



The Shirpur Education Society's

**R. C. Patel College of Engineering and
Polytechnic, Shirpur**

Department of Mechanical Engineering

NAME OF COURSE: - Production Drawing

CODE OF COURSE: - 313311

SEMESTER: - ME-3K (SYME)

**Unit - 5 Assembly To Details
16 Marks**

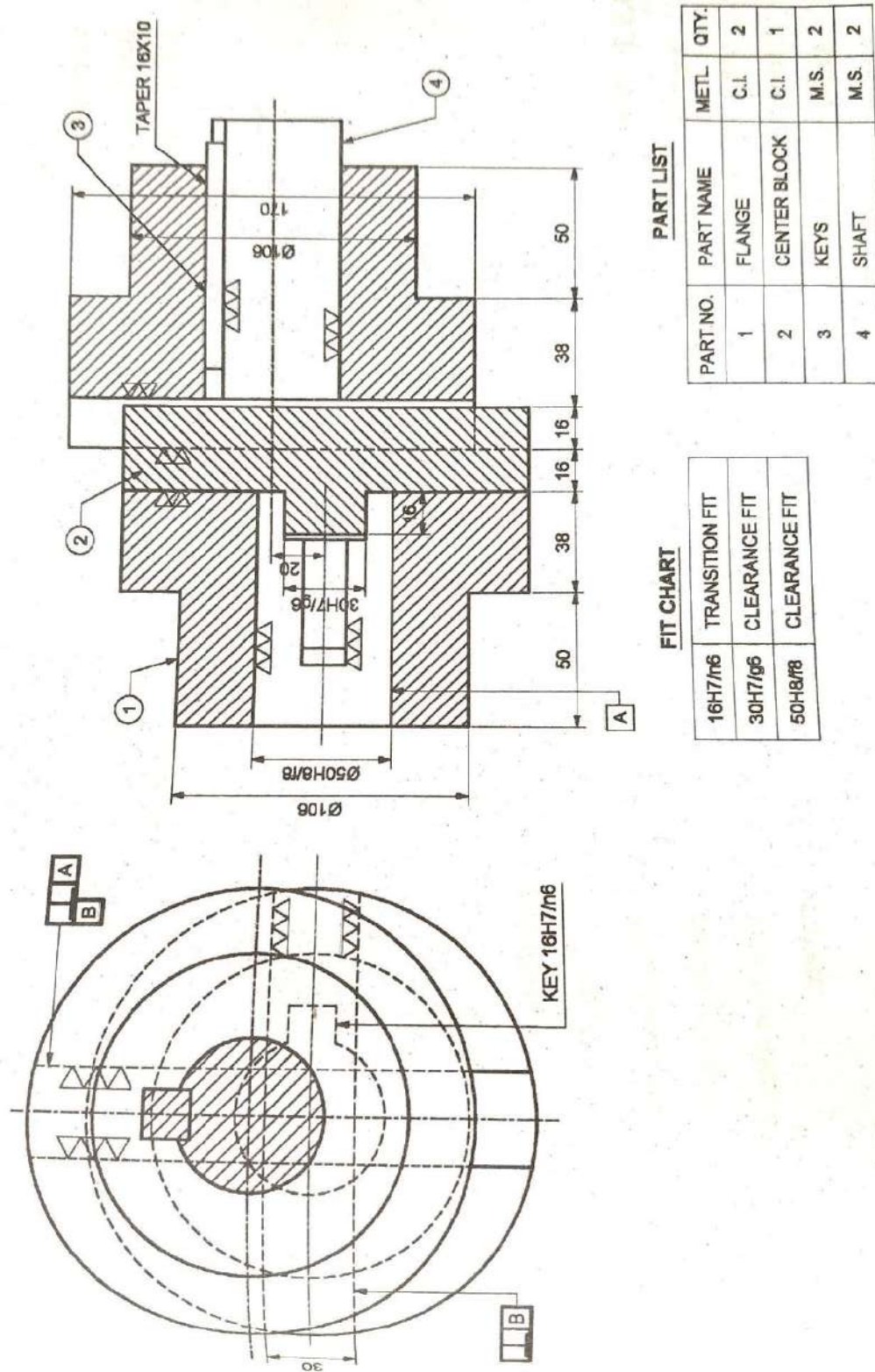
SUBJECT TEACHER

Mr. Anil S. Patil

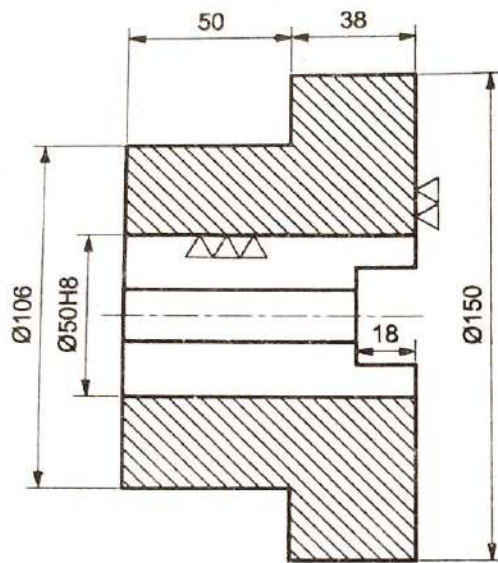
Production Drawing_PDR_(313311)

Unit 5 _ Assembly to Details

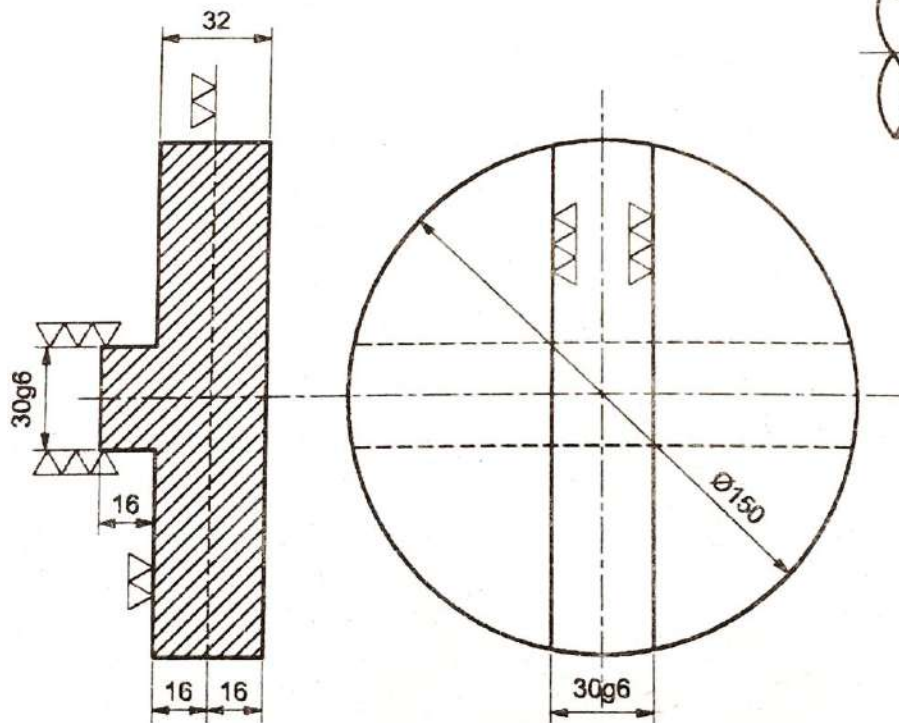
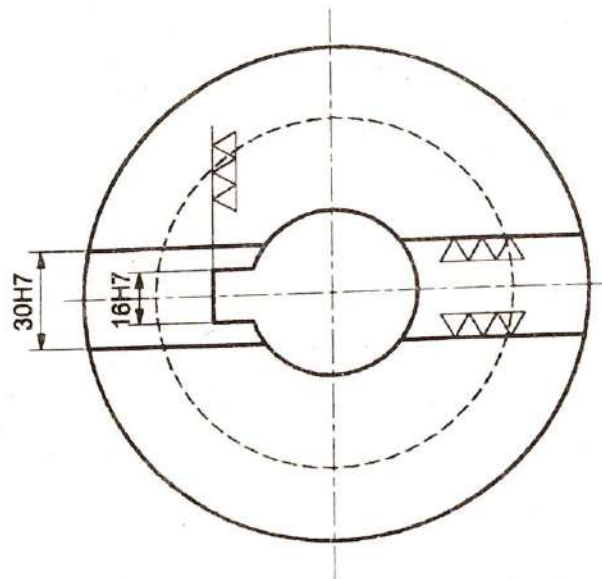
Q1. Oldham coupling



