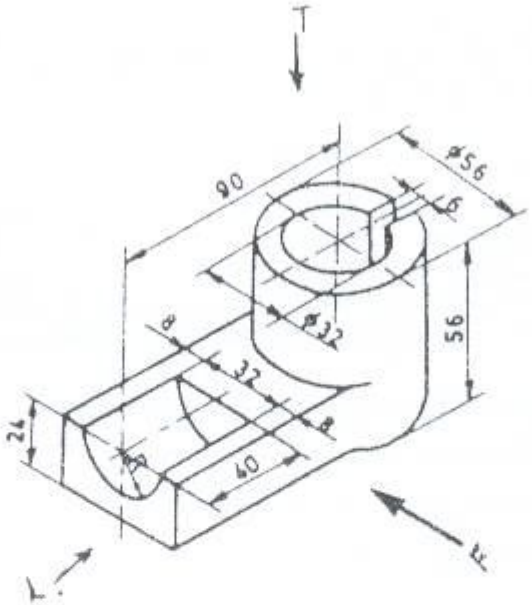
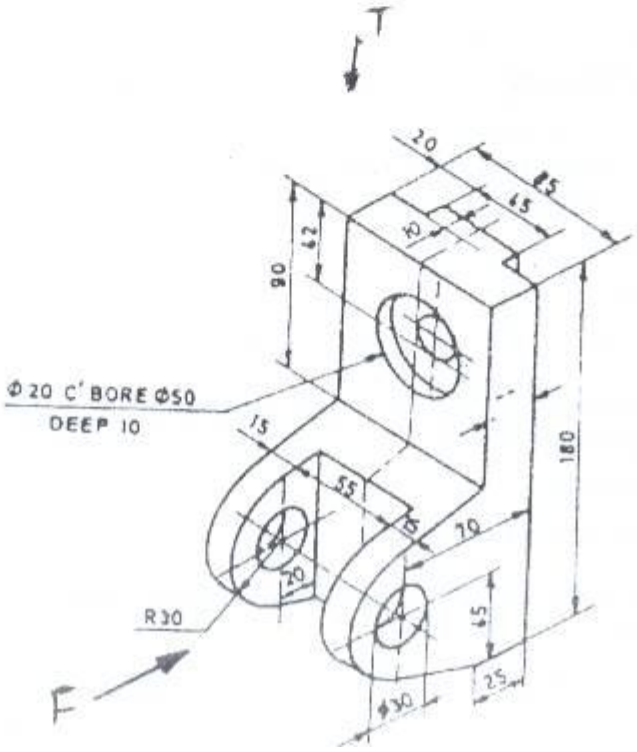
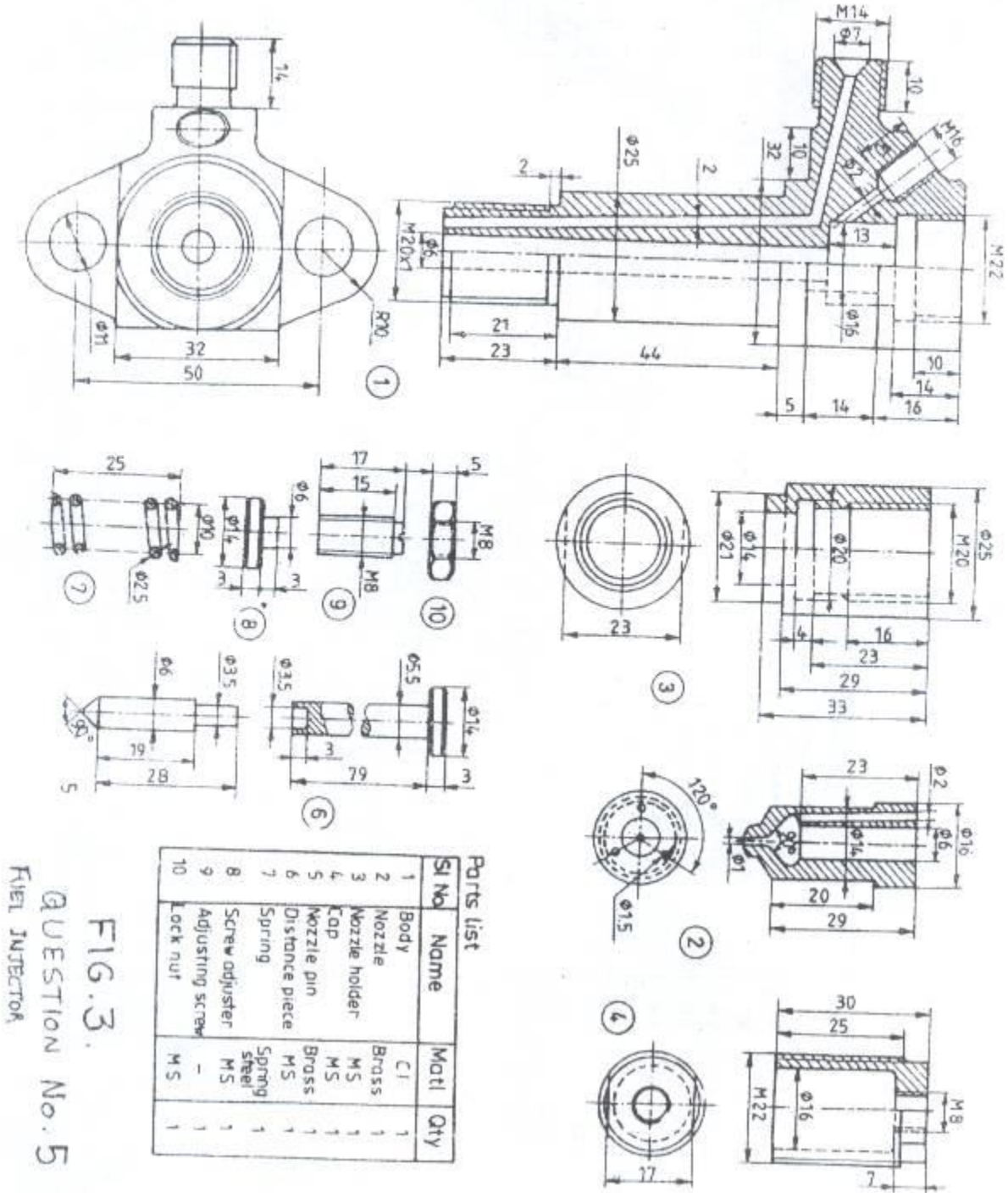


