

MODEL ANSWER

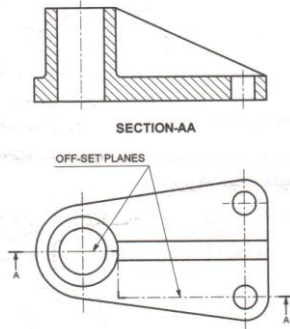

SUMMER- 17 EXAMINATION

Subject Title: MECHANICAL ENGG.DRAWING

Subject Code: 17305

Important Instructions to examiners:

- 1) The answers should be examined by key words and not as word-to-word as given in the model answer scheme.
- 2) The model answer and the answer written by candidate may vary but the examiner may try to assess the understanding level of the candidate.
- 3) The language errors such as grammatical, spelling errors should not be given more Importance (Not applicable for subject English and Communication Skills).
- 4) While assessing figures, examiner may give credit for principal components indicated in the figure. The figures drawn by candidate and model answer may vary. The examiner may give credit for any equivalent figure drawn.
- 5) Credits may be given step wise for numerical problems. In some cases, the assumed constant values may vary and there may be some difference in the candidate's answers and model answer.
- 6) In case of some questions credit may be given by judgement on part of examiner of relevant answer based on candidate's understanding.
- 7) For programming language papers, credit may be given to any other program based on equivalent concept.

Q. No.	Su b Q. N.	Answer	Marking Scheme
1(A)	a	<p>(2 MARKS EACH)</p> <p>OFFSET SECTION</p> 	
	b	<p>GLOBE VALVE</p> 	

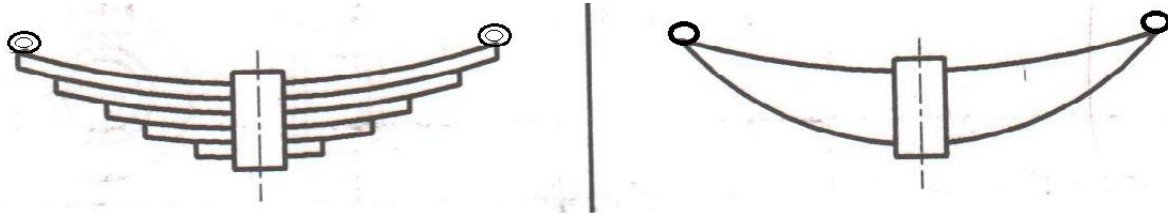
1(A) c

DIAMOND KNURLING



1(A) d

LEAF SPRING WITH EYES AND CENTRAL BAND



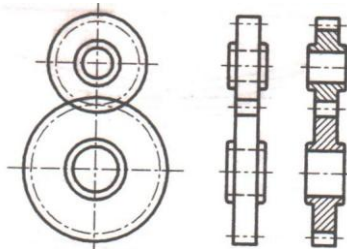
1(A) e

WOOD



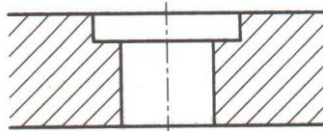
1(A) f

SPUR GEARS



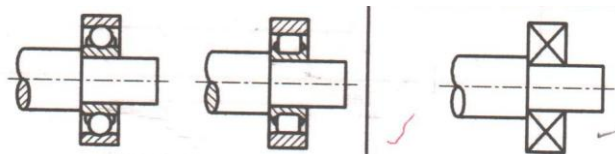
1(A) g

COUNTER BORED HOLES



1(A) h

BALL AND ROLLER BEARINGS

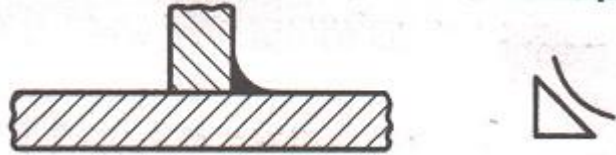


1(B)

a

(2 MARKS EACH)

