MAHARASHTRA STATE BOARD OF TECHNICAL EDUCATION
(Autonomous)
(ISO/IEC - 27001 - 2005 Certified)
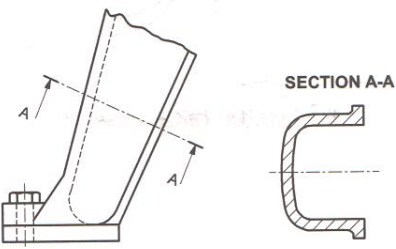
MODEL ANSWER
SUMMER– 2019 EXAMINATION

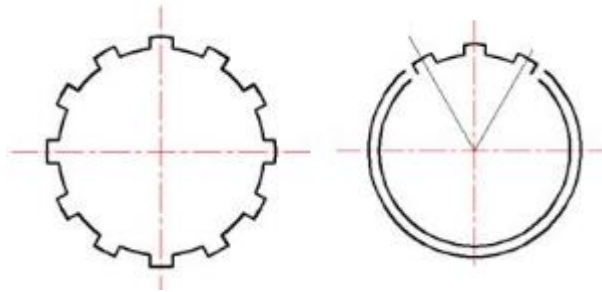**Subject Title: MECHANICAL ENGG.DRAWING**   Subject Code: **17305**

Q. No.	Sub Q. N.	Answer	Marking Scheme
1	A	i) Removed Section ii) Internal thread iii) Cast iron	02 Marks each

iv) Splined shaft

v) Globe valve
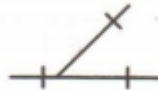
vi) Counter sunk
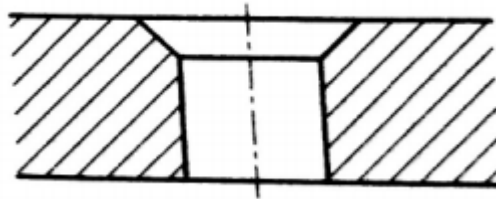
vii) Pipe/tubing

PIPE OR TUBING
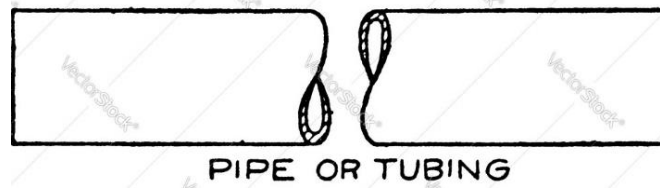
viii) Helical spring with circular cross section
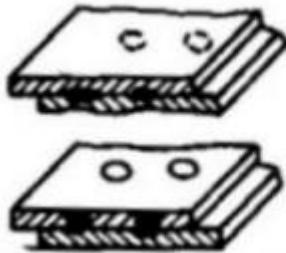

b
(i)
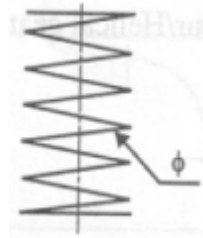
1) Double V butt weld

02 Marks each

2) Single bevel butt weld

3) Spot weld

4) Fillet weld with convex finish
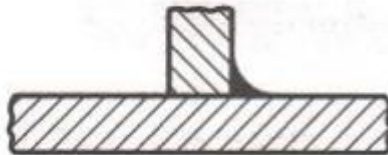
04 marks

ii) MILLING – MANUFACTURING METHOD

25 - SURFACE ROUGHNESS VALUE IN MICRON METER

5 - MACHINING ALLOWANCE

⊥ - DIRECTION OF LEY (Perpendicular)

40 - SAMPLING LENGTH

iii)

$$\text{Shaft size} = 35^{-0.02}_{-0.04}$$

$$\text{Hole size} = 35^{+0.02}_{+0.00}$$

Maximum allowance = Upper limit of hole – lower limit of shaft

$$= (35 + 0.02) - (35 - 0.04) = 35.02 - 34.96$$

$$= 0.06 \quad (+ve)$$

Min allowance = Lower limit of hole – Upper limit of shaft

$$= 35 - 34.98$$

$$= 0.02 \ (+ve)$$

Hence type of fit is clearance fit.