FIG 1.

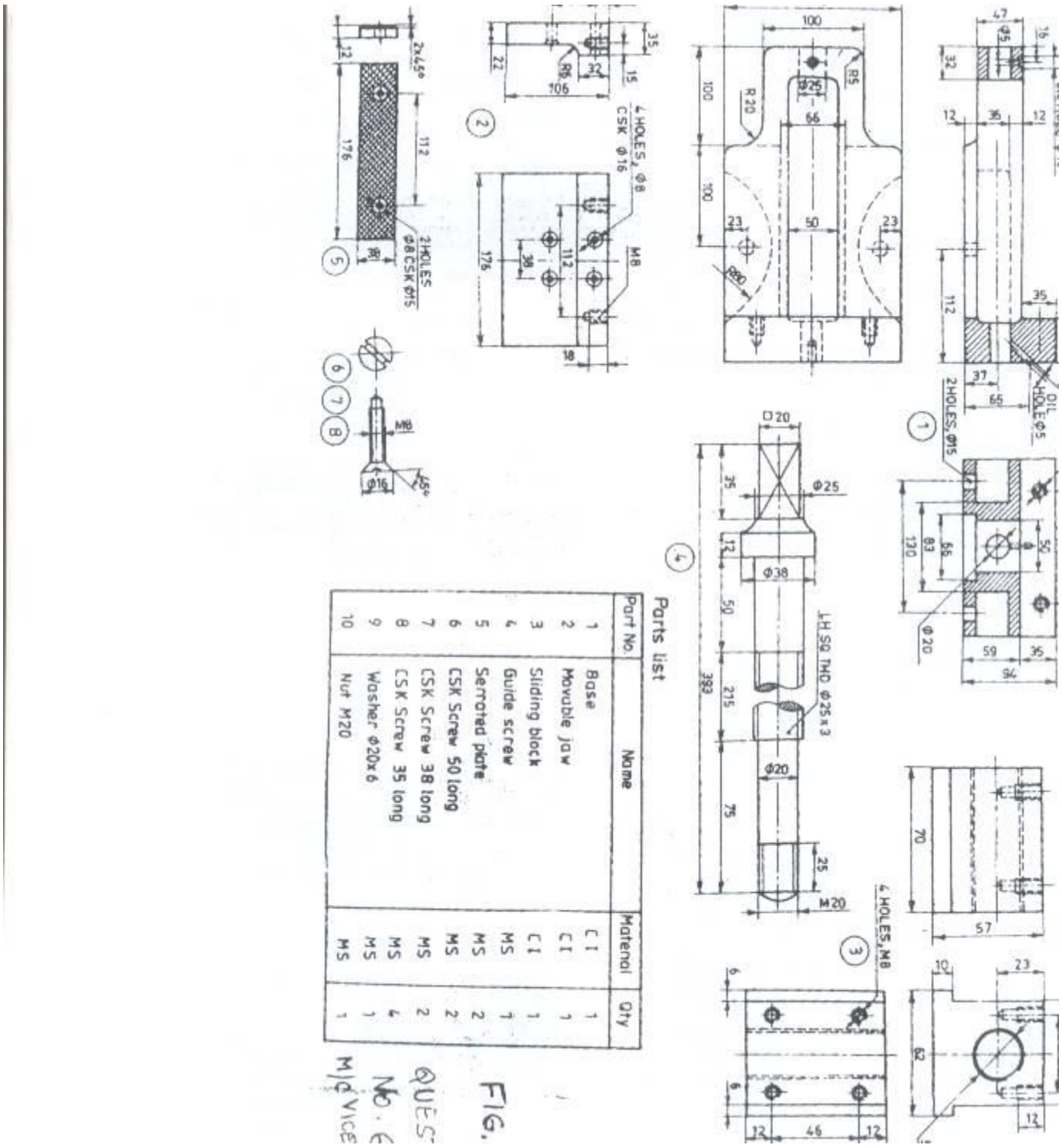




Parts list

Sl No	Name	Matl	Qty
1	Body	CI	1
2	Nozzle	Brass	1
3	Nozzle holder	MS	1
4	Cap	MS	1
5	Nozzle pin	Brass	1
6	Distance piece	MS	1
7	Spring	Spring steel	1
8	Screw adjuster	MS	1
9	Adjusting screw	-	1
10	Lock nut	MS	1

FIG. 3.
QUESTION No. 5
FUEL INJECTOR



Parts list

Part No.	Name	Material	Qty
1	Base	CI	1
2	Movable jaw	CI	1
3	Sliding block	CI	1
4	Guide screw	MS	1
5	Serrated plate	MS	2
6	CSK Screw 50 long	MS	2
7	CSK Screw 38 long	MS	2
8	CSK Screw 35 long	MS	4
9	Washer ϕ20x6	MS	1
10	Nut M20	MS	1

FIG.

QUES

No. E

M/c VICE

NEW SCHEME

ME36

USN

Third Semester B.E. Degree Examination, July/August 2005

Common to ME/IP/IM/MA/AU/MI

Machine Drawing

Time: 4 hrs.] [Max.Marks : 100

Note: *1. Answer ONE question from EACH Part*
2. Missing dimensions, if any may be suitably assumed.
3. Show calculation, if any in the drawing sheet only.
4. Adopt first angle projection.

PART - A

