

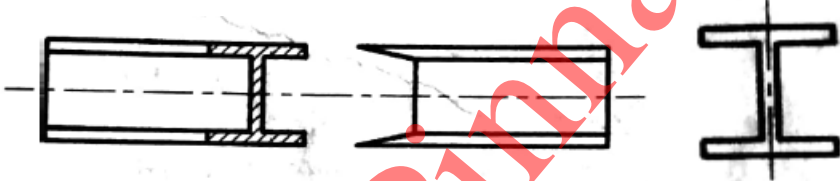
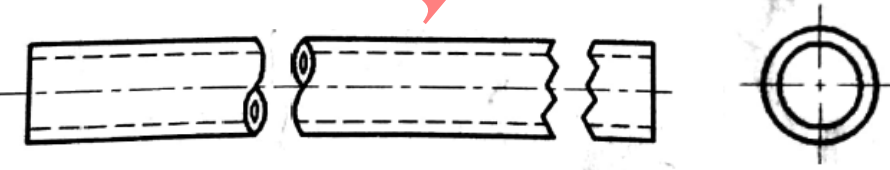
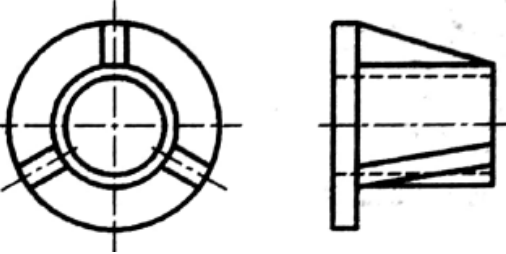
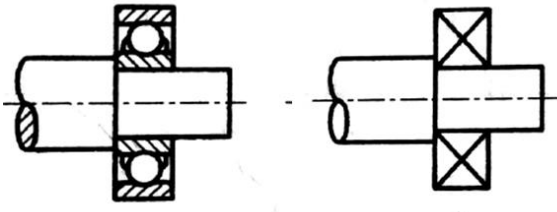
SUMMER – 19 EXAMINATION

Subject Name: Mechanical Working Drawing Model Answer

Subject Code: **22341**

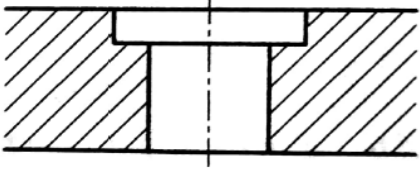
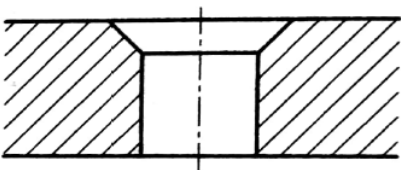
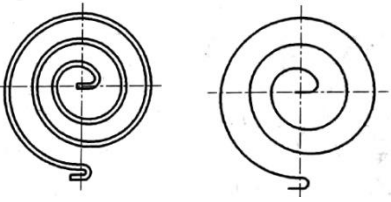
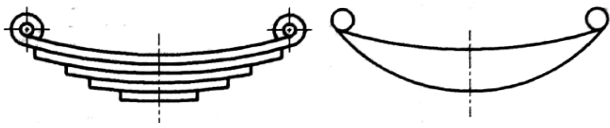


Important Instructions to examiners:

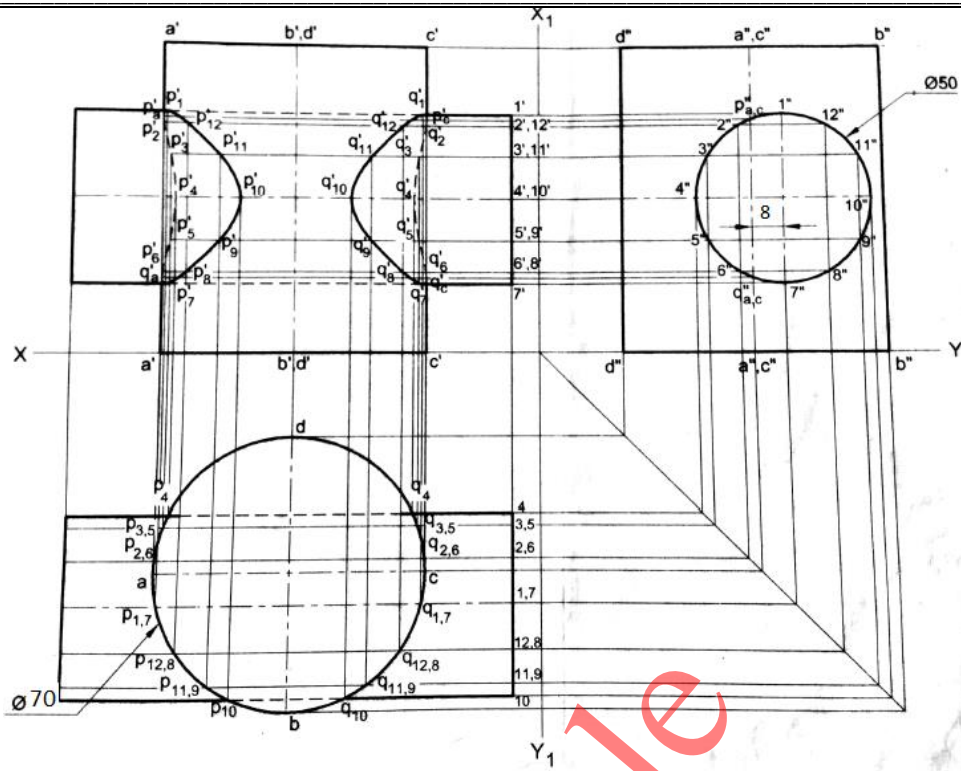
- 1) The answers should be examined by key words and not as word-to-word as given in the model answer scheme.
- 2) The model answer and the answer written by candidate may vary but the examiner may try to assess the understanding level of the candidate.
- 3) The language errors such as grammatical, spelling 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.	Sub Q. N.	Answer	Marking Scheme
1	a	<p>i) I-section or Rolled section</p>  <p>ii) long brake in pipe</p> 	2 M each
	B	<p>i) Radial ribs</p>  <p>ii) Bearings</p> 	