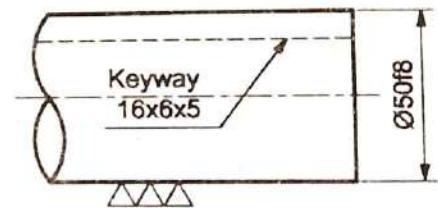
Solution-



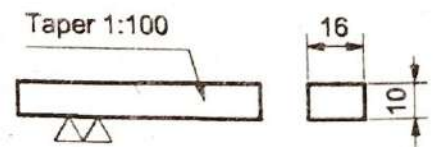
1. FLANGE
C.I. - 2 OFF



2. CENTRE BLOCK
C.I. - 1 OFF



4. SHAFT
M.S. - 2 OFF

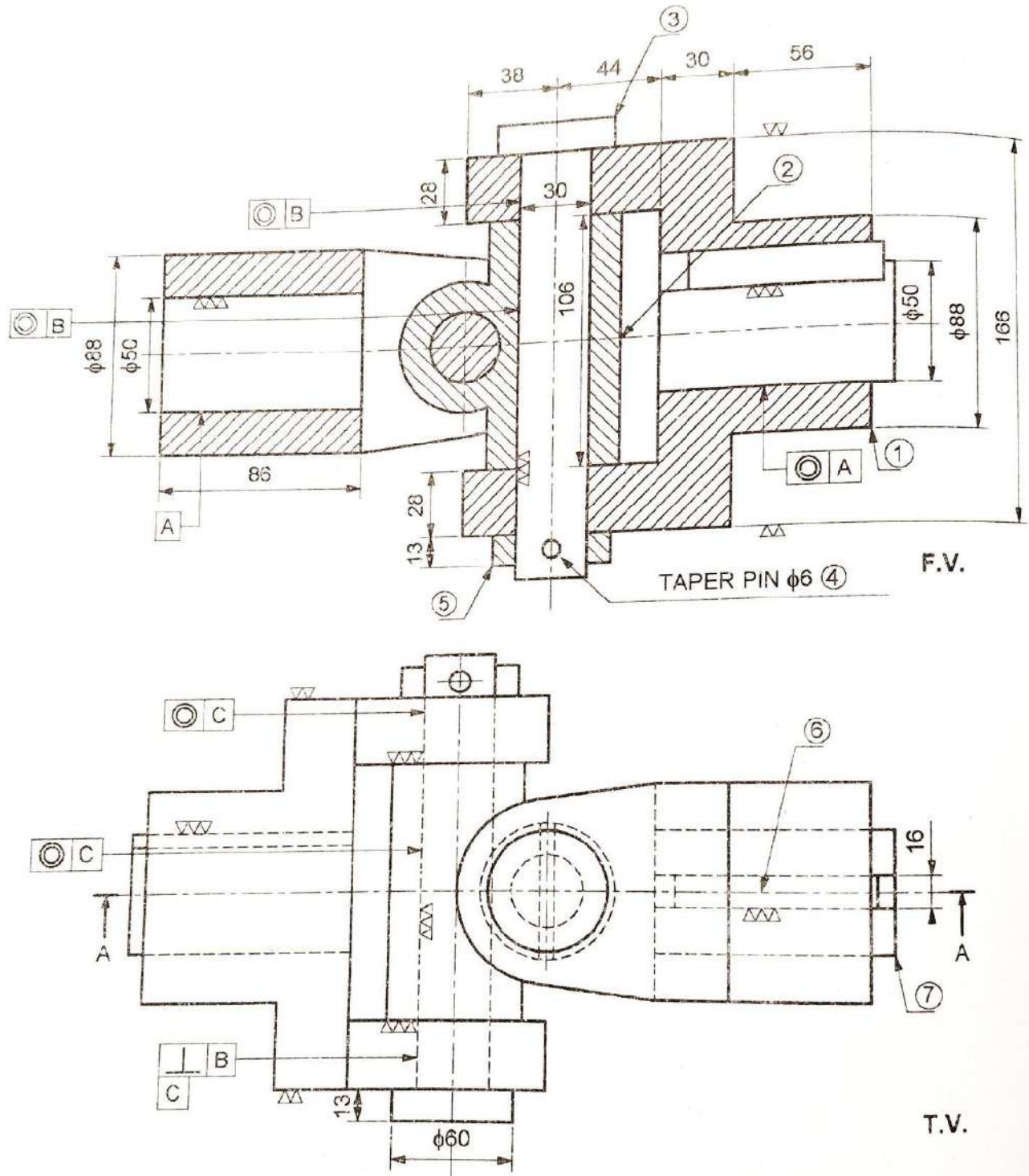


3. KEY
M.S. - 2 OFF

TOLERANCE CHART

50H8 = +0.039 +0.000	30H7 = +0.021 +0.000
50f8 = -0.039 -0.000	30g6 = -0.007 -0.020
16n6 = +0.023 +0.012	16H7 = +0.018 +0.000

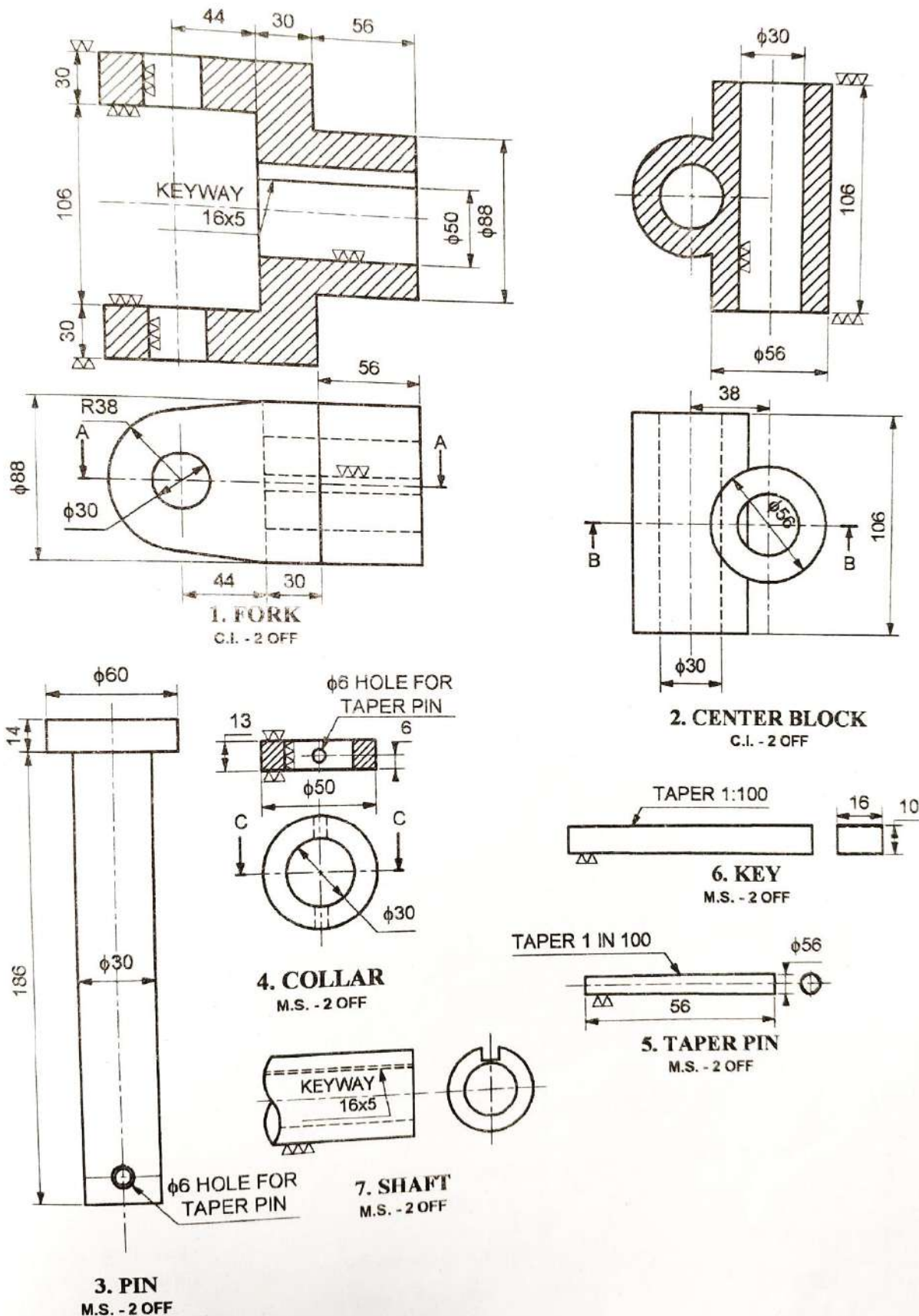
Q2. Universal coupling



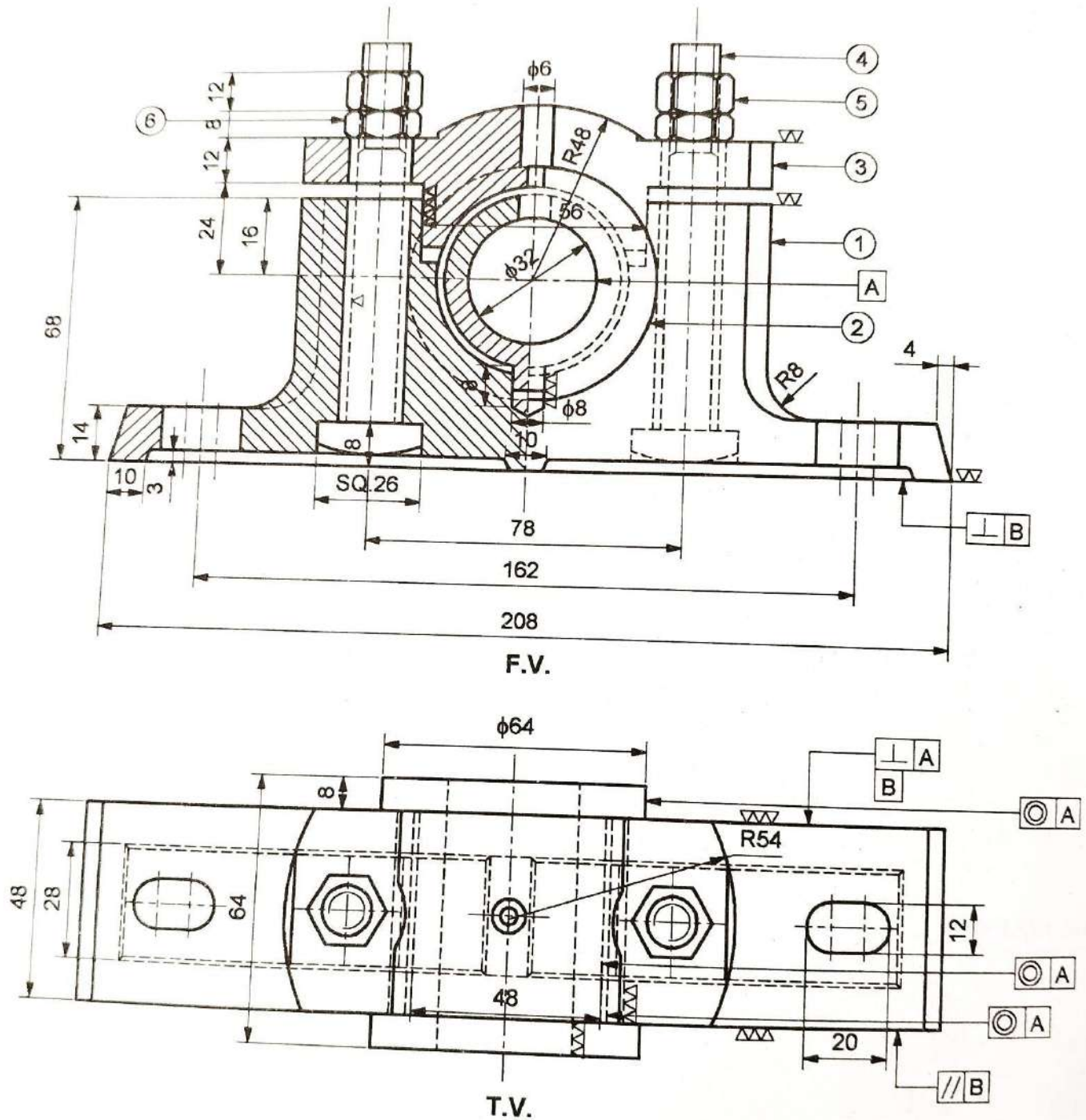
PART LIST

PART NO.	PART NAME	METAL	QTY.
1.	FORK	C.I.	2
2.	CENTER BLOCK	C.I.	1
3.	PIN	M.S.	2
4.	TAPER PIN	M.S.	2
5.	COLLAR	M.S.	2
6.	KEY	M.S.	2
7.	SHAFT	M.S.	2