1. (a) A square prism of 45mm side of base, height 90 mm rests with its base on HP such that one of the rectangular faces is inclined at 30^0 to VP. A section plane perpendicular to VP and inclined to HP at 60^0 passes through a point on the axis at a height of 70mm from the base. Draw the front view and sectional top view. Project an auxilliary view on an auxillary plane parallel to the section plane.

(10 Marks)

(b) The pictorial view of a machine part is shown in figure 1. Draw the front view as seen in the direction of the arrow mark, left side view and top view. Assume a scale of 1 : 2.

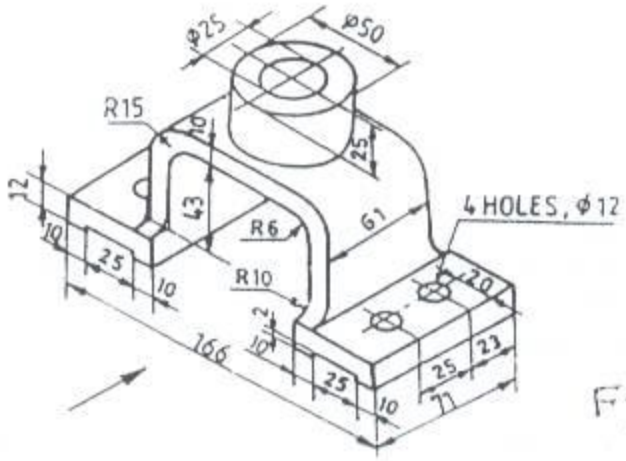


Fig 1

(20 Marks)

2. (a) A triangular pyramid of 30*mm* side of base and axis 45*mm* long is placed with its base on HP such that an edge of the base is parallel to VP and nearer to it. A cutting plane inclined at 60^0 HP and perpendicular to VP bisects the axis of the pyramid.
Draw the top and profile view in section. Also add true shape of the section.

(10 Marks)

(b) The pictorial view of a machine components is shown in figure 2. Draw the three orthographic views. Arrow mark shows the front view of the component.

