



MODEL ANSWER

SUMMER- 2019 EXAMINATION

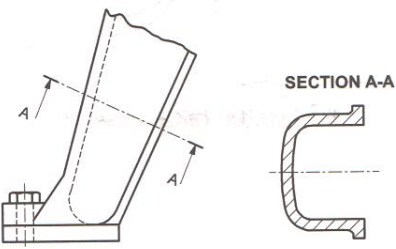


Subject Title: MECHANICAL ENGG.DRAWING

Subject Code:

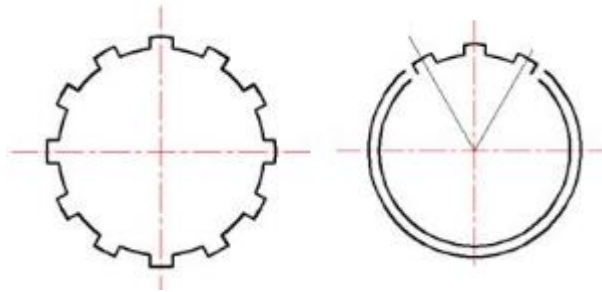
17305

Important Instructions to examiners:

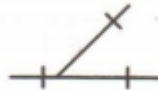
- 1) The answers should be examined by key words and not as word-to-word as given in the model answer scheme.
- 2) The model answer and the answer written by candidate may vary but the examiner may try to assess the understanding level of the candidate.
- 3) The language errors such as grammatical, spelling 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.	Sub Q. N.	Answer	Marking Scheme
1	A	<p>i) Removed Section</p>  <p>ii) Internal thread</p>  <p>iii) Cast iron</p> 	02 Marks each

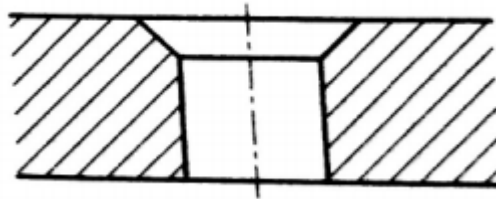
iv) Splined shaft



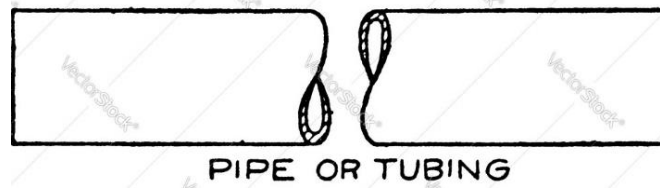
v) Globe valve



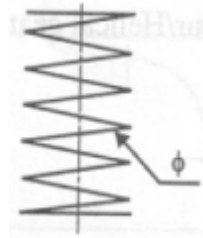
vi) Counter sunk



vii) Pipe/tubing



viii) Helical spring with circular cross section



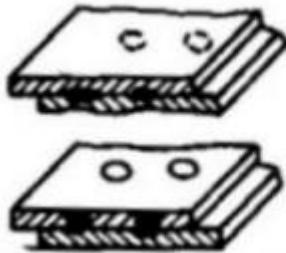
1) Double V butt weld



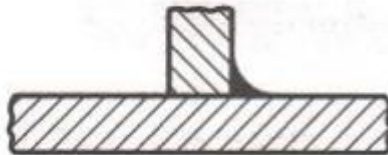
2) Single bevel butt weld



3) Spot weld



4) Fillet weld with convex finish



ii) MILLING – MANUFACTURING METHOD

25 - SURFACE ROUGHNESS VALUE IN MICRON METER

5 - MACHINING ALLOWANCE



- DIRECTION OF LEY (Perpendicular)

40 - SAMPLING LENGTH

02
Marks
each

04
marks

iii)

$$\text{Shaft size} = 35 \begin{matrix} -0.02 \\ -0.04 \end{matrix}$$

$$\text{Hole size} = 35 \begin{matrix} +0.02 \\ +0.00 \end{matrix}$$

$$\begin{aligned} \text{Maximum allowance} &= \text{Upper limit of hole} - \text{lower limit of shaft} \\ &= (35 + 0.02) - (35 - 0.04) = 35.02 - 34.96 \\ &= 0.06 \text{ (+ve)} \end{aligned}$$