| 04 marks |

2

a

03 Marks for Front view, 03Marks for Aux. view and 06 Marks for Side view
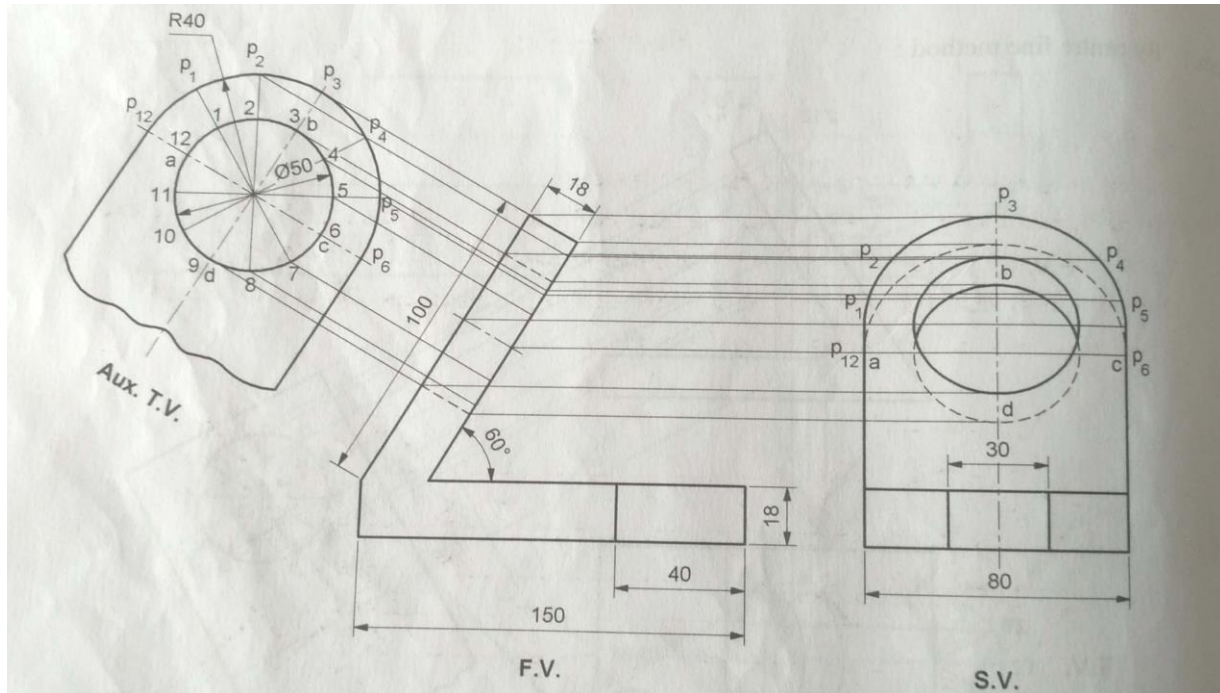
b

i)

(CORRECT SKETCH 4 M)
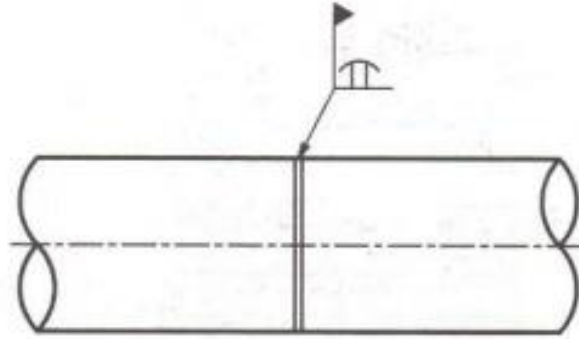
ii) (1 Mark for each symbol)

Cylindricity	
Angularity	
Profile of a line	
Flatness	

(2 Marks each)

iii) X= The tolerance edge is parallel within 0.02 mm to the datum line A

Y= The tolerance edge is perpendicular within 0.03 mm to the datum line A

3 | **a**

(FV-4, TV- 4, SV -2 MARKS)

b

(FV-4, TV- 4, SV -2 MARKS)