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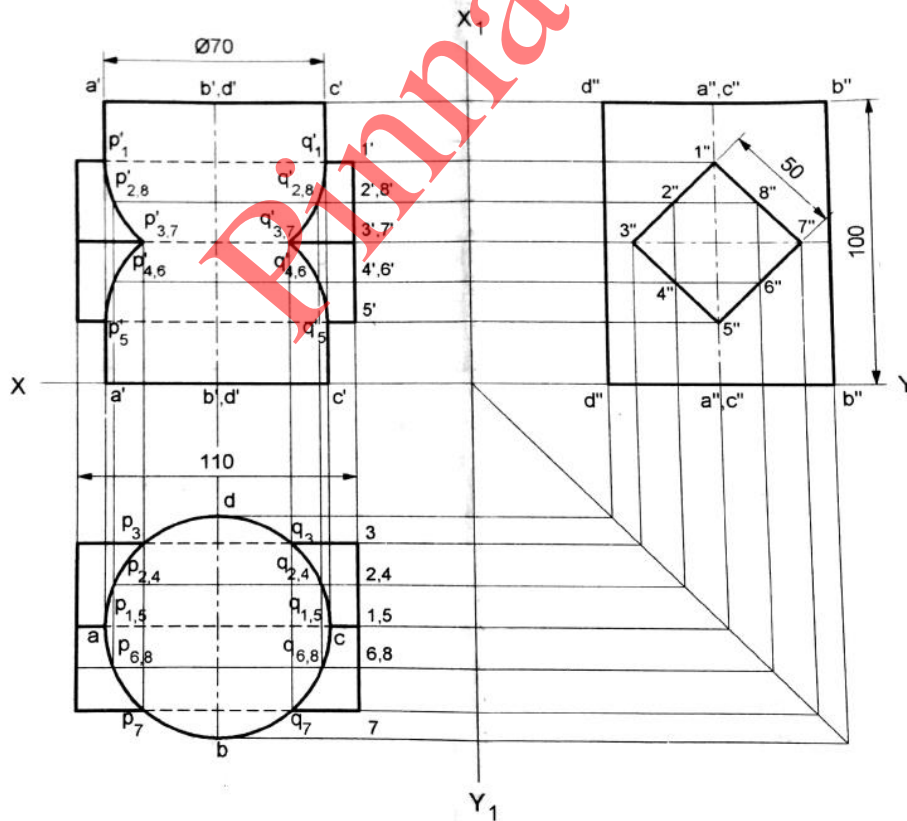
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c	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>counter bore</p>  </div> <div style="text-align: center;"> <p>countersunk bore</p>  </div> </div>	
d	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>i) Spiral spring</p>  </div> <div style="text-align: center;"> <p>ii) Semi elliptic leaf spring with eyelets</p>  </div> </div>	
e	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>i) Circularity</p>  </div> <div style="text-align: center;"> <p>ii) Cylindricity</p>  </div> </div>	