Solution-



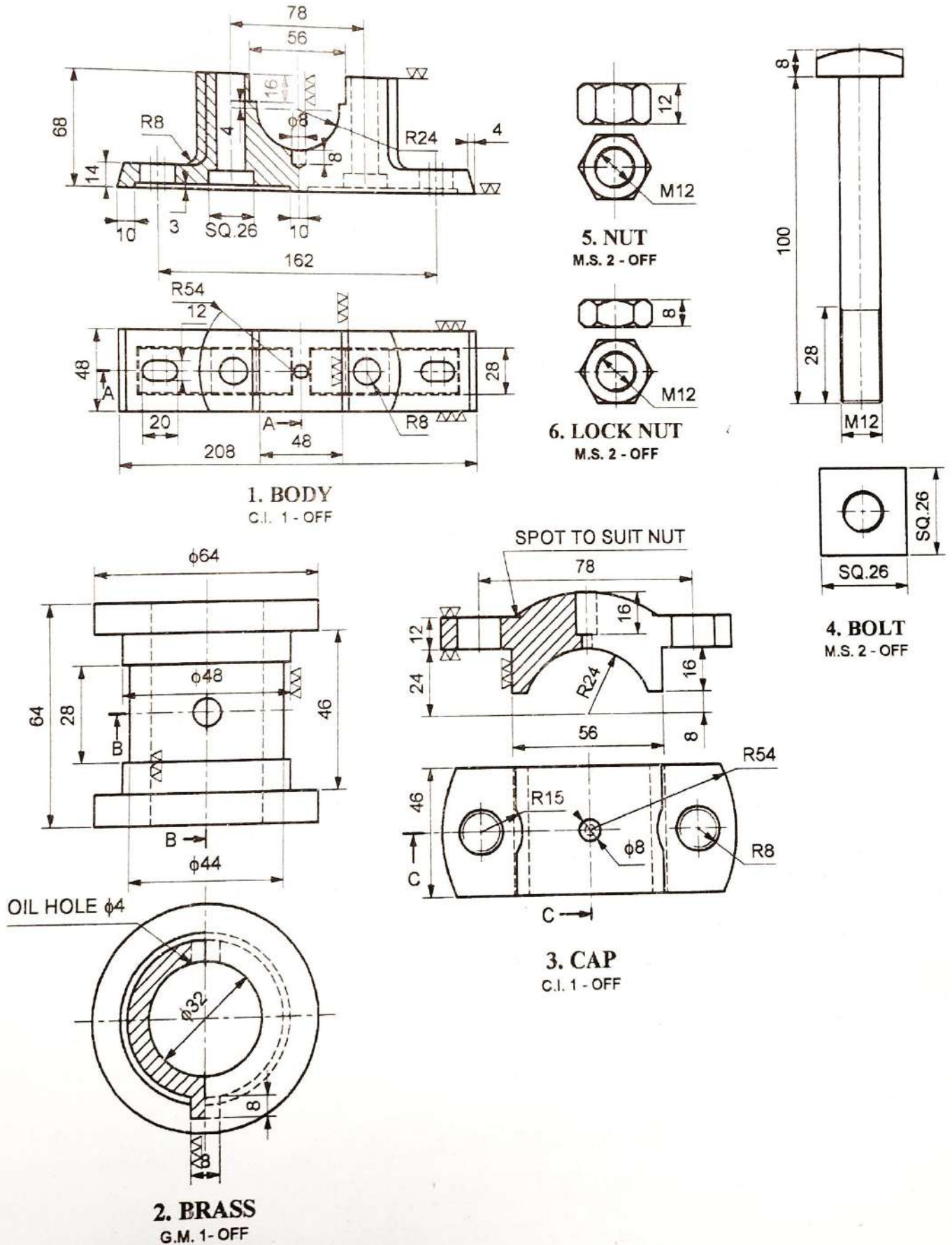
Q4 Pedestal Bearing



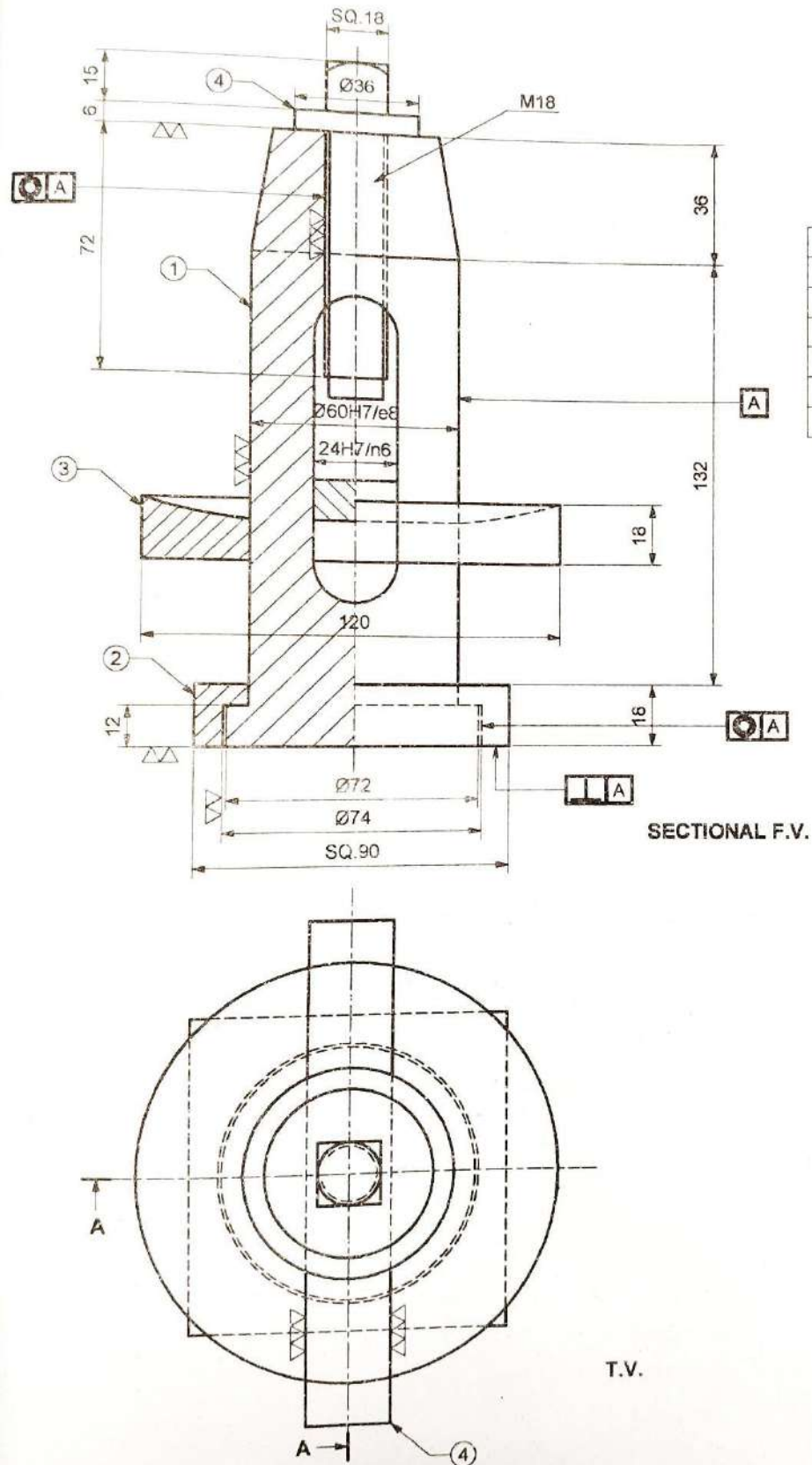
PART LIST

PART NO.	PART NAME	METAL	QTY.
1.	BODY	C.I.	1
2.	BRASS	G.M.	1
3.	CAP	C.I.	1
4.	BOLT	M.S.	2
5.	NUT	M.S.	2
6.	LOCK NUT	M.S.	2

Solution-



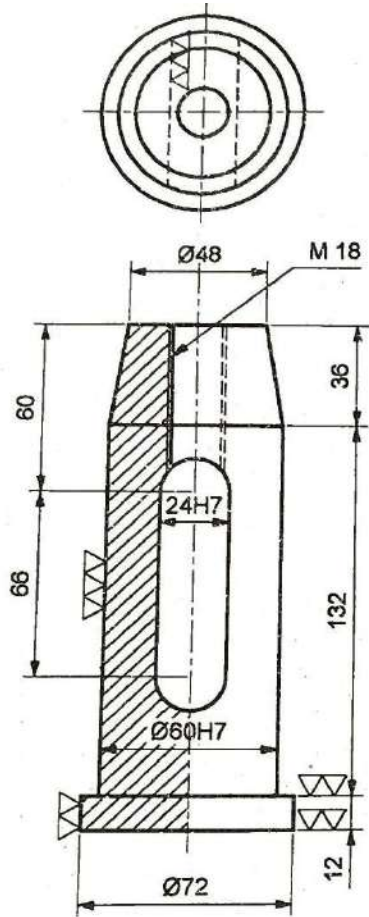
Q5 Pillar Type Tool Post



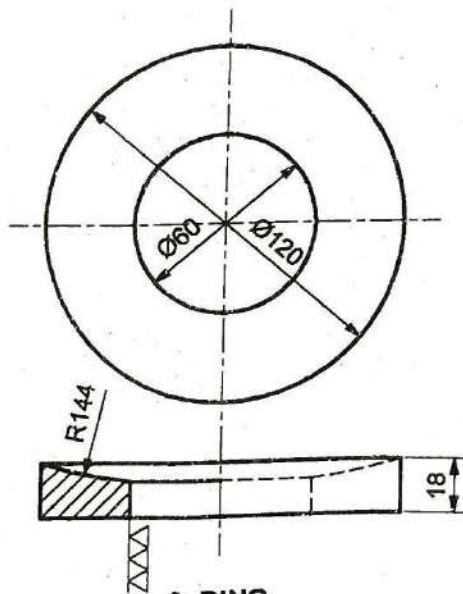
PART LIST

PART NO.	PART NAME	MATL	QTY.
1	POST	C.I.	1
2	BLOCK	C.I.	1
3	RING	C.I.	1
4	SCREW	M.S.	1
5	WEDGE	M.S.	1
6	TOOL	H.S.S.	1

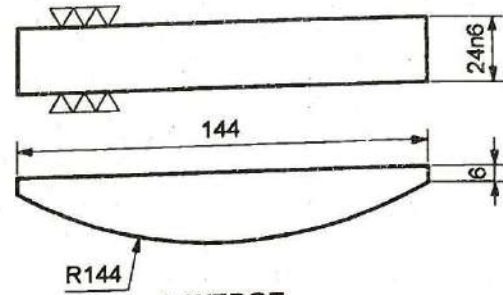
Solution-



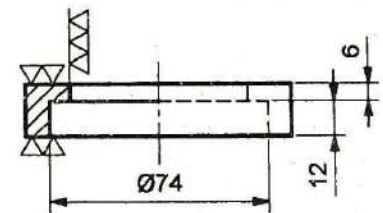
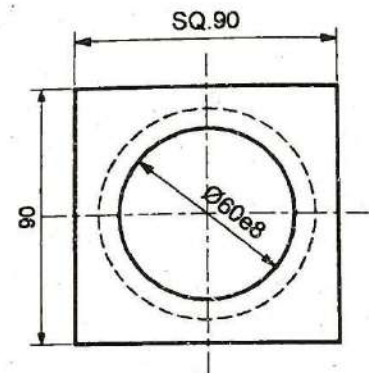
1. POST
C.I. - 1-OFF