C

(FV-4, TV- 4, SV -2 MARKS)
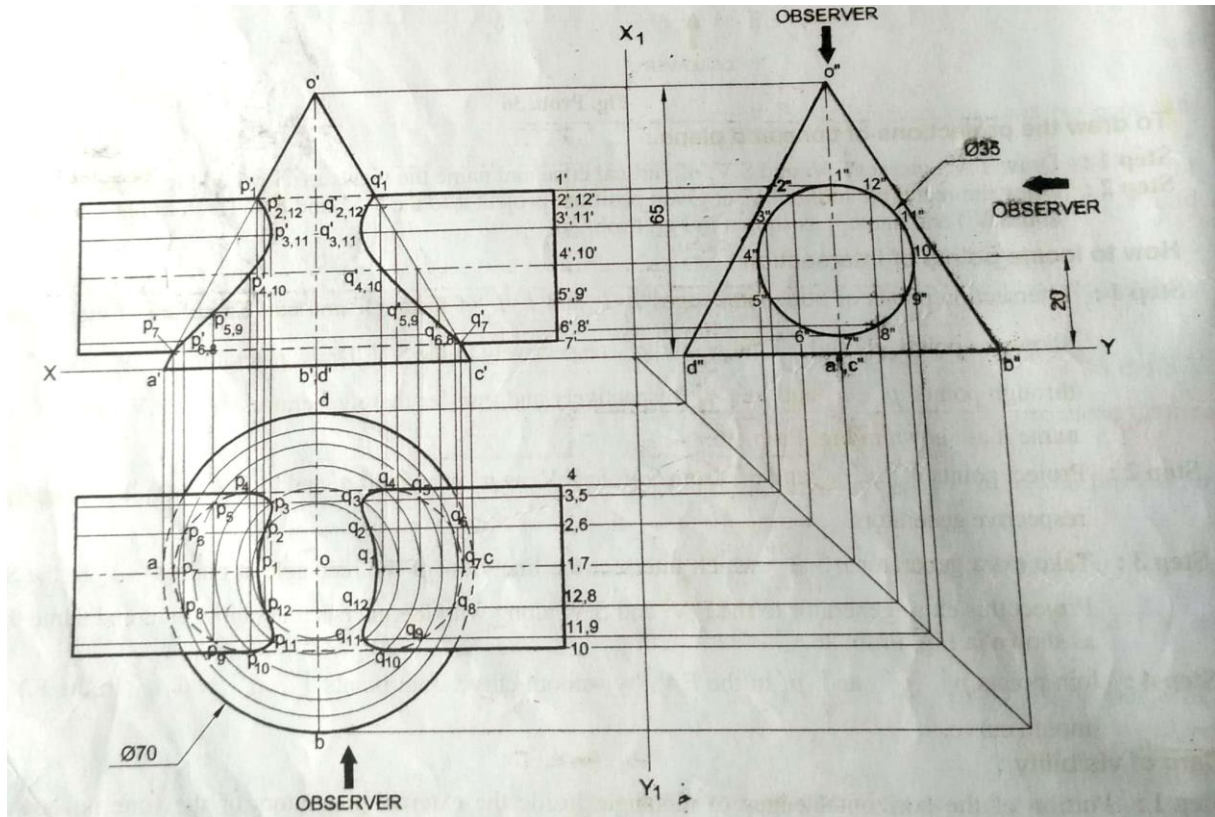
4	a	

(SECTIONAL FV-12, TV- 6, BILL OF MATERIALS -2 MARKS)