f	<p>GRINDING – MANUFACTURING METHOD</p> <p>N7 - SURFACE ROUGHNESS VALUE IN MICRON METER</p> <p>5 - MACHINING ALLOWANCE</p> <p>C- DIRECTION OF LEY</p> <p>100 - SAMPLING LENGTH</p> <p>50 – OTHER ROUGHNESS VALUE</p>	
G	<p>The toleranced edge is parallel with in 0.02 mm to the datum line A</p> <p>The toleranced edge is perpendicular with in 0.03 mm to the datum line A</p>	
2	a	



2 M
each
view

B



2 M
each
view

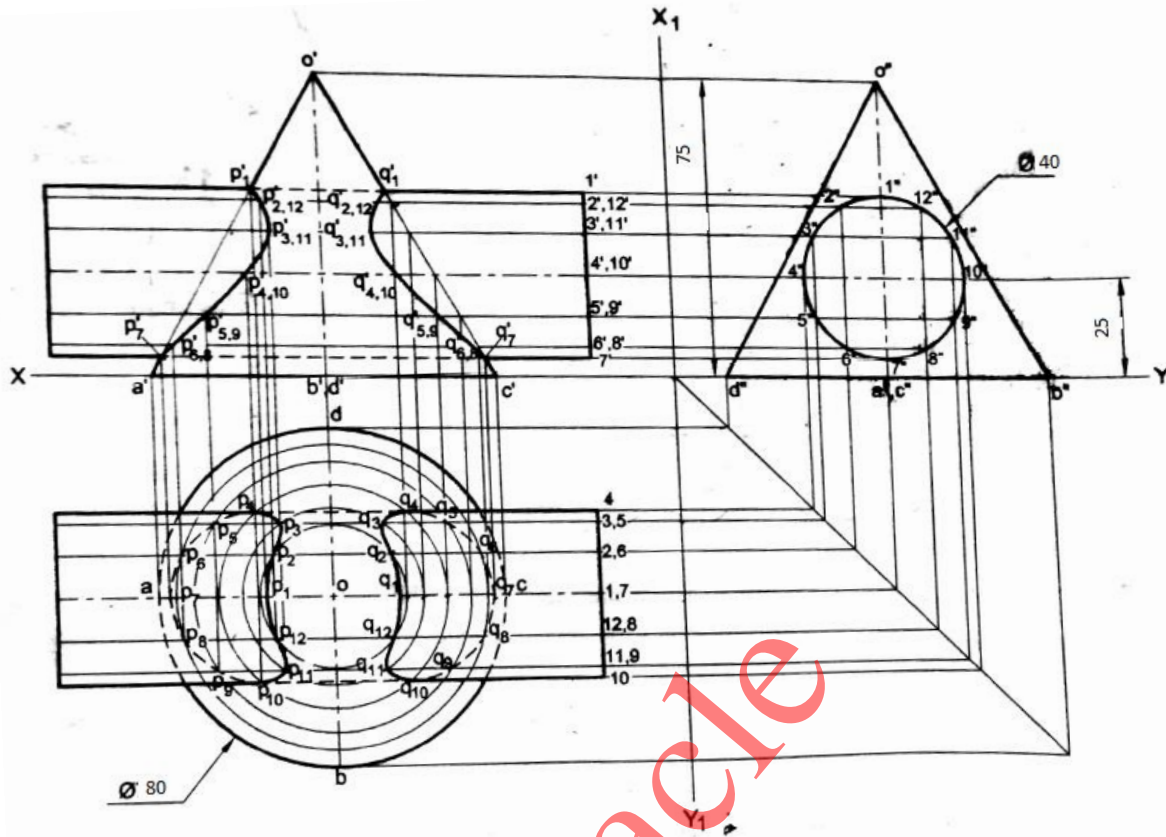
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C