i) CONCAVE FILLET WELD



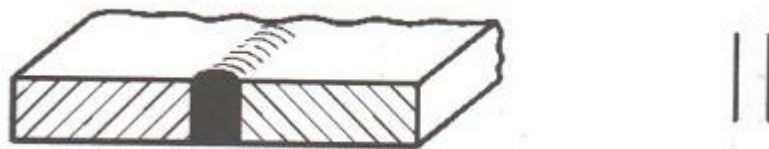
ii) SEAM WELD



iii) FLAT SINGLE V BUTT WELD



iv) SQUARE BUTT WELD



1(B)

b

(4 MARKS)

$$\begin{aligned} \text{Maximum allowance} &= \text{Upper limit of hole} - \text{Lower limit of shaft} \\ &= 27.523 - 27.445 \\ &= 0.078 (+ve) \end{aligned}$$

$$\begin{aligned} \text{Minimum allowance} &= \text{Lower limit of hole} - \text{Upper limit of shaft} \\ &= 27.500 - 27.470 \\ &= 0.03 (+ve) \end{aligned}$$

Type of fit is clearance fit.

1(B)

c

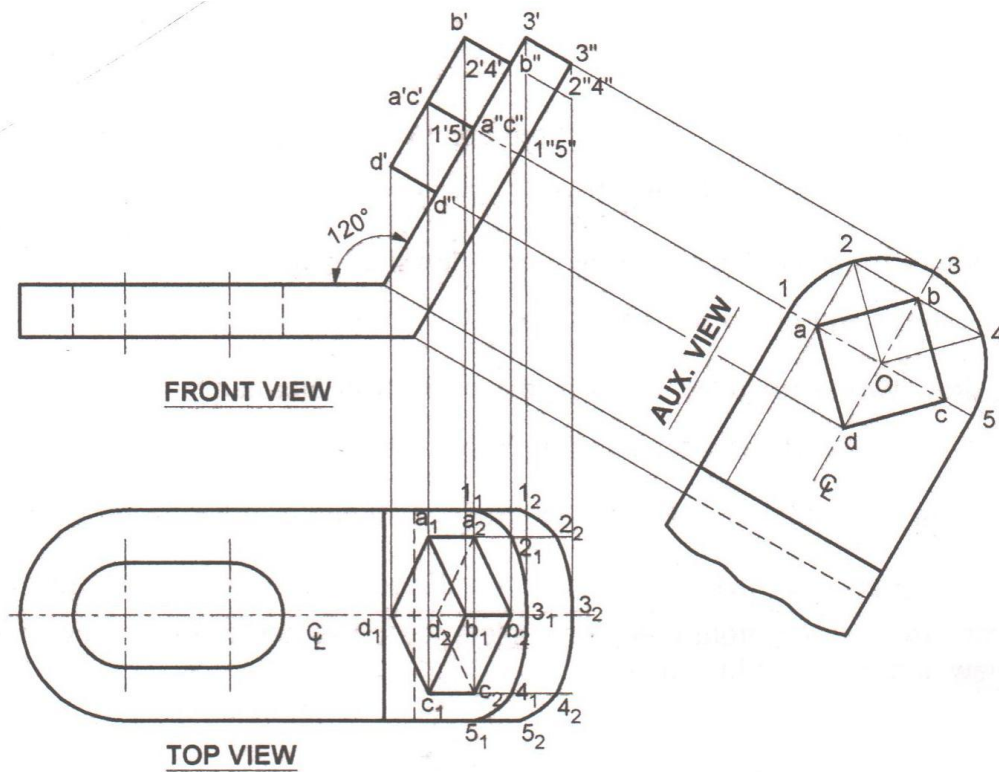
(1 MARK FOR EACH PARAMETER)

- 12.5 → Roughness value in μm (Ra) or roughness grade.
- 5 → Machining allowance
- \perp → Direction of lay
- Milling → Manufacturing method
- 40 - SAMPLING LENGTH

2

A

(FV. 4, TV- 6, AUX VIEW -2 MARKS)



(1 MARK FOR EACH PARAMETER)

2B

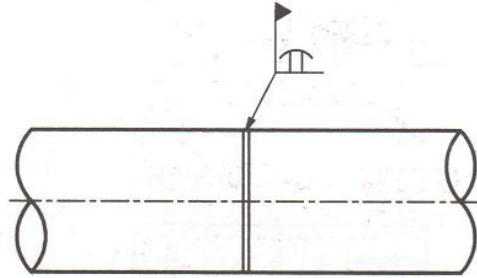
a

- A - TOLERANCE
- B - MINIMUM DIAMETER/LOWER DEVIATION
- C - MAXIMUM DIAMETER/UPPER DEVIATION

2B

b

(CORRECT SKETCH 4 M)



2B

c

(2 MARKS FOR EACH)

	0.1	A - B
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The radial run out shall not be greater than 0.1 in any plane of measurement during one revolution about the datum axis A - B.