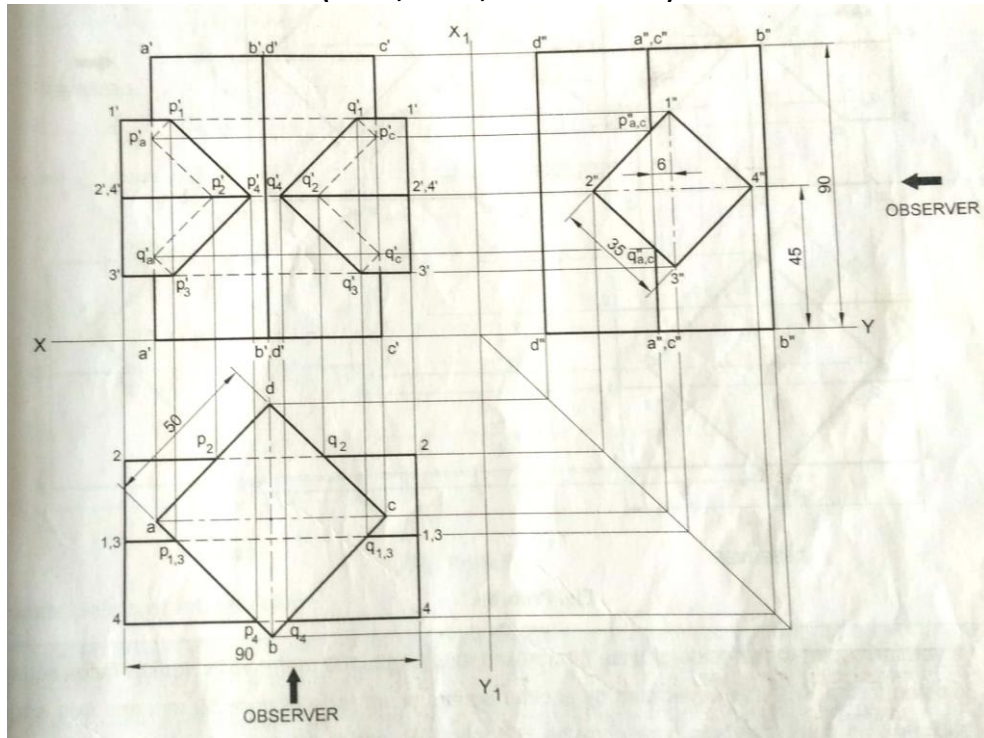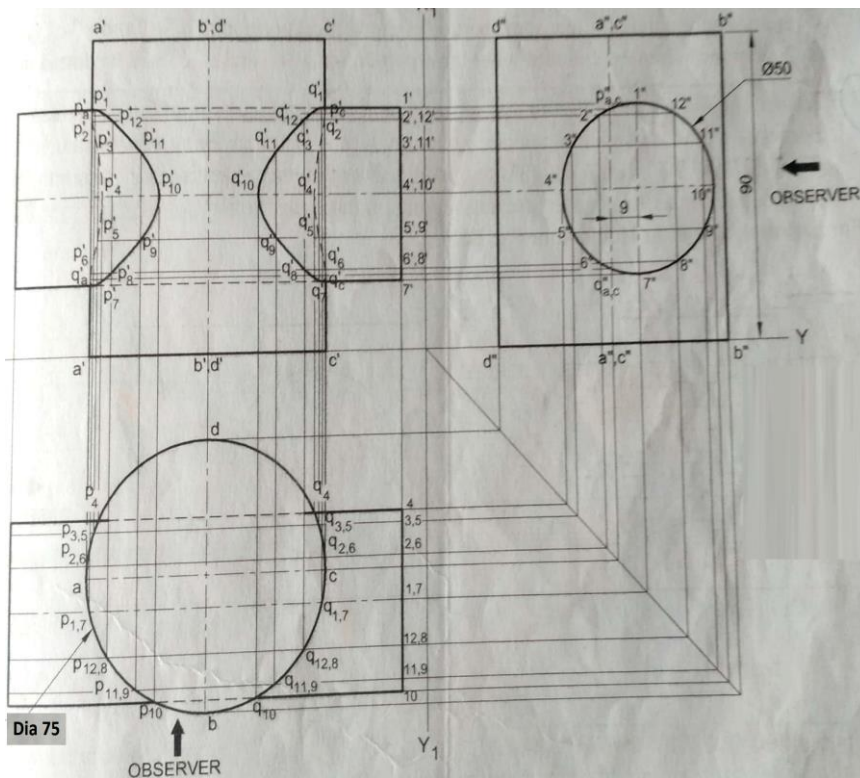SECTIONAL F.V.