Draw

i) Front view

ii) Simple top view

iii) Right profile view

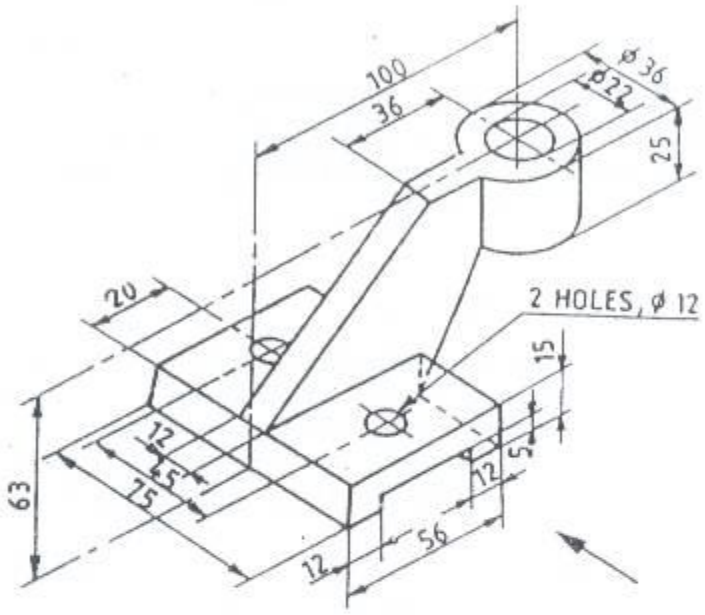


Fig 2
Prob 2(b)

(20 Marks)

PART - B

3. (a) Draw a neat sketch of a double riveted butt joint with single strap. The rivets are to be arranged in a Zig-zag fashion. Assume and indicate the dimensions and show the calculations. (15 Marks)

(b) Draw a free hard sketch of a flaged nut assuming the nominal diameter to be 20mm. (5 Marks)

4. (a) Draw a neat and proportionate sketch of a protected type of flanged compling to connect two shafts of 25m Φ showing the following views

i) Front view with top half in section

ii) Simple top view

iii) Right side view (20 Marks)

PART - C

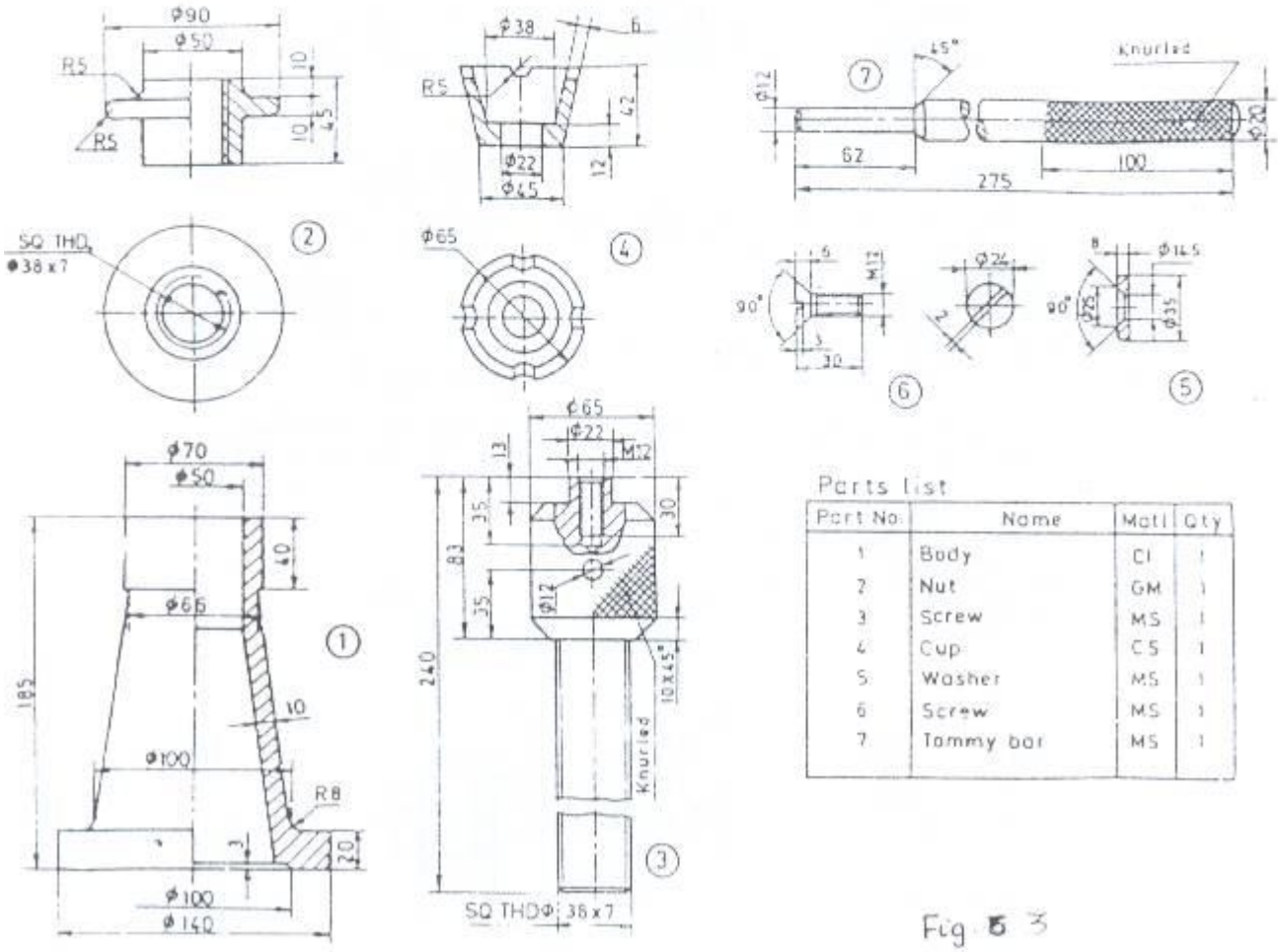
5. Figure 3 shows the details of a screw jack. Assemble the parts of the screw jack and show the following views :