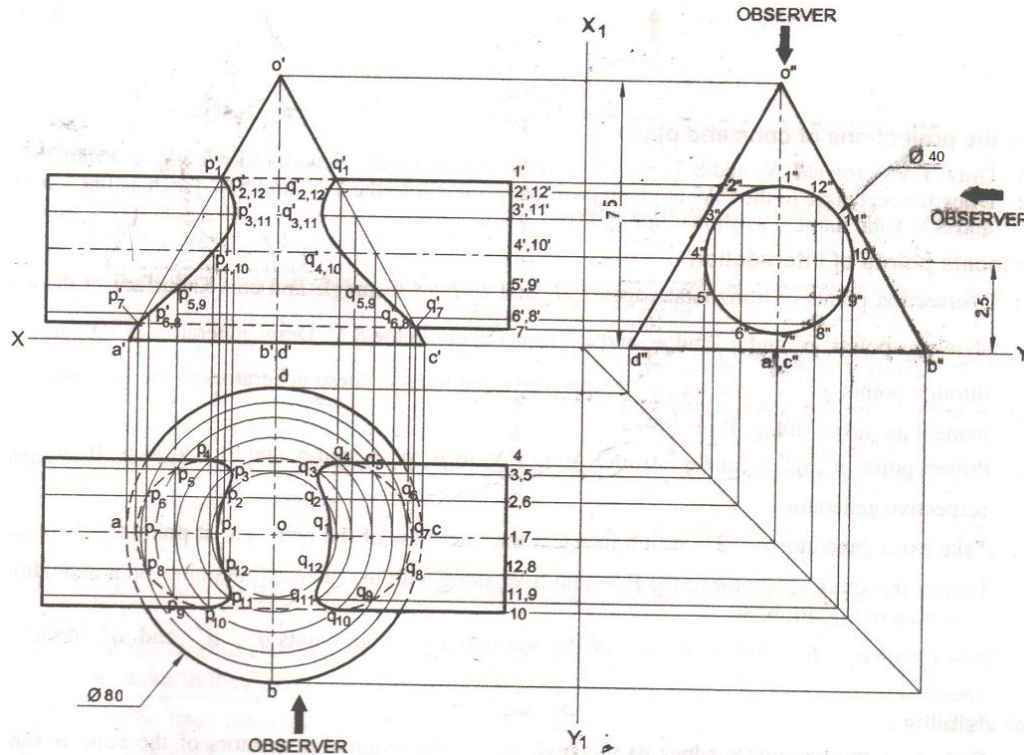
	0.02	A
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The median plane of the slot shall be contained between two parallel planes which are 0.02 apart and symmetrically disposed about the median plane with respect to the datum feature A.