FIT CHART

50H7/n6	TANSINTION FIT

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

T.V.
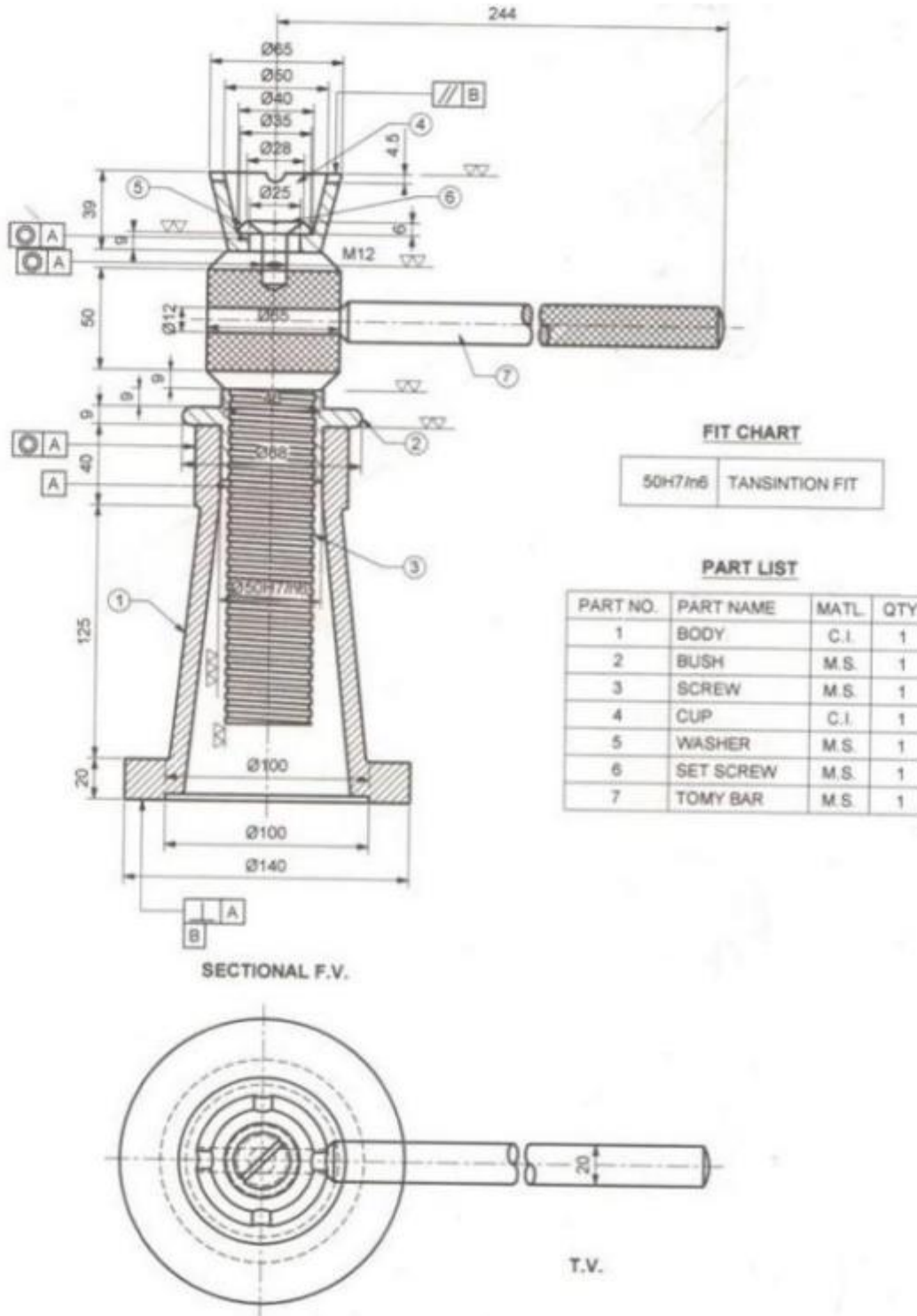
(SECT. FV-12, TV- 06, BILL OF MATERIALS -02 MARKS)

PART LIST

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

FIT CHART

24H7/n6	INTERFERENCE FIT
60H7/e8	CLEARANCE FIT

SECTIONAL F.V.

T.V.