   i) Half sectional front view showing the right half in section

   ii) Simple top view

   iii) Right profile view.

(50 Marks)



Parts list

Part No.	Name	Matl	Qty
1	Body	CI	1
2	Nut	GM	1
3	Screw	MS	1
4	Cup	CS	1
5	Washer	MS	1
6	Screw	MS	1
7	Tommy bar	MS	1

Fig 5 3

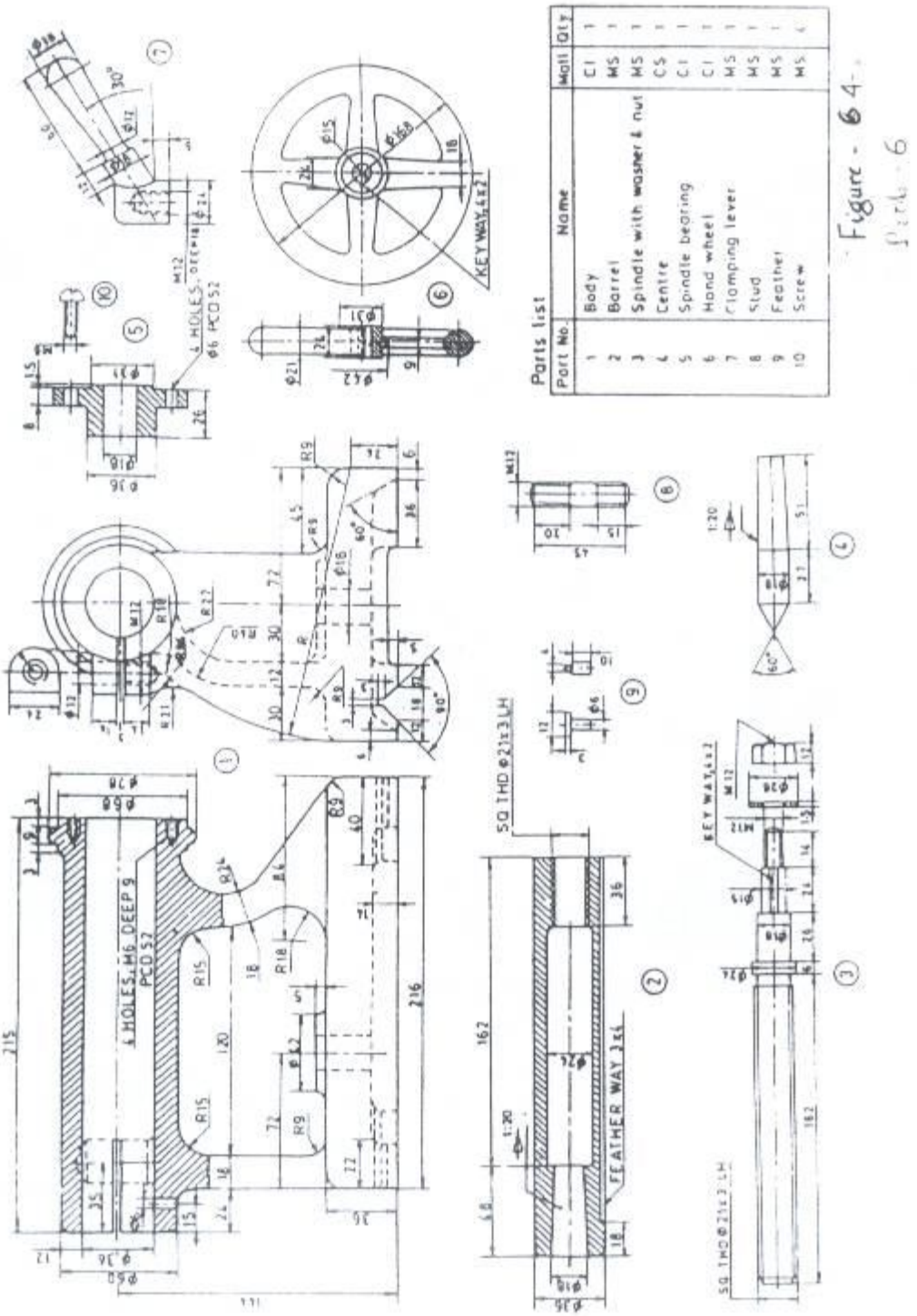
Page 5

6. Figure 4 shows the part drawing of a tail stock. Assemble the tailstock and show the following views

i) Sectional front view showing the top spinder portion in section

ii) Simple top view

iii) Left profile view. (50 Marks)



NEW SCHEME

ME36

USN | | | | | | | | | | |

Third Semester B.E. Degree Examination, January/February 2005

Common to ME/IP/IM/MA/AU/MI

Machine Drawing

Time: 4 hrs.] [Max.Marks : 100

Note: *Answer one question from each Part - A, Part - B and Part - C. Missing data if any may be suitably assumed.*

PART - A

1. (a) A cone of base diameter 60mm and axis 75mm long is resting on its base on HP. It is cut by a section plane perpendicular to the VP and inclined at 55^0 to the HP. The VT of the section plane passes through the axis at a point 50mm above the ground. Draw the sectional view from above, the view from the front and the true shape of the section. (10 Marks)

   (b) The pictorial view of a bearing bracket is given in fig. 1. Draw the following views :