3

a

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

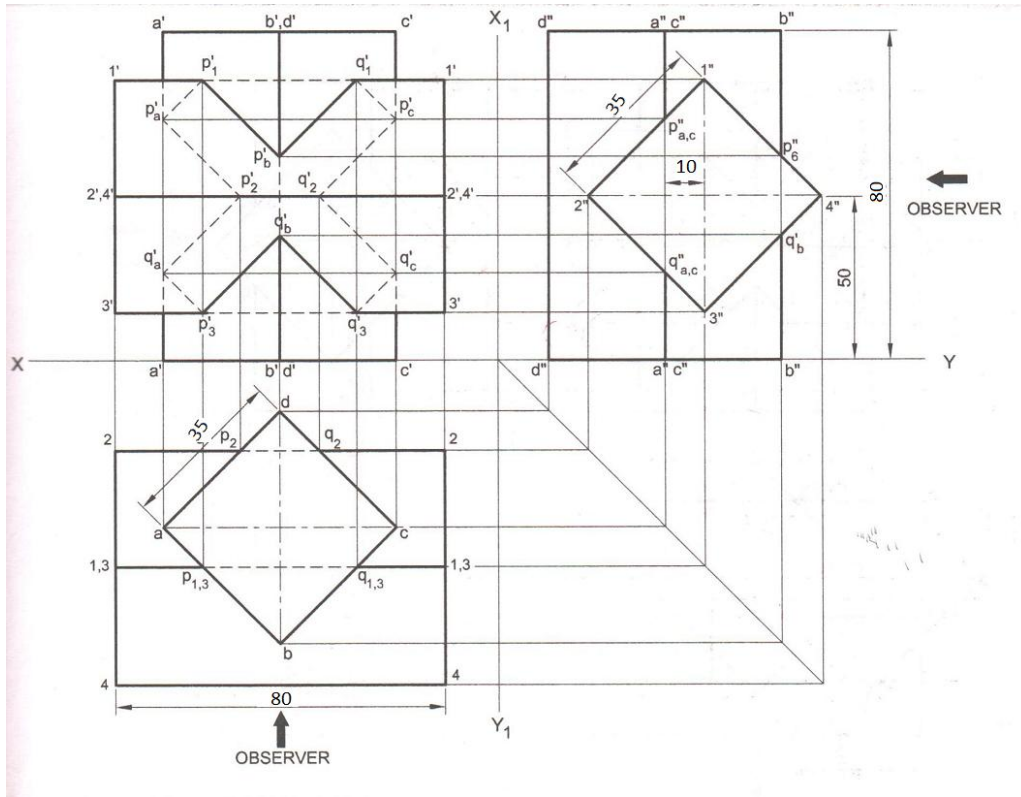




(FV-4, TV- 4, SV -2 MARKS)