2M each view

3

A

a)

For Hole $50\ H7$ $\begin{matrix} +0.030 \\ +0.000 \end{matrix}$

Upper limit of hole = $50.000 + 0.030$
= 50.03 mm

Lower limit of hole = $50.000 + 0.000$
= 50.000 mm

For shaft $50\ n6$ $\begin{matrix} +0.039 \\ +0.020 \end{matrix}$

Upper limit of shaft = $50.000 + 0.039$
= 50.039 mm

Lower limit of shaft = $50.000 + 0.020$
= 50.020 mm

Max. allowance = Upper limit of hole - lower limit of shaft
= $50.030 - 50.020 = 0.01$ mm

Min. allowance = Lower limit of hole - Upper limit of shaft
= $50.000 - 50.039 = -0.039$ mm

Hence Type of fit is Transition fit.

4M

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b) define:

i) Allowance: is the difference between the male part dimension & female part dimension. Or Difference between the hole dimensions and shaft dimensions for any type of fit. Or maximum interferences between two parts.

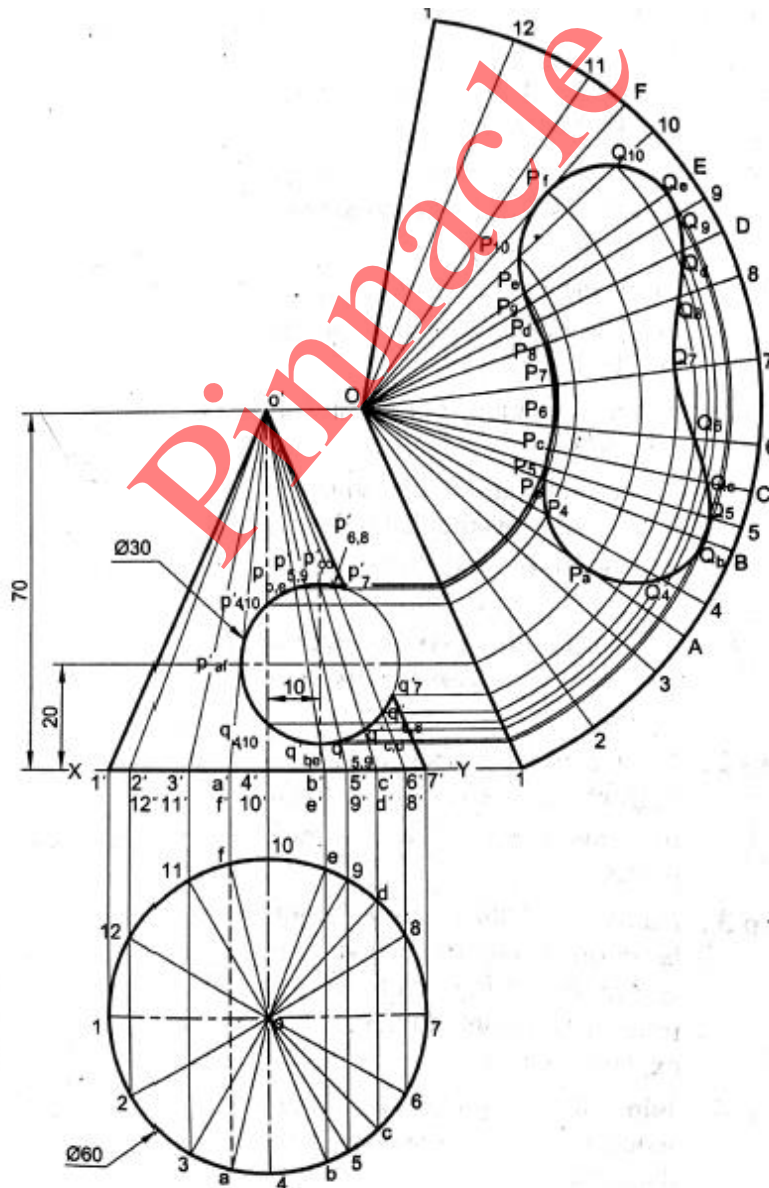
ii) Clearance: is the difference in the shaft diameter & hole diameter.