   i) Half-Sectional front view, looking in the direction of X.

   ii) Half sectional side view.

   iii) Half-Sectional top view. (20 Marks)

2. (a) Fig. 2 shows the pictorial view of a shaft support. Draw the following views.

   i) Full sectional front view

   ii) Top view

   iii) Right side view (20 Marks)

   (b) Draw the front view, top view and right side view of the assembly of the hexagonal headed bolt, square headed nut and washer for 25mm diameter. (10 Marks)

PART - B

3. Draw the sectional front view and top view of a double riveted lap joint with zig-zag riveting to connect two plates of 12mm thickness. (20 Marks)

4. Draw i) Half sectional front view, with top half in section ii) side view of a bushed pin type flange coupling to connect two shafts, each of diameter 30mm. (20 Marks)

PART - C

5. Fig 3 shows the details of a machine vice. Assemble the parts and draw

   i) Sectional front view (30 Marks)

   ii) Top view (10 Marks)

   iii) Left side view. (10 Marks)

6. Assemble all the parts of the screw jack shown in Fig 4 and draw

   i) Half sectional front view with right half in section. (35 Marks)

   ii) Top view (15 Marks)

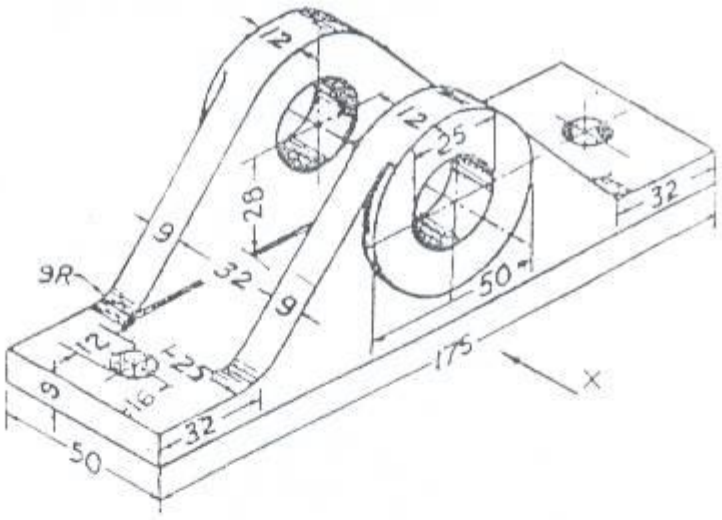


FIG. 1. Q.No. 1 (b)