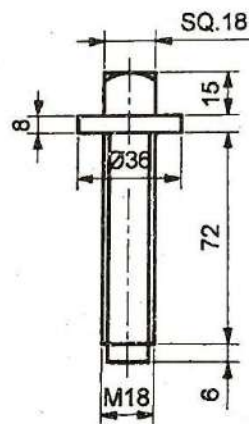
3. RING
C.I. - 1-OFF



4. WEDGE
M.S. - 1-OFF



2. BLOCK
C.I. - 1-OFF



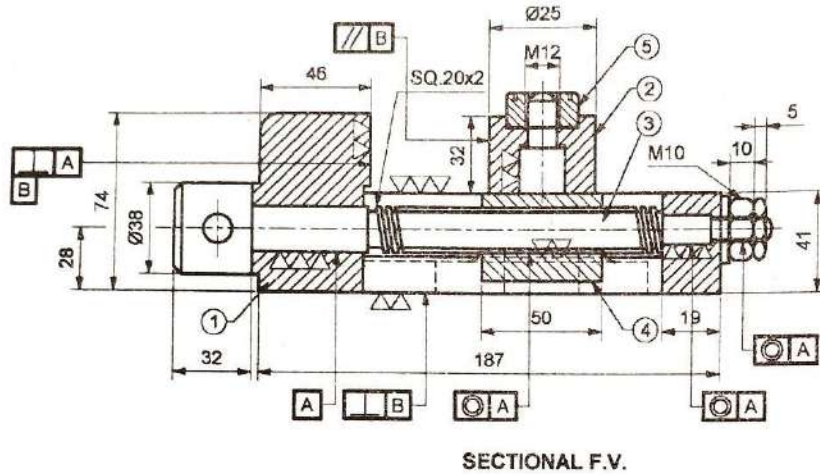
5. SCREW
M.S. - 1-OFF

TOLERANCE CHART

60H7 = +0.000 +0.030	60e8 = -0.060 -0.106
24H7 = +0.021 +0.000	24n6 = +0.036 +0.015

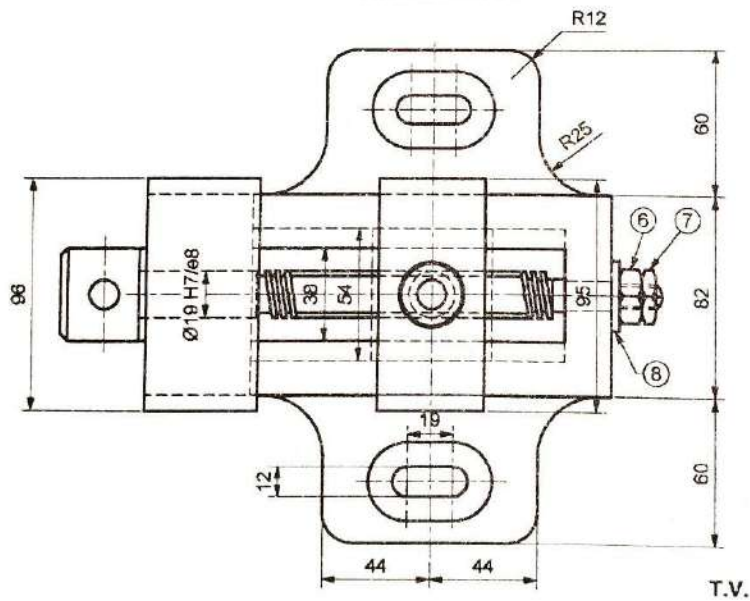
Tool Post

Q6 Bench vice



PART LIST

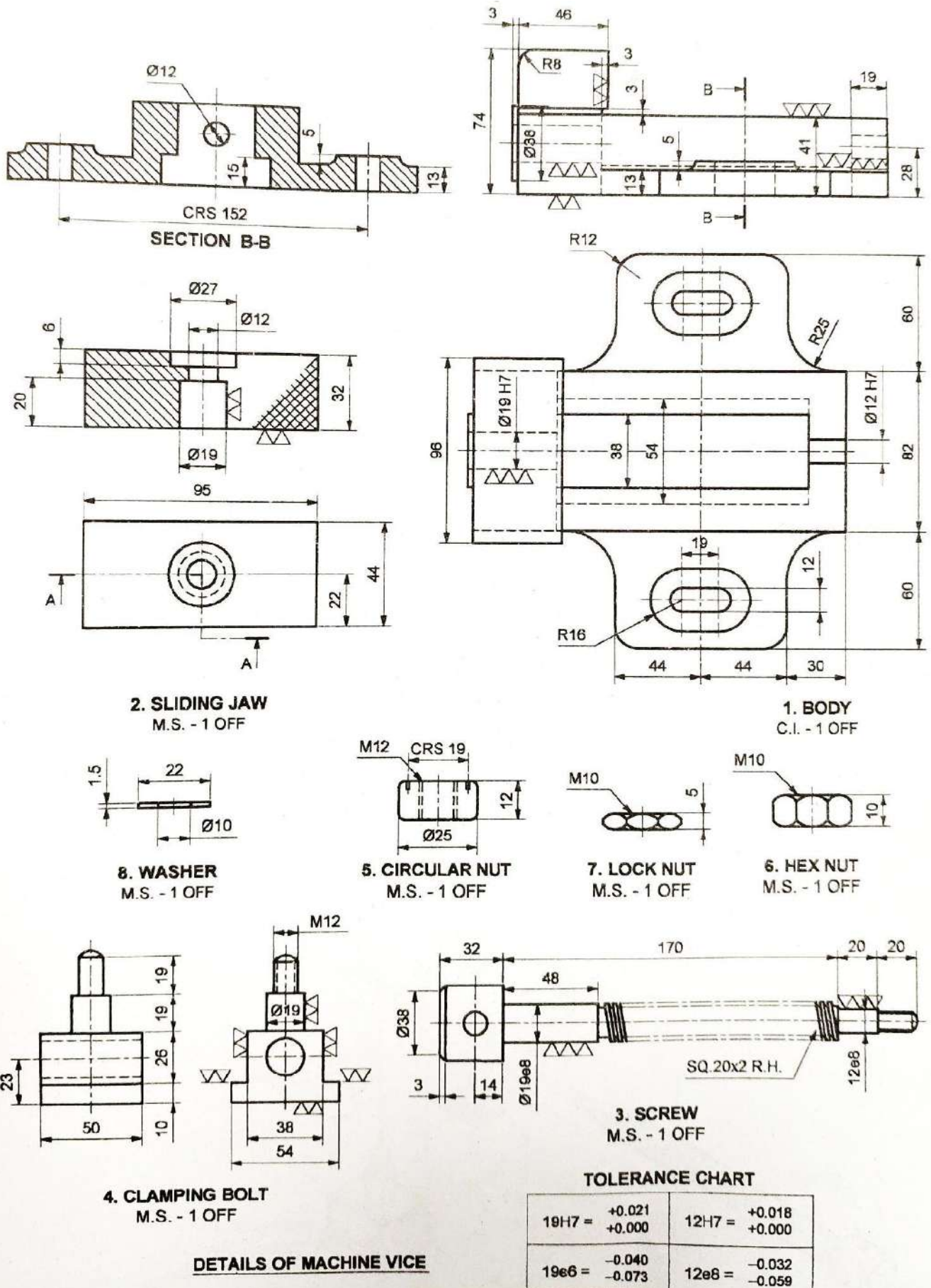
PART NO.	PART NAME	MATL.	QTY.
1	BODY	C.I.	1
2	SLIDING JAW	M.S.	1
3	SCREW	M.S.	1
4	SLIDING JAW CLAMPING BOLT	M.S.	1
5	CIRCULAR NUT	M.S.	1
6	NUT	M.S.	1
7	LOCK NUT	M.S.	1
8	WASHER	M.S.	1