3

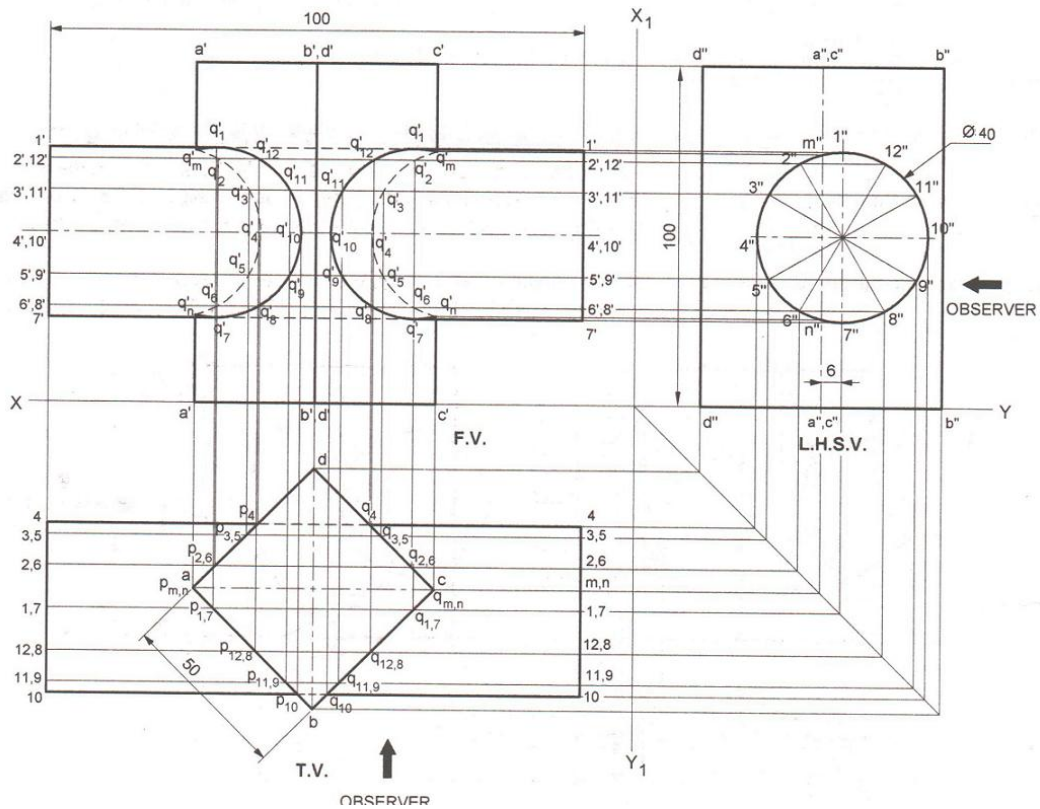
b



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

3

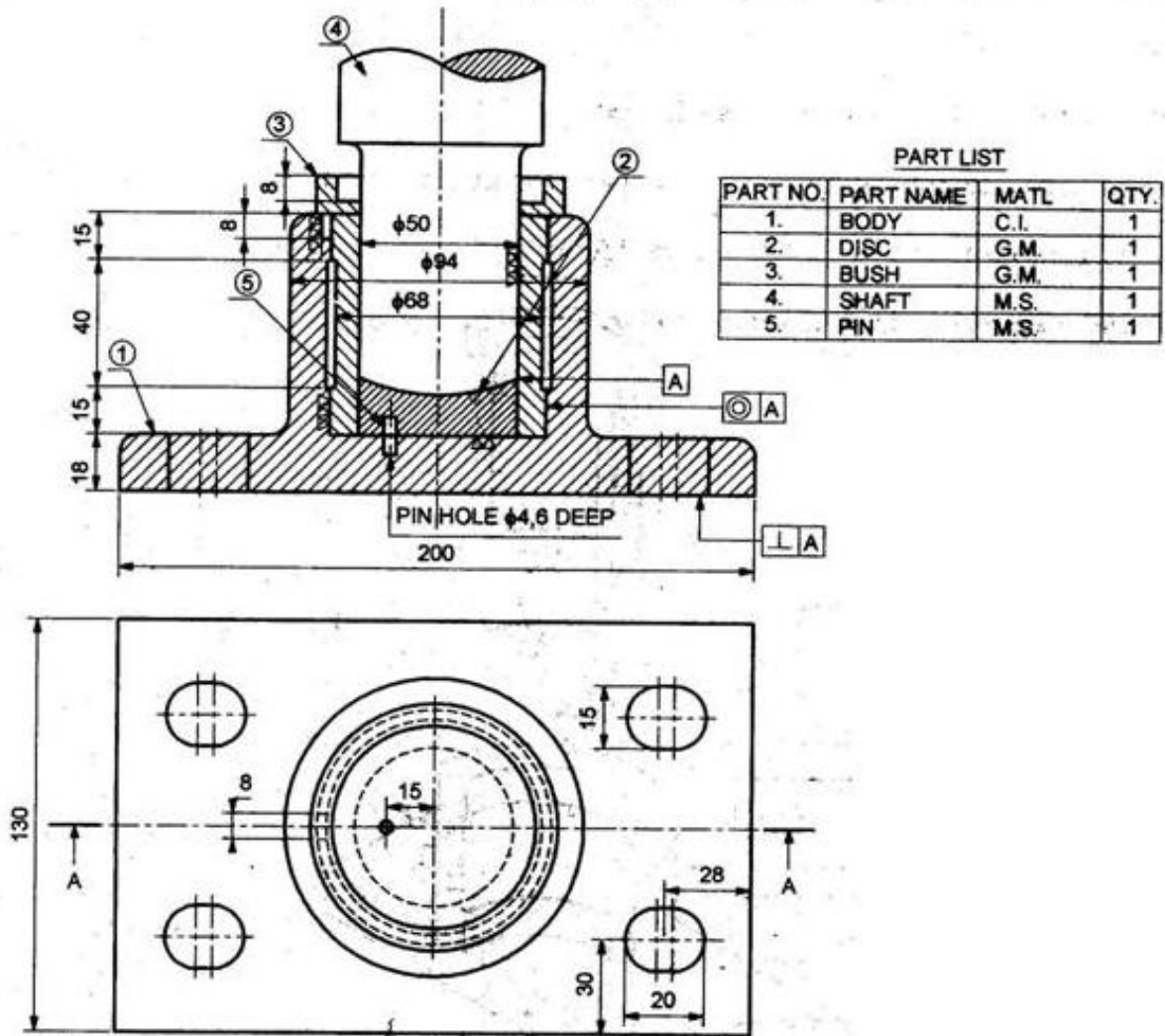
c



(SECTIONAL FV-10, TV- 8, BILL OF MATERIALS -2 MARKS)