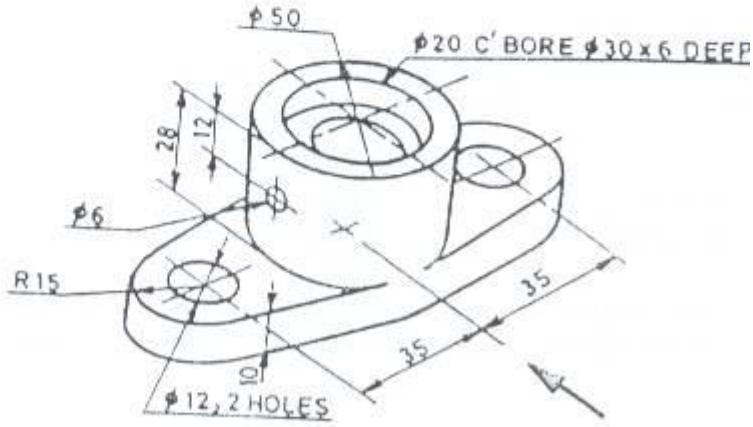
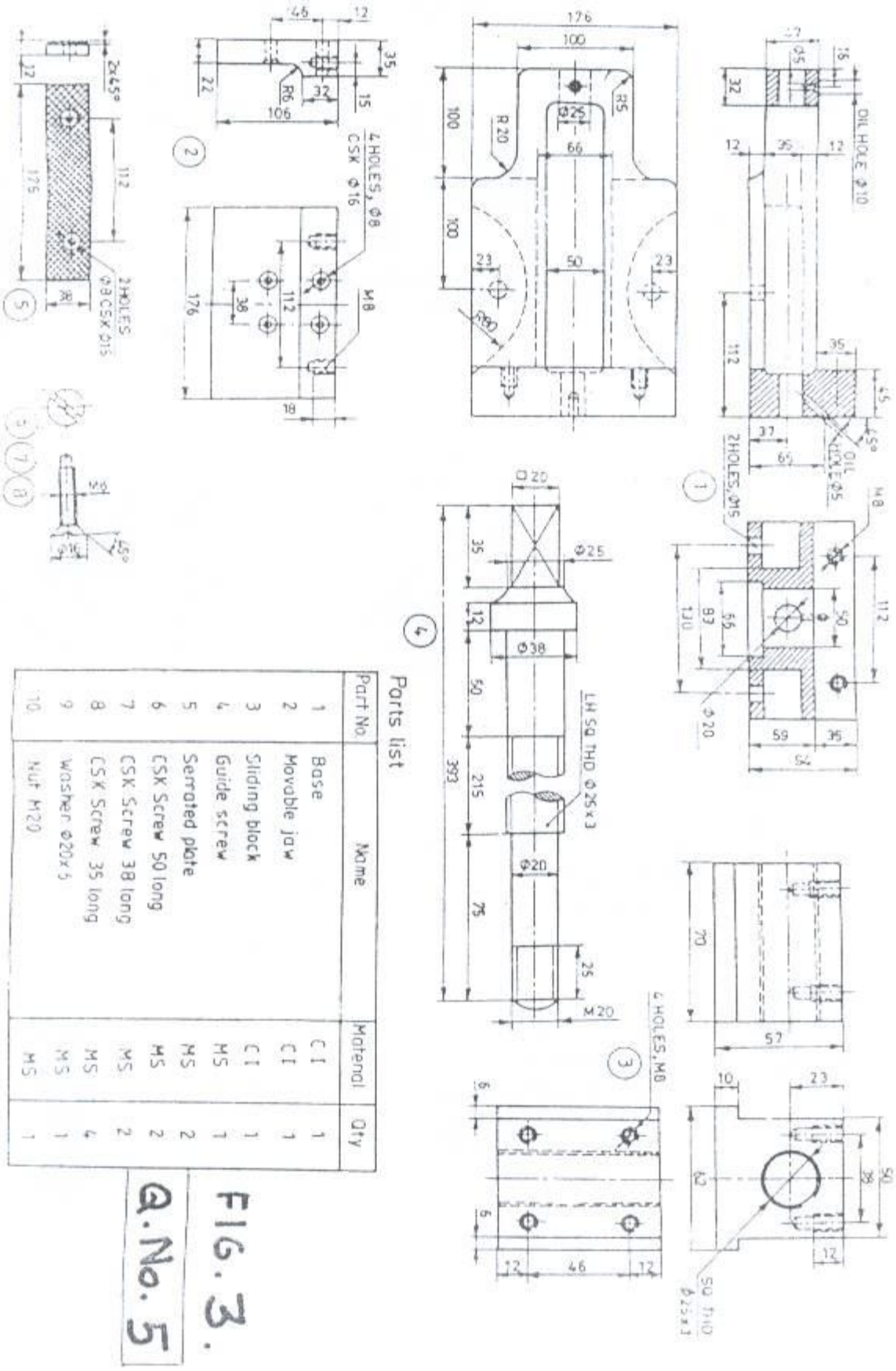