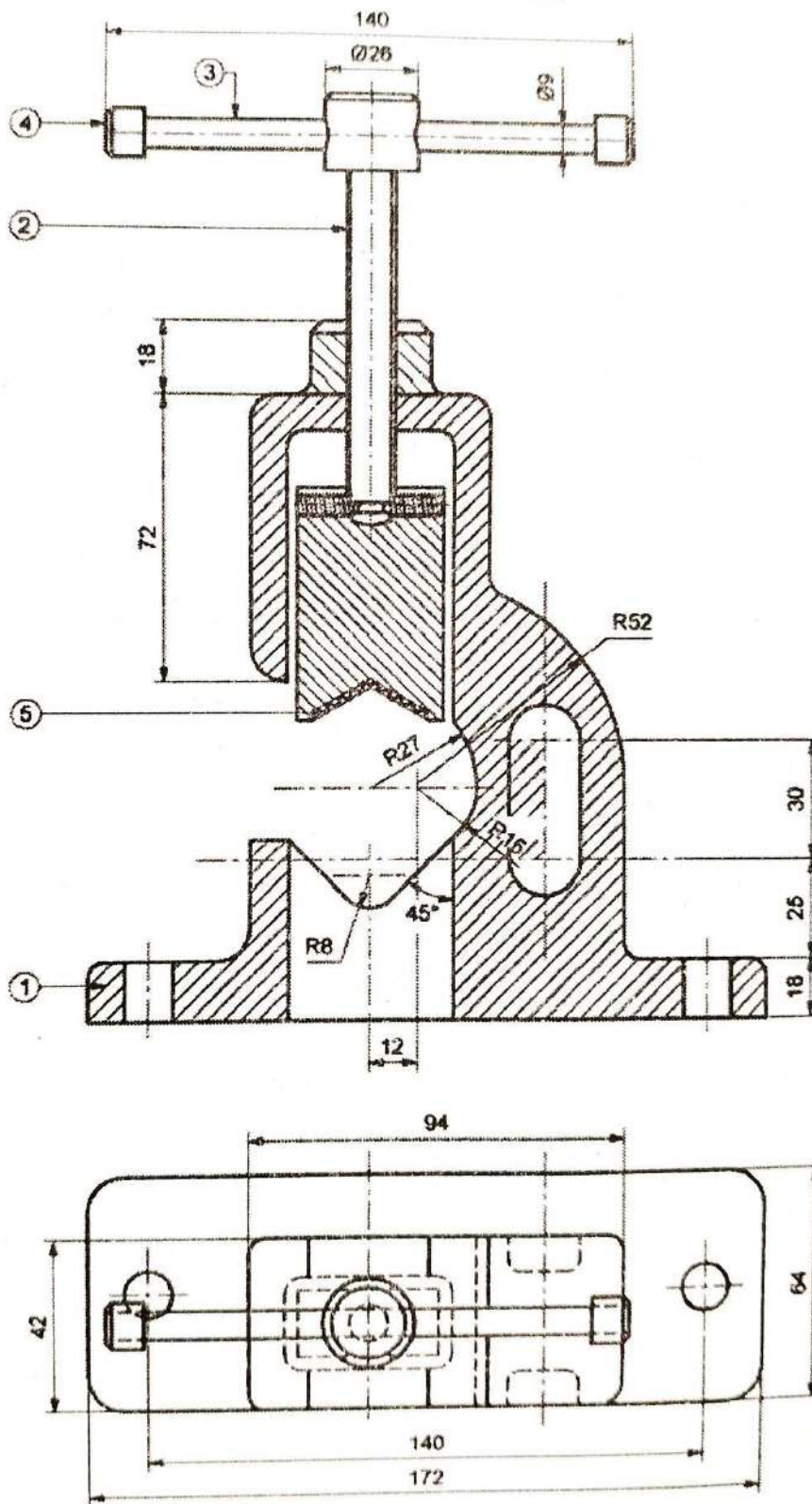
FIT CHART

19H7/e8	CLEARANCE FIT
12H7/e8	CLEARANCE FIT

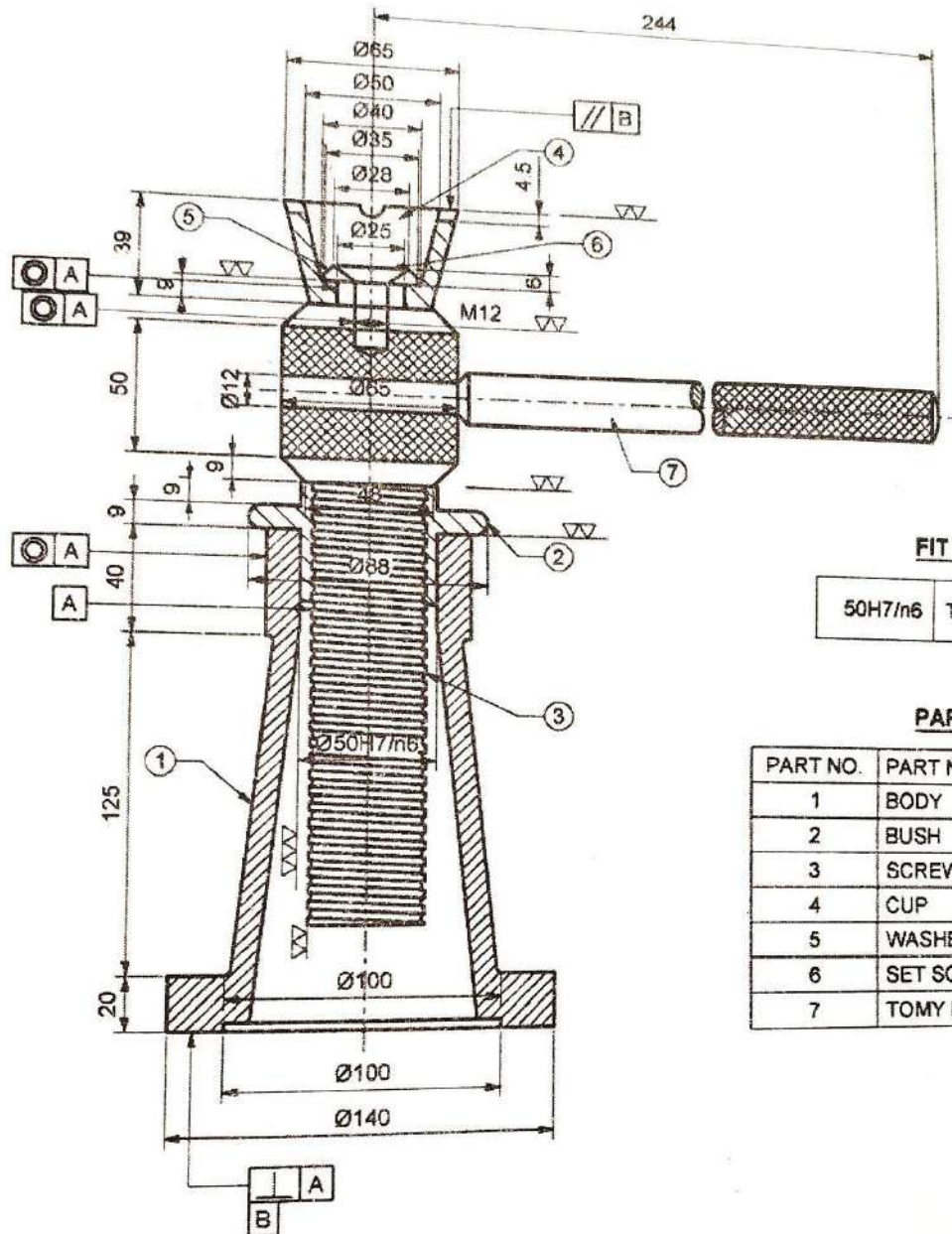
Solution-



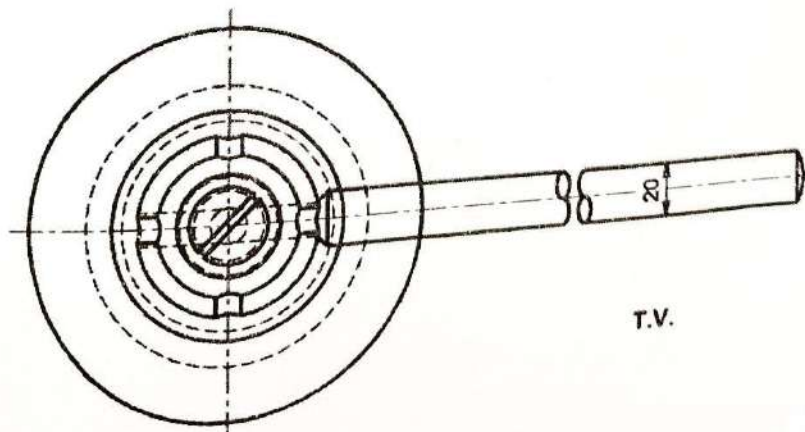
Q7 Pipe Vice



Q5 Screw-jack



SECTIONAL F.V.



T.V.

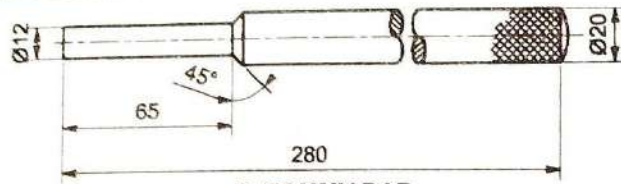
FIT CHART

50H7/n6	TANSINTION FIT
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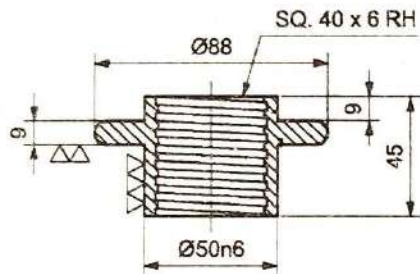
PART LIST

PART NO.	PART NAME	MATL.	QTY.
1	BODY	C.I.	1
2	BUSH	M.S.	1
3	SCREW	M.S.	1
4	CUP	C.I.	1
5	WASHER	M.S.	1
6	SET SCREW	M.S.	1
7	TOMY BAR	M.S.	1