ASSEMBLY OF TOOL POST

5

a

b
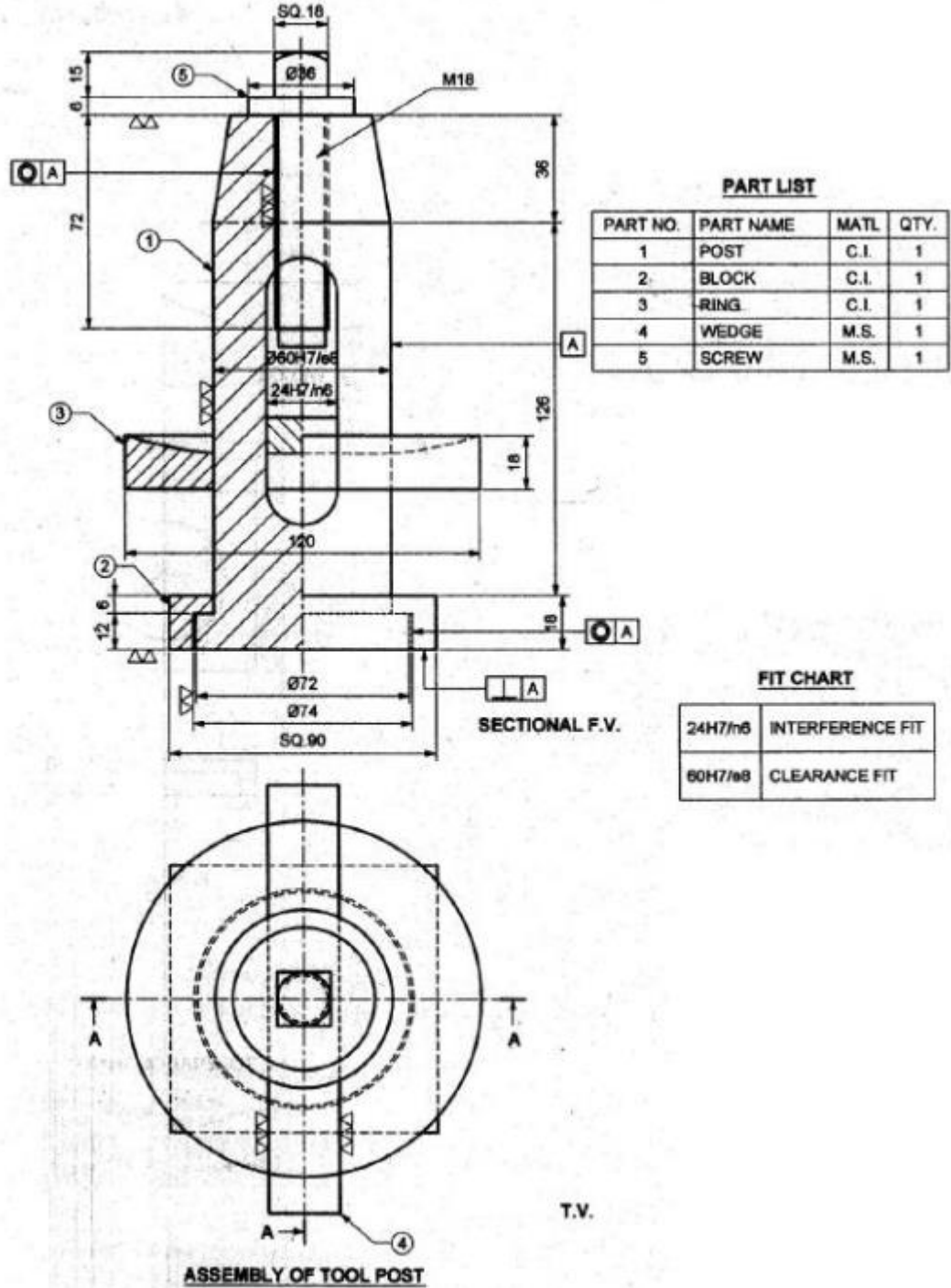
(BODY SECT. FV & HALF TV -08 M , COVER SECT. FV & T.V 4 M, VALVE SEAT SECT.FV & TV -4 M & VALVE FV AND TV 04 Marks)