4

a

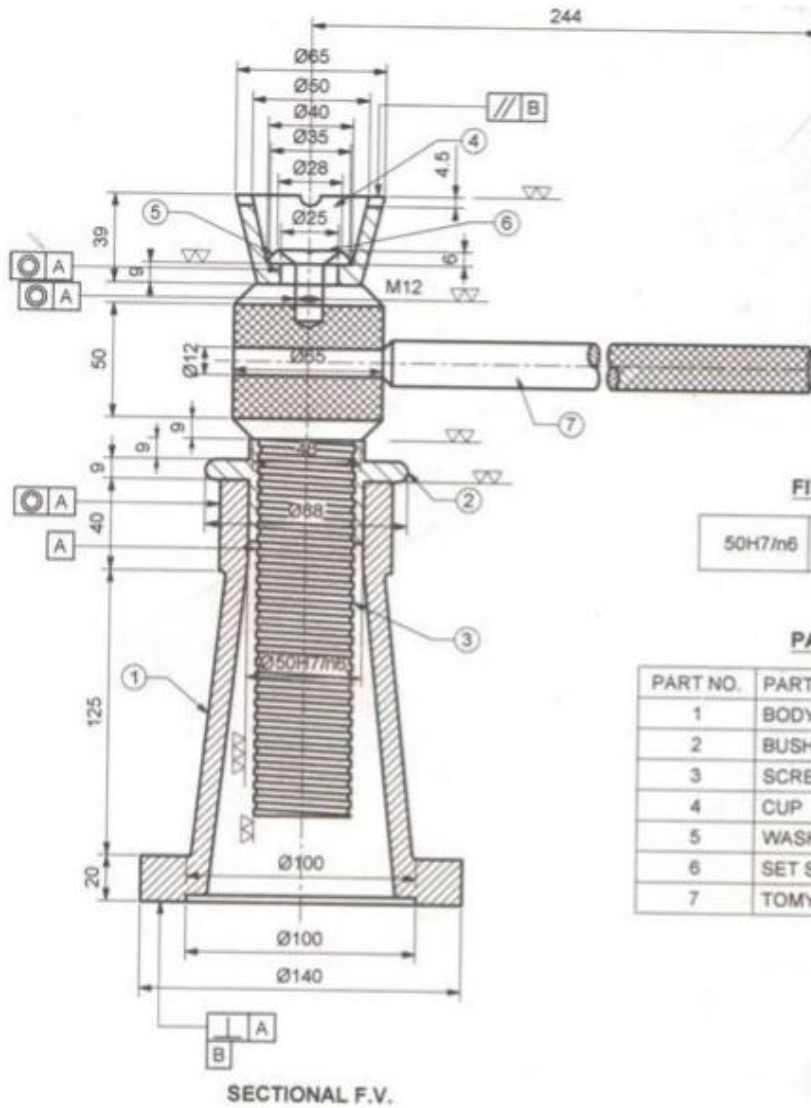


Top view and front view of foot step bearing assembly

4

b

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



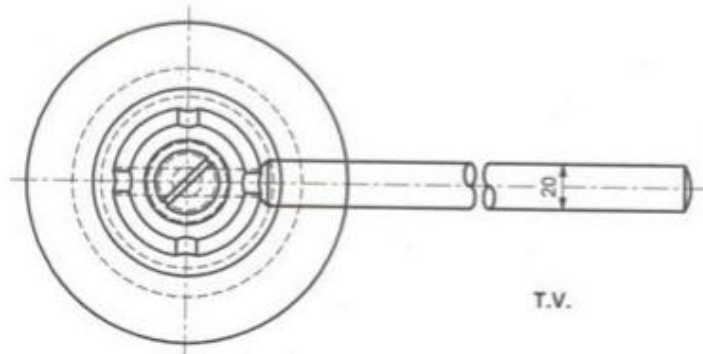
FIT CHART

50H7/m6	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

SECTIONAL F.V.