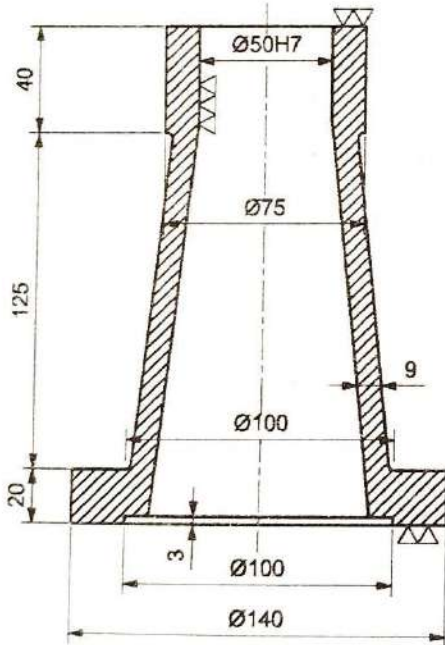
Solution-



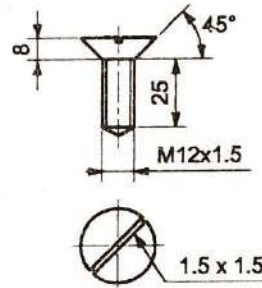
7. TOMMY BAR
M.S., 1-OFF



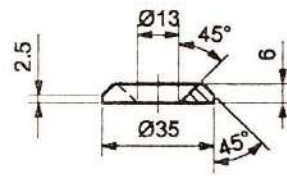
2. BUSH
M.S., 1-OFF



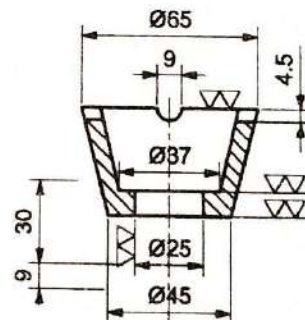
1. BODY
C.I., 1-OFF



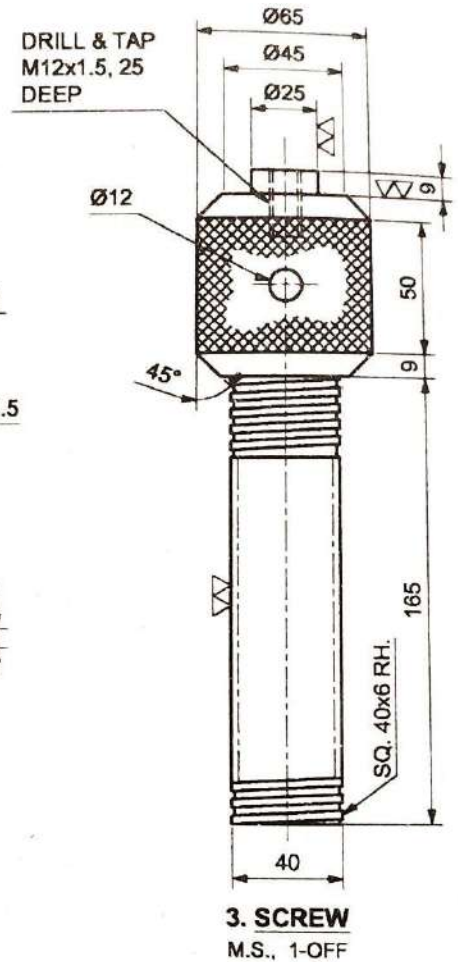
6. SET SCREW
M.S., 1-OFF



5. WASHER
M.S., 1-OFF



4. CUP
C.I., 1-OFF



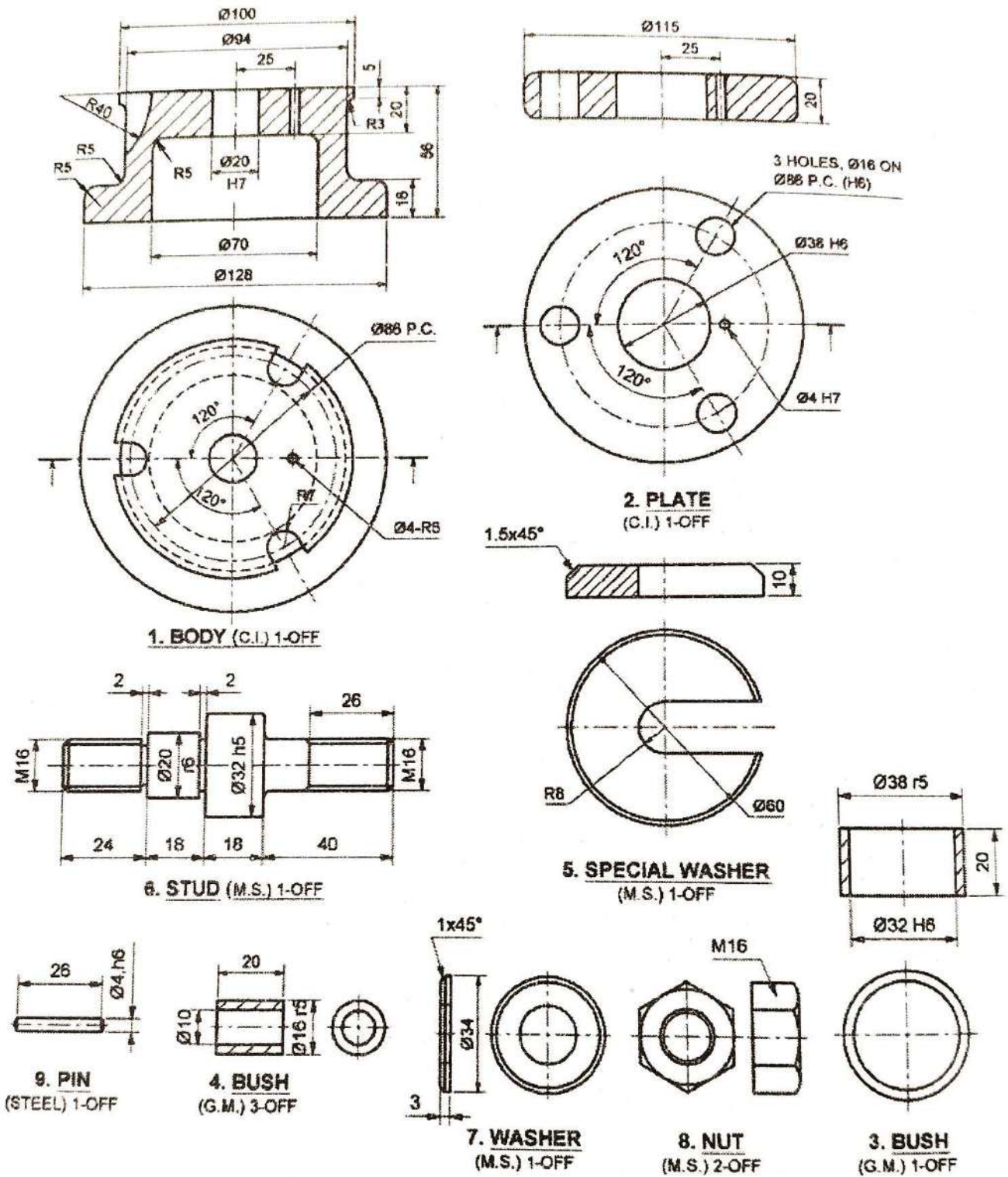
3. SCREW
M.S., 1-OFF

TOLERANCE CHART

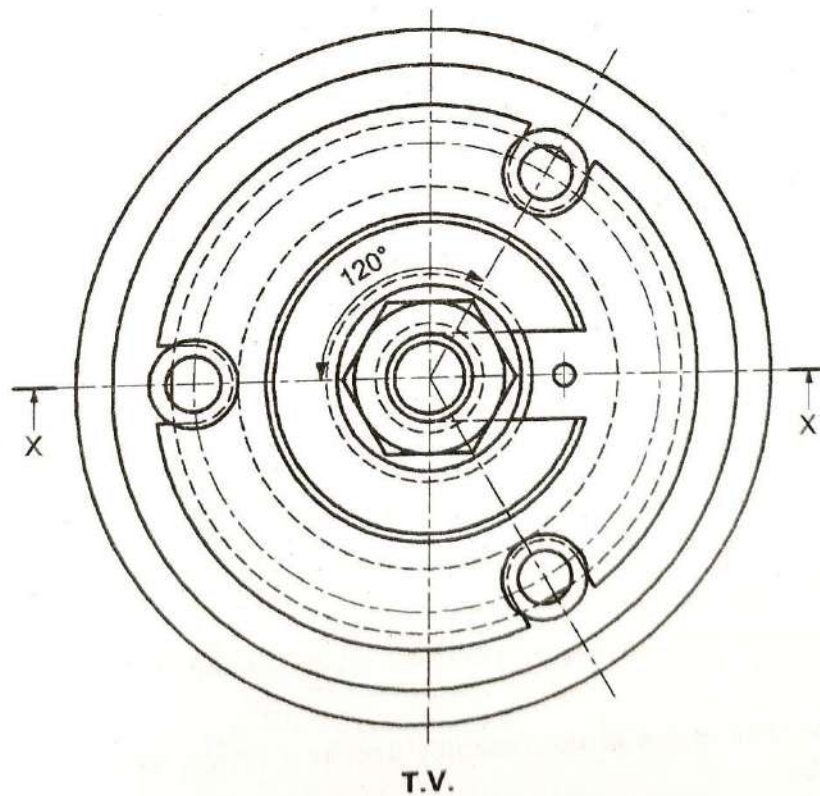
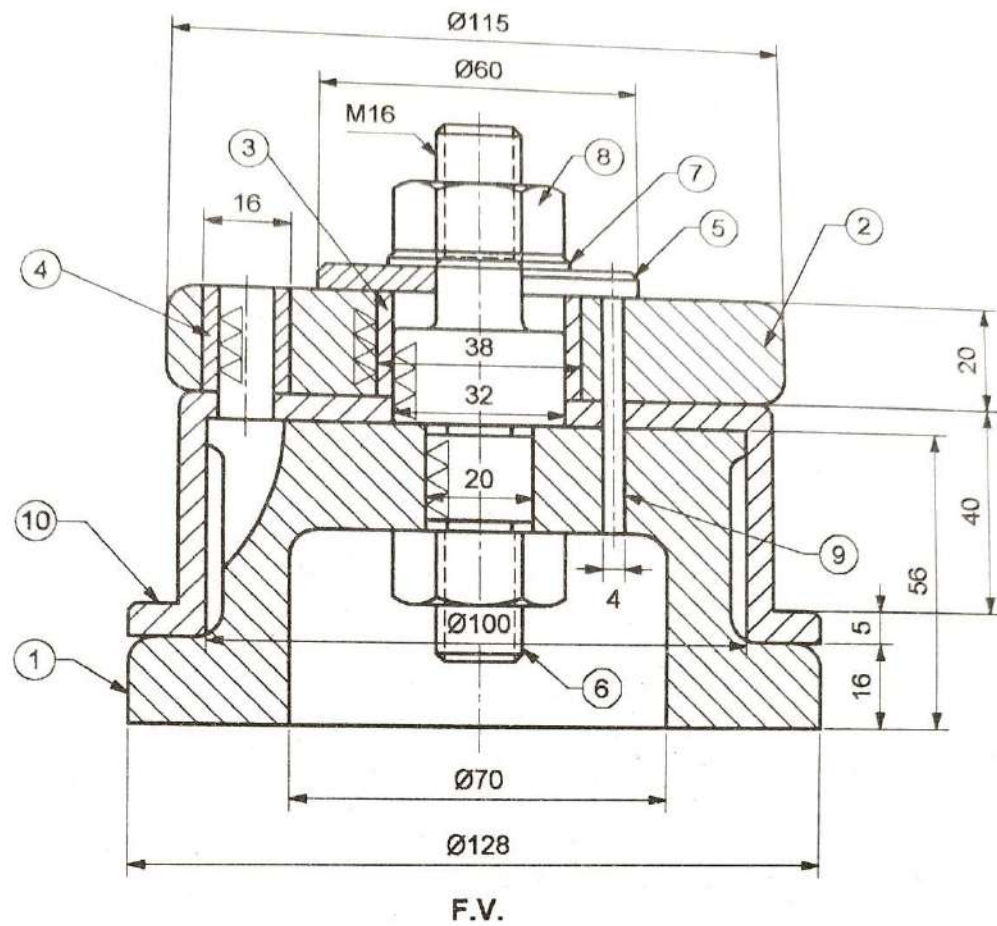
50H7 = +0.030
+0.000

50h6 = +0.039
+0.020

Q9 Drill Jig



Solution-



QUESTION BANK

Program Name: Mechanical Engineering Program Group

Program Code: ME

Course Title : Production Drawing (313311)