iii) Interference: The upper limit size of the hole is smaller or at least equal to the lower limit size of shaft

iv) Deviation: The difference between basic size and actual size is known as deviation

1M each

i)



FV & TV
3M

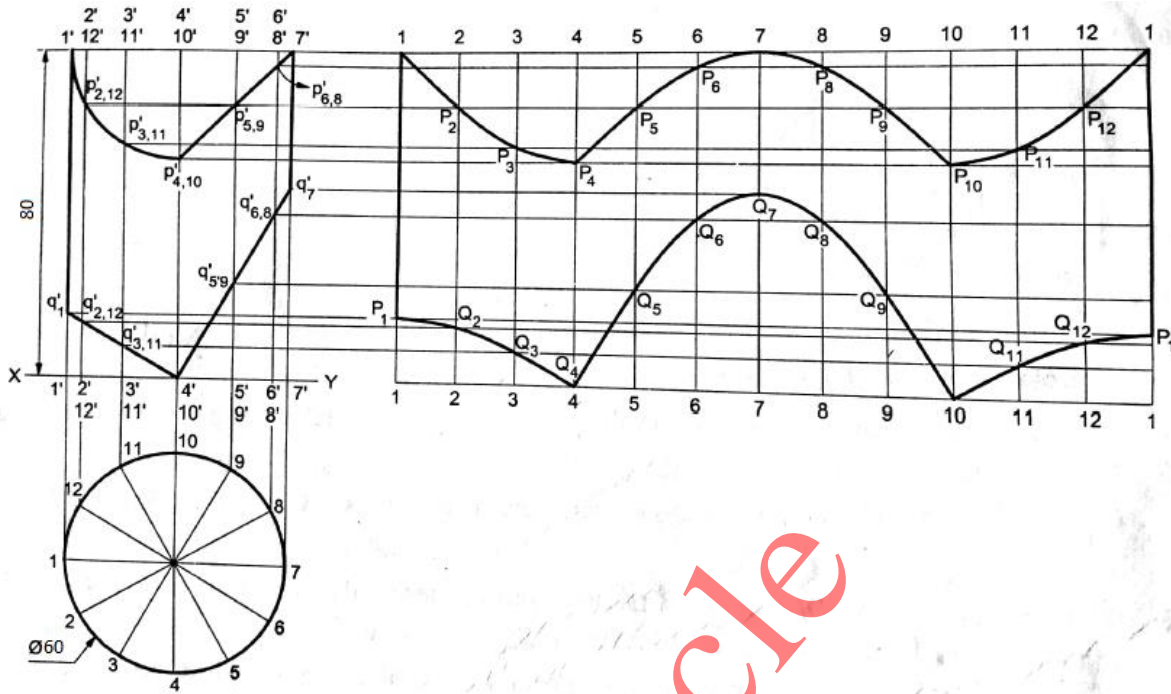
Dev 3M

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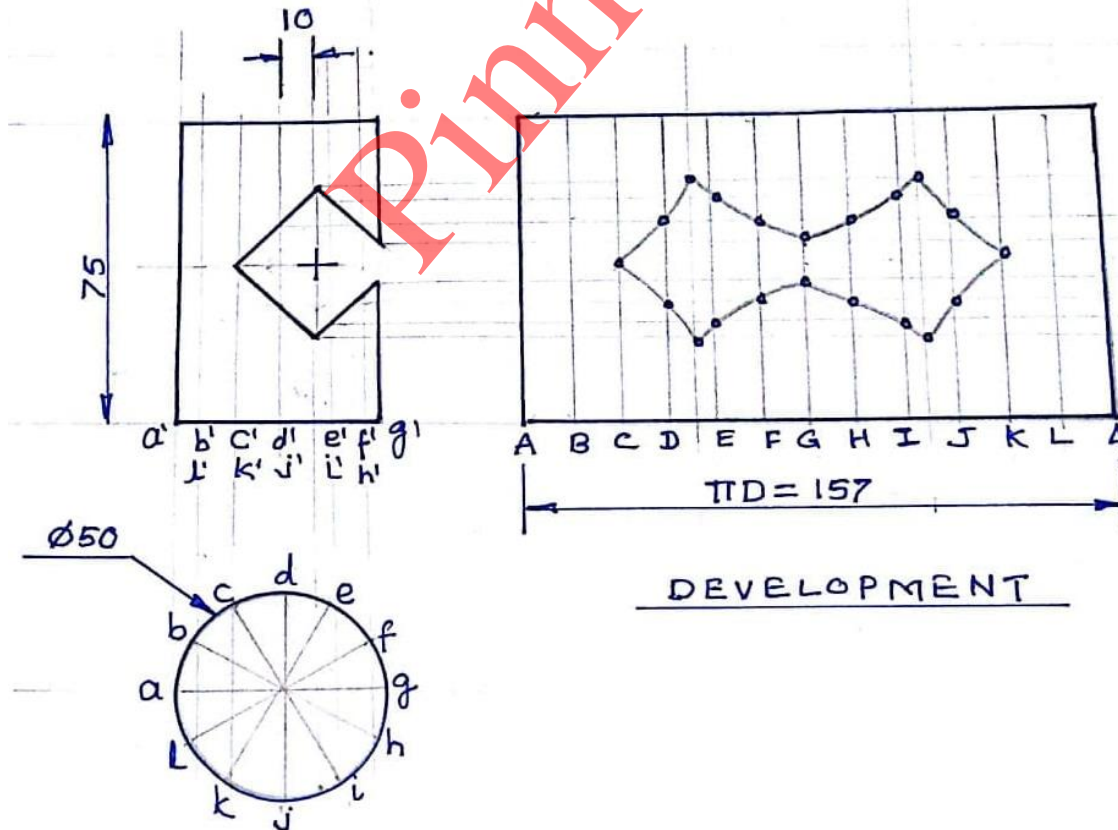
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ii)



FV & TV
3M
Dev 3M

iii)