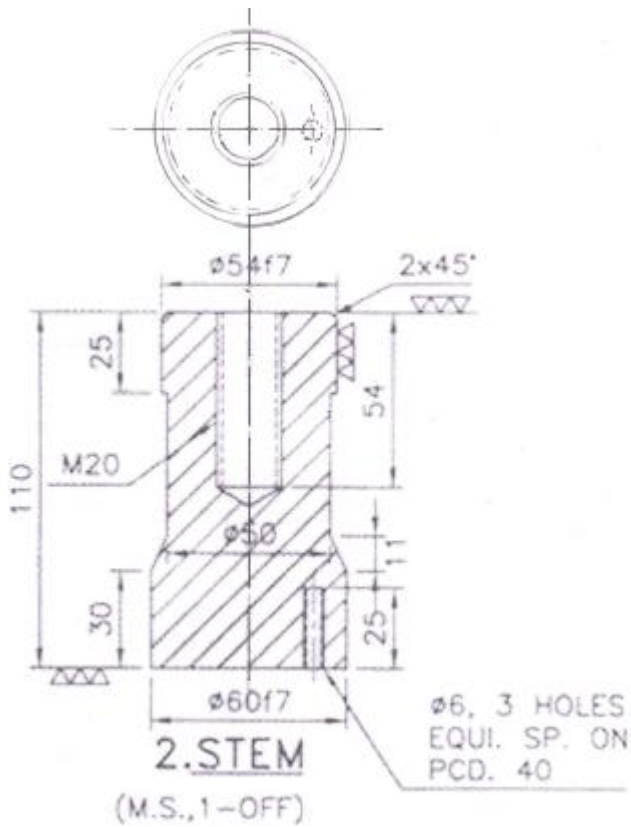
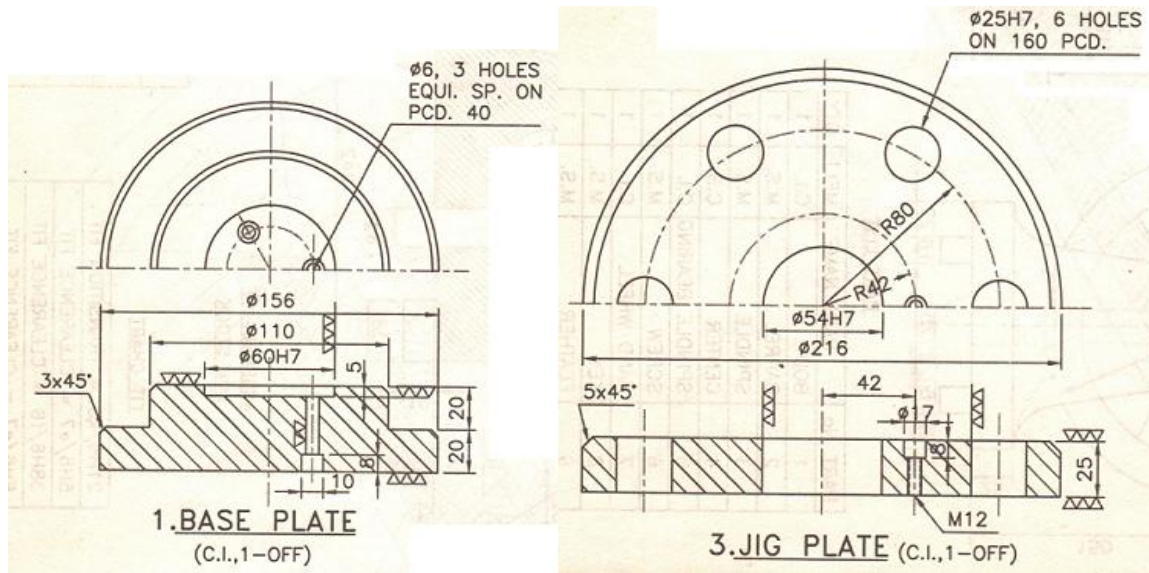


T.V.

5

a

(BASE PLATE SECTIONAL FV & TV - 6 M , STEM SFV & TV 7 , JIG PLATE SFV & TV - 7 MARKS)



5

b

(BODY SECTIONAL FV & SV -10 M , BARREL SFV &SV 5M, SPINDLE BEARING SFV & SV -5 MARKS)