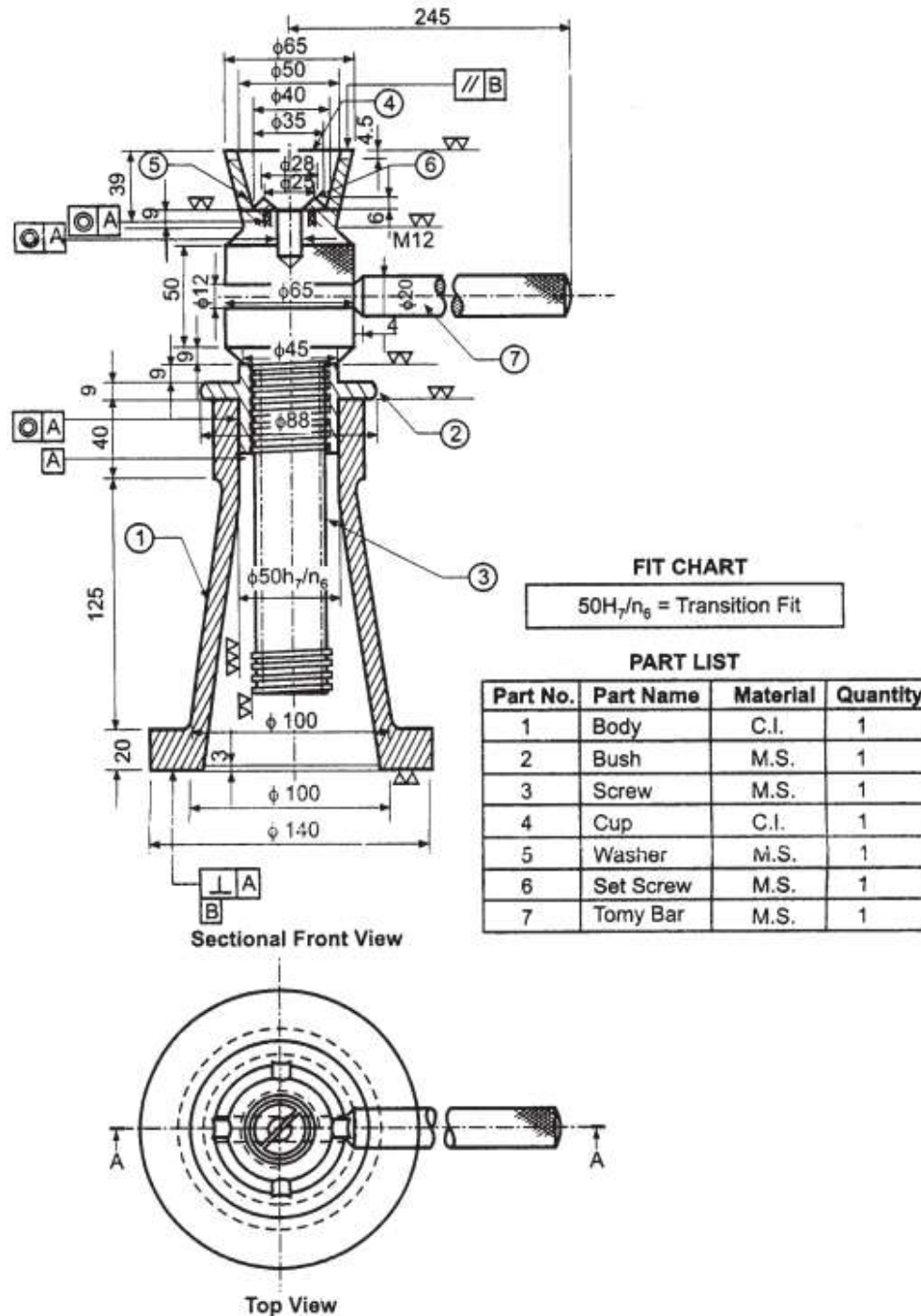
Semester: Third

Unit 5: Assembly to Details

1. Figure No. 8 shows assembly of screw Jack draw details of 16 following :— Fig. No. 8

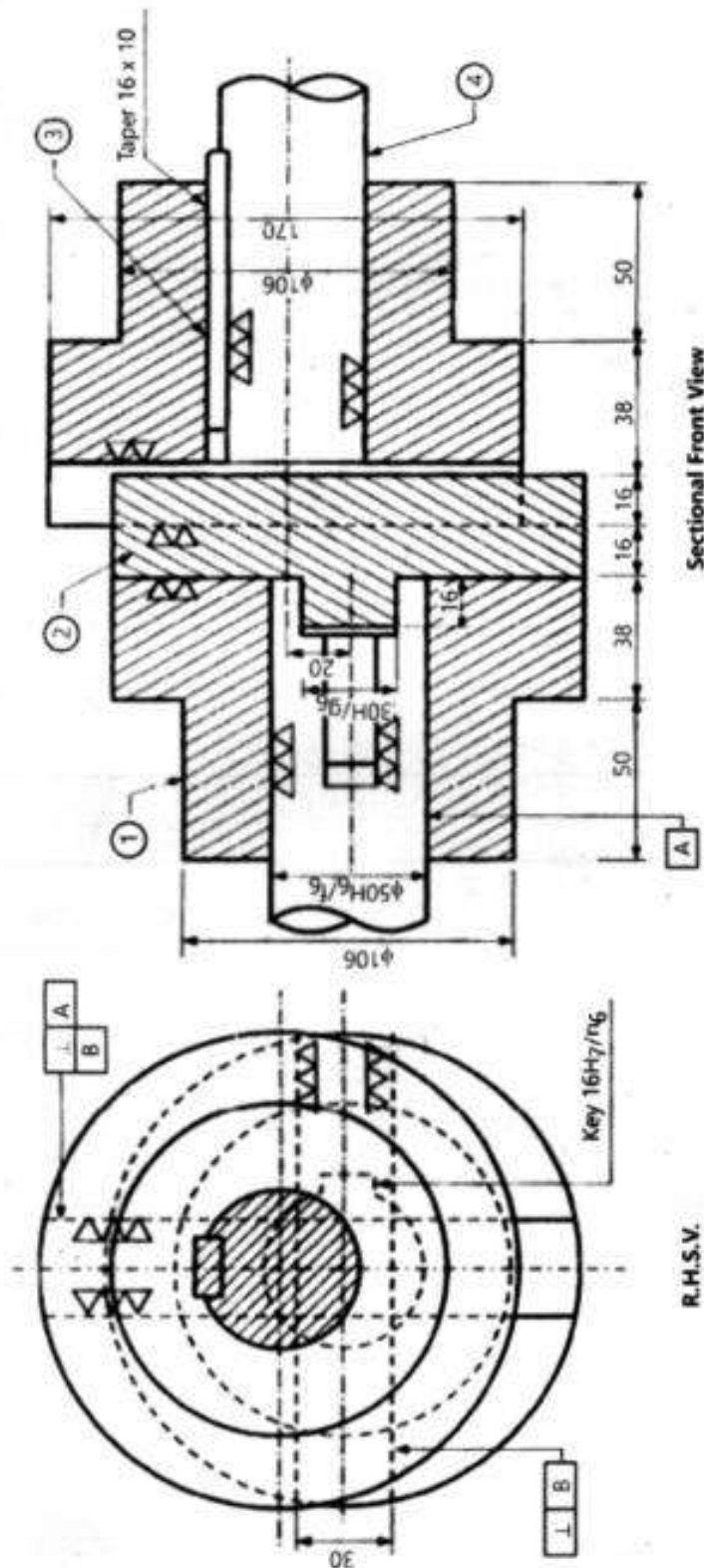
- Body, S.F.V. and T.V. (6M)
- Bush, S.F.V. and T.V. (5M)
- Screw, S.F.V. and T.V. (5M)

W-25



2. Figure shows sectional F.V. and S.V. of the assembly of 'OLDHAM'S COUPLING'. Draw the following details by using first angle method: (16M)
- Flange: Front view and S.V.
 - Central disc: Front view and S.V.
 - Shaft: Front view and S.V.
 - Key: F.V., T.V and S.V.

S-25



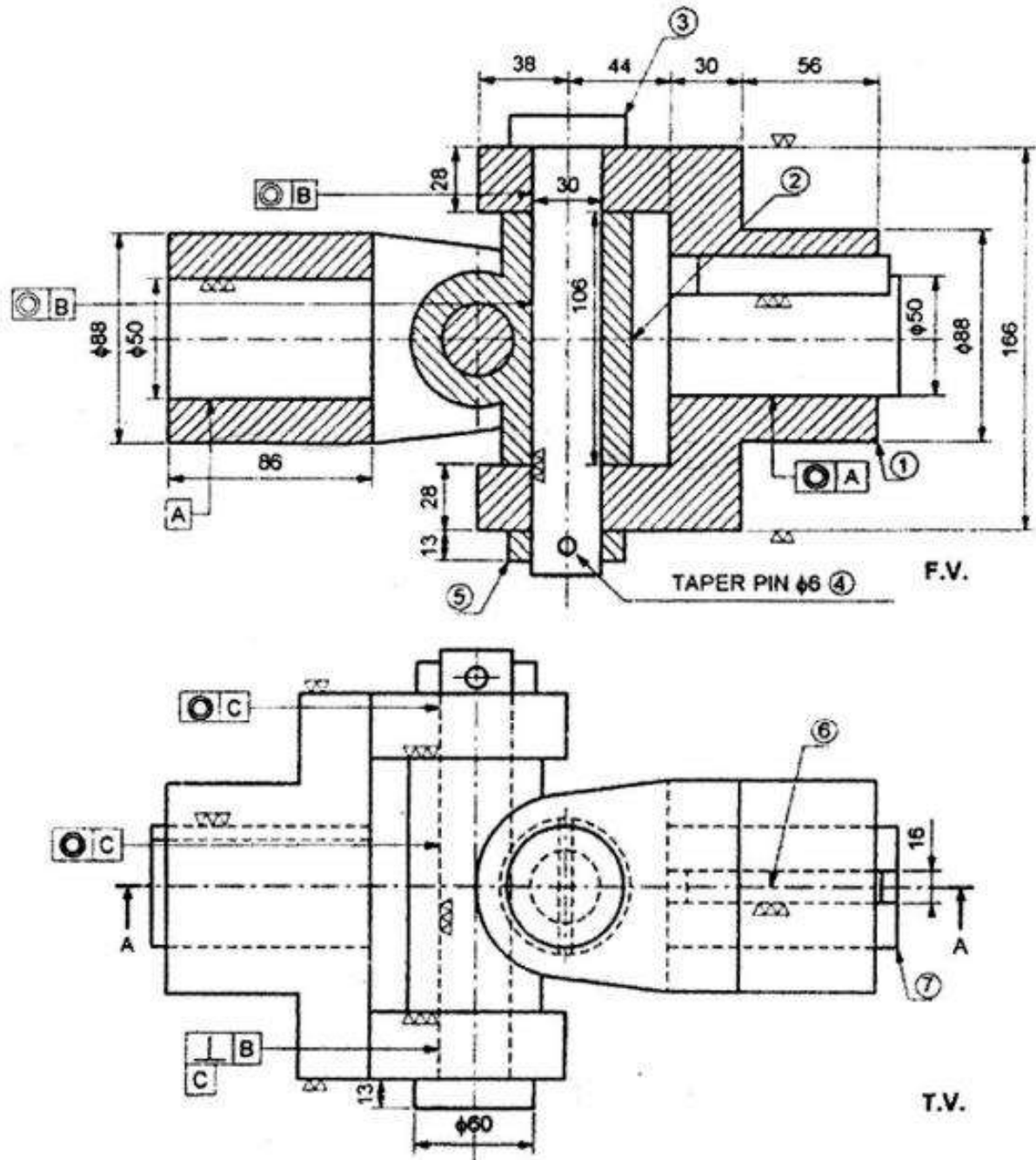
PART LIST

Part No.	Part Name	Material	Qty.
1.	FLANGE	C.I	2
2.	CENTER BLOCK	C.I	1
3.	KEYS	M.S.	2
4.	SHAFT	M.S.	2