FIG. 2. Q.No. 2 (a)

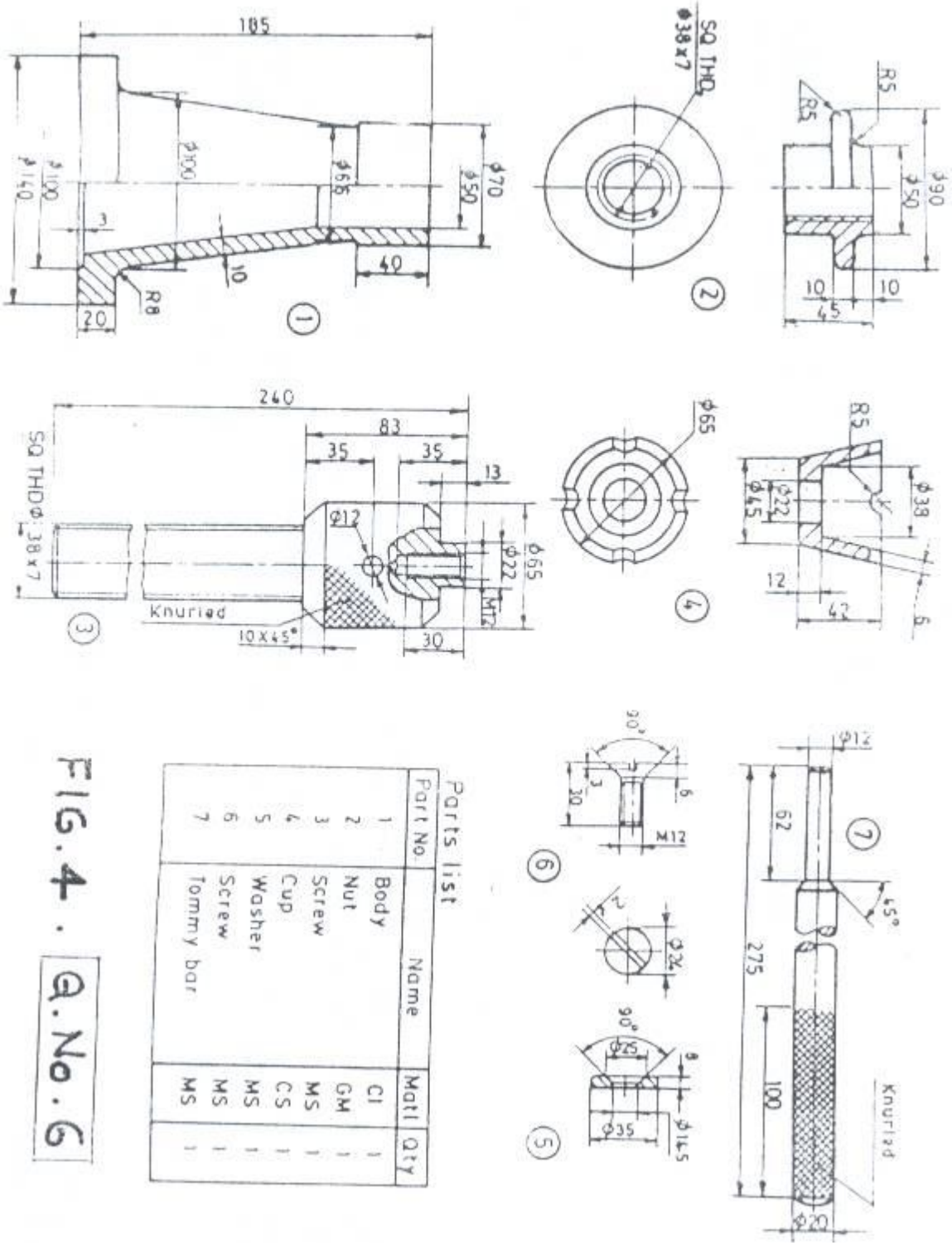


Parts list

Part No.	Name	Material	Qty
1	Base	C I	1
2	Movable jaw	C I	1
3	Sliding block	C I	1
4	Guide screw	M S	1
5	Serrated plate	M S	2
6	CSK Screw 50 long	M S	2
7	CSK Screw 38 long	M S	2
8	CSK Screw 35 long	M S	4
9	Washer Φ20x5	M S	1
10	Nut M20	M S	1

FIG. 3.

Q.No. 5



Parts list

Part No.	Name	Matl	Qty
1	Body	CI	1
2	Nut	GM	1
3	Screw	MS	1
4	Cup	CS	1
5	Washer	MS	1
6	Screw	MS	1
7	Tommy bar	MS	1

FIG. 4. Q.No. 6