1. BODY

4. COVER

2. VALVE SEAT

3. VALVE
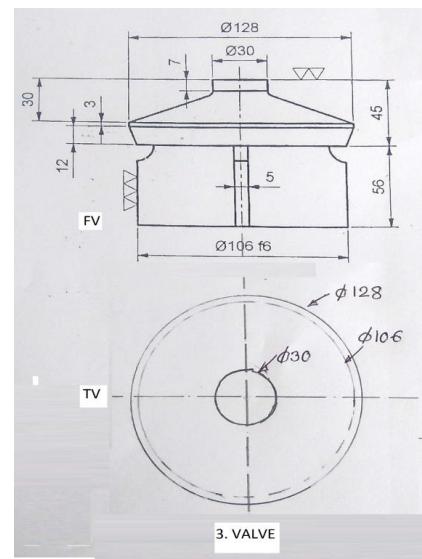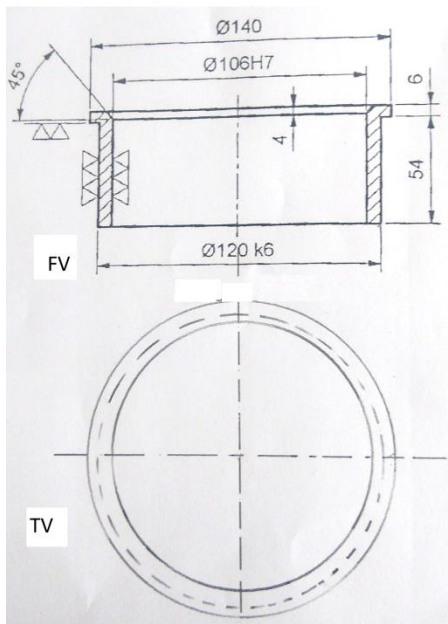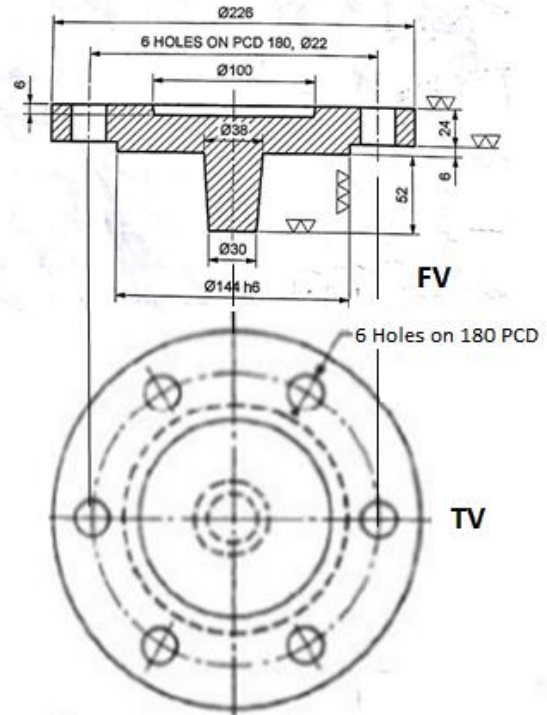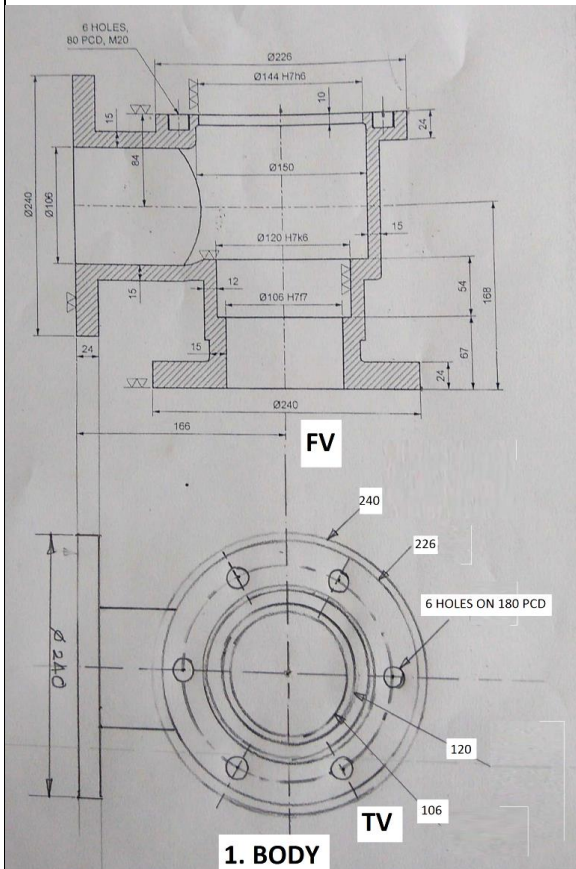
b

(BODY SECT. FV & TV -10 M , BUSH FV & T.V 6 M, DISC SECT.FV & TV -2 M & SHAFT 02 Marks)

1. BODY
C.I. 1 - OFF

2. BUSH
G.M. 1 - OFF

3. SHAFT
M.S. 1 - OFF

4. DISK
G.M. 1 - OFF