FIT CHART

16H7/n6	TRANSITION FIT
30H7/g6	CLEARANCE FIT
50H8/g8	CLEARANCE FIT

3. Fig. No. 5 shown the assembly of universal coupling. Attempt any TWO of the following :
- Draw the sectional front view and top view of fork.
 - Draw the front view and top view of center block and pin.
 - Draw the front view and top view of collar, shaft and key. (16M)

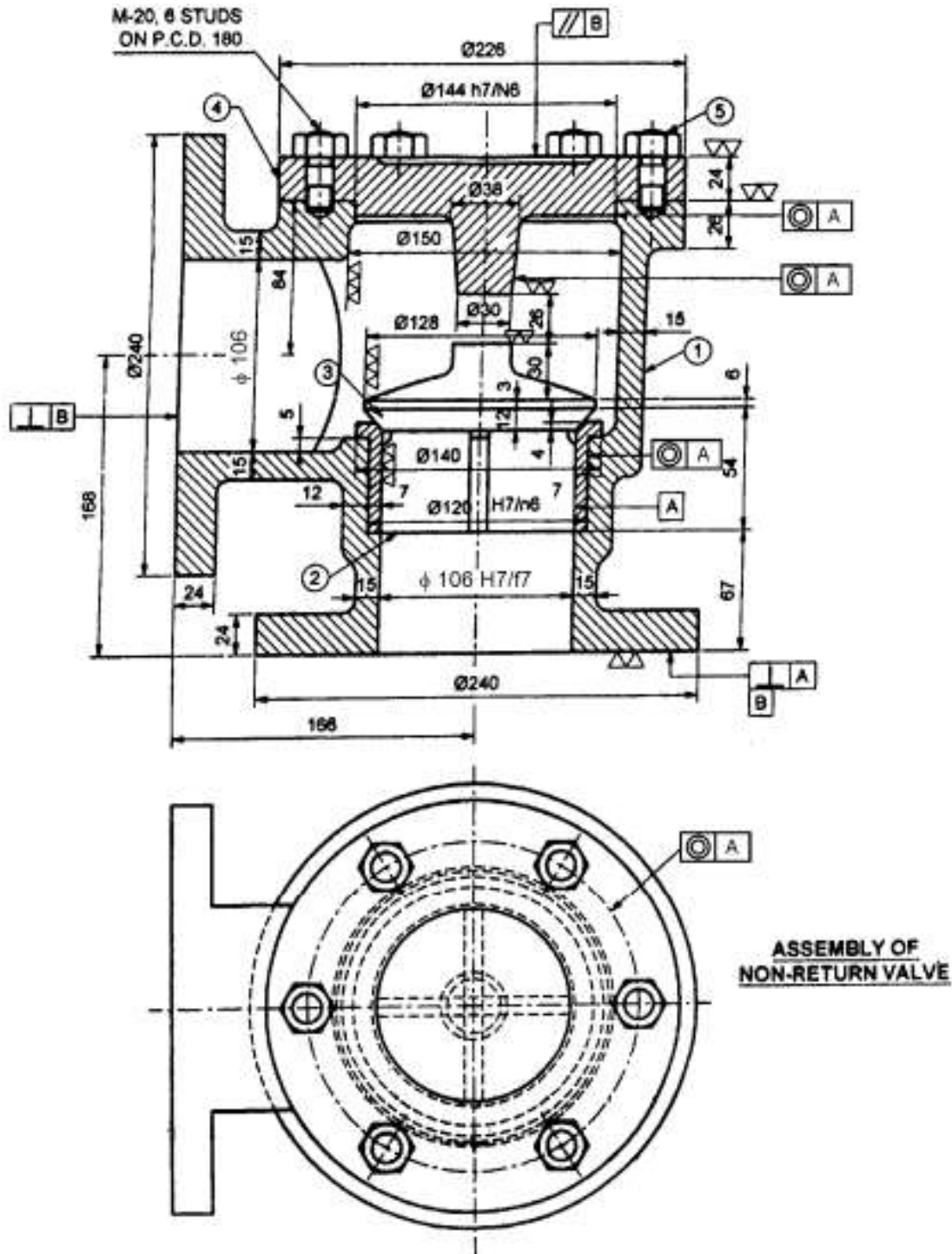
W-24**PART LIST**

PART NO.	PART NAME	METAL	QTY.
1.	FORK	C.I.	2
2.	CENTER BLOCK	C.I.	1
3.	PIN	M.S.	2
4.	TAPER PIN	M.S.	2
5.	COLLAR	M.S.	2
6.	KEY	M.S.	2
7.	SHAFT	M.S.	2

Assembly of Universal Coupling

4. Fig. 5 shows the assembly of non-return valve. Draw the detailed drawing of following parts : (16M)

S-23

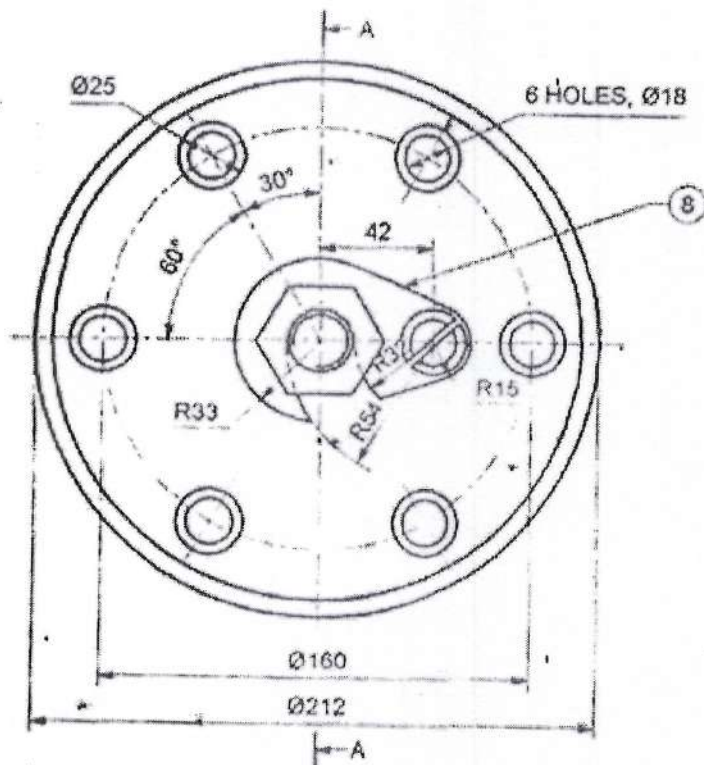
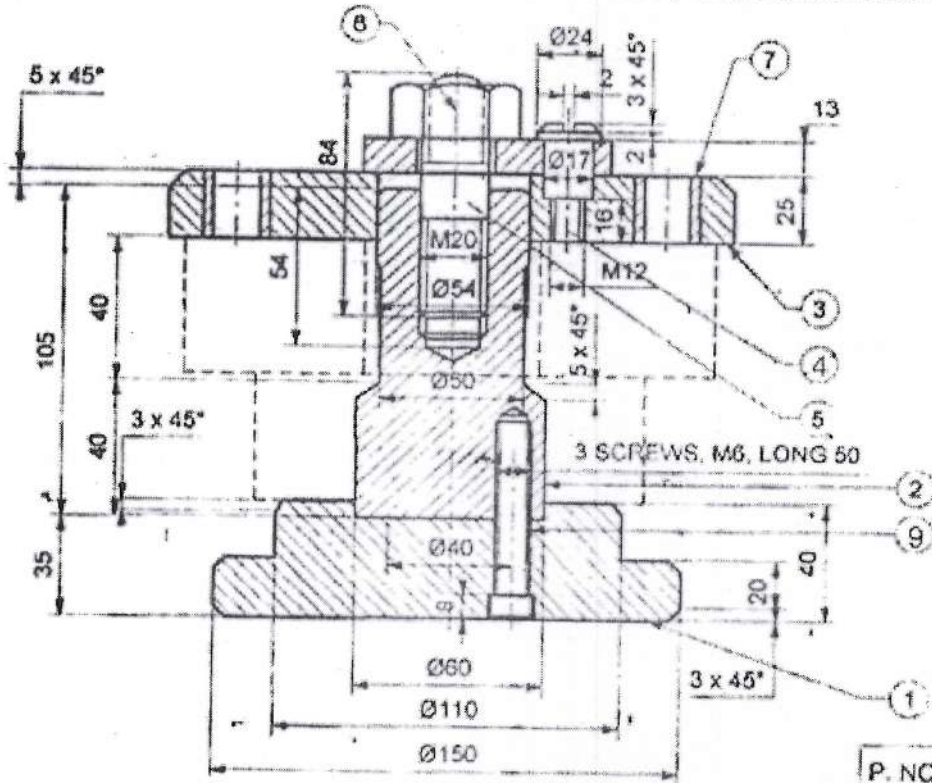
**FIT CHART**

106H7/f7 = CLEARANCE FIT
144H7/h6 = CLEARANCE FIT
120H7/k6 = CLEARANCE FIT

PART LIST

PART NO.	PART NAME	MATERIAL	QTY.
1	BODY	C.I.	1
2	VALVE SEAT	G.M.	1
3	VALVE	G.M.	1
4	COVER	C.I.	1
5	STUD WITH NUT	M.S.	4

5. Fig. No. 5 shows assembly of a Drill Jig. Attempt any TWO of the following : (16M) **W-24**
- Draw sectional front view and top view of Base plate and stem.
 - Draw sectional front view and top view of Jig Plate and Washer.
 - Draw Front view and side view of Stud, Nut, Bush and screw (Part No. – 9).



PART LIST

P. NO.	PART NAME	MAT.	QTY.
1	BASE PLATE	OH.	1
2	STEM	M.S.	1
3	JIG PLATE	C.I.	1
4	SCREW	M.S.	3
5	STUD	M.S.	1
6	NUT	M.S.	1
7	BUSH (JIG)	STEEL	6
8	WASHER	M.S.	1
9	SCREW	M.S.	1

TOLERANCE CHART

60H7 = +0.030 +0.000	60f7 = -0.030 -0.049
54H7 = +0.030 +0.000	54f7 = -0.030 -0.049
25H7 = +0.021 +0.000	25n6 = +0.028 +0.015

Mr A S Patil
25/6/2018

25/06/2018