FV & TV
3M
Dev 3M

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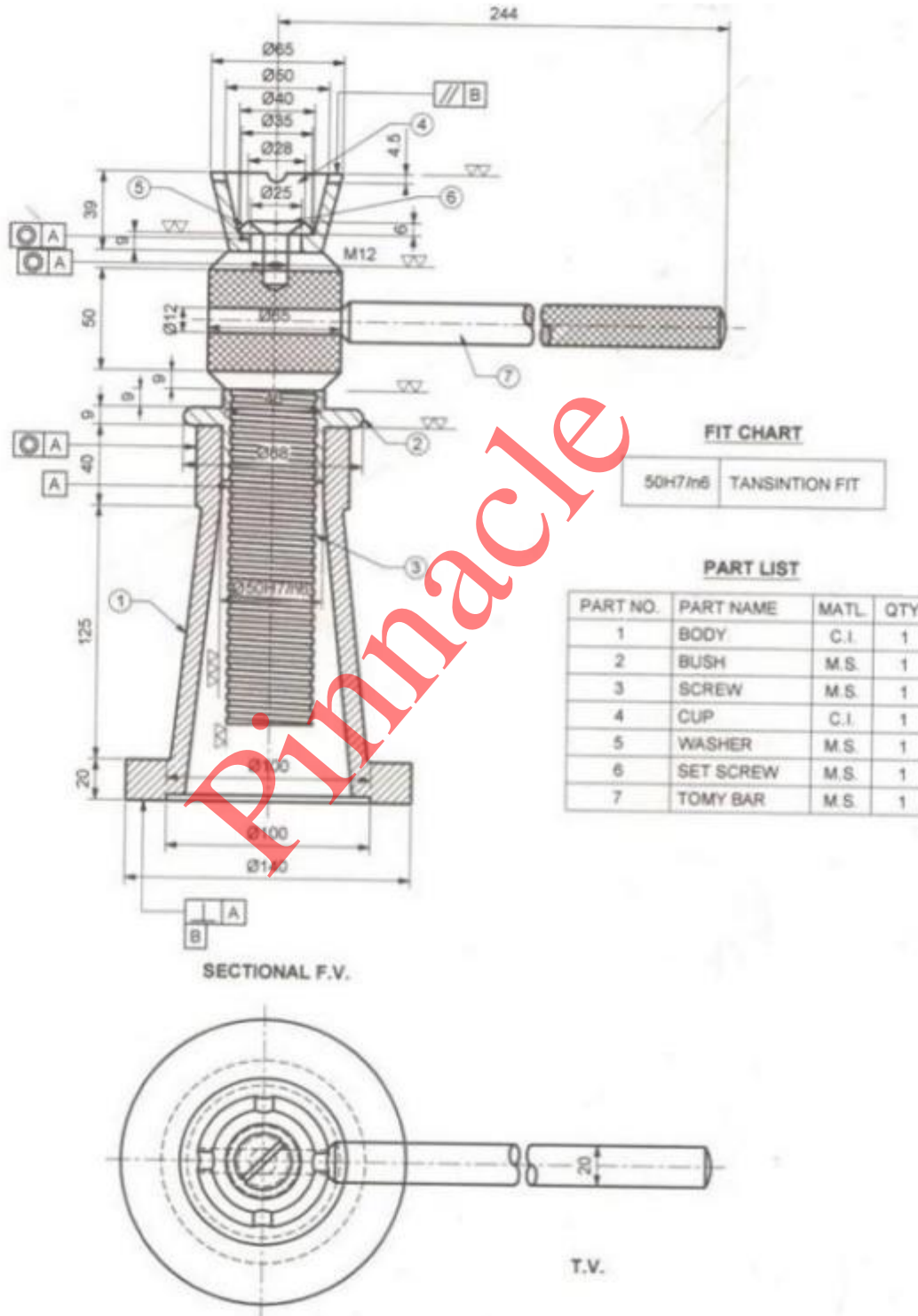
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5

a

(SECTIONAL FV-10 M, TV-4M, BILL OF MATERIALS -2 MARKS)



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b

(SECTIONAL FV-9 M, LHSV- 05 M, BILL OF MATERIALS -2 MARKS)