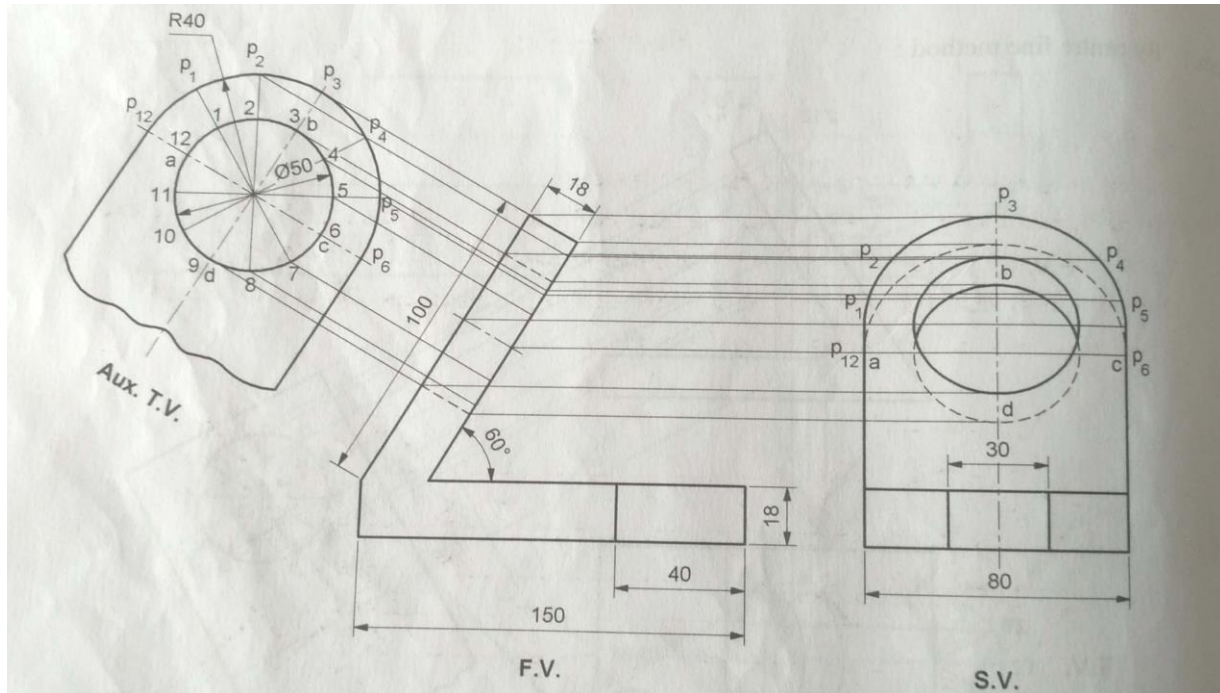
$$\begin{aligned} \text{Min allowance} &= \text{Lower limit of hole} - \text{Upper limit of shaft} \\ &= 35 - 34.98 \\ &= 0.02 \text{ (+ve)} \end{aligned}$$

Hence type of fit is clearance fit.

2

a

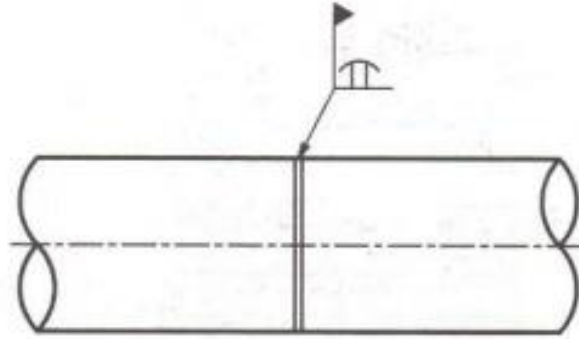
03 Marks for Front view, 03Marks for Aux. view and 06 Marks for Side view



b

i)

(CORRECT SKETCH 4 M)



ii) (1 Mark for each symbol)

Cylindricity

Angularity

Profile of a line

Flatness



(2 Marks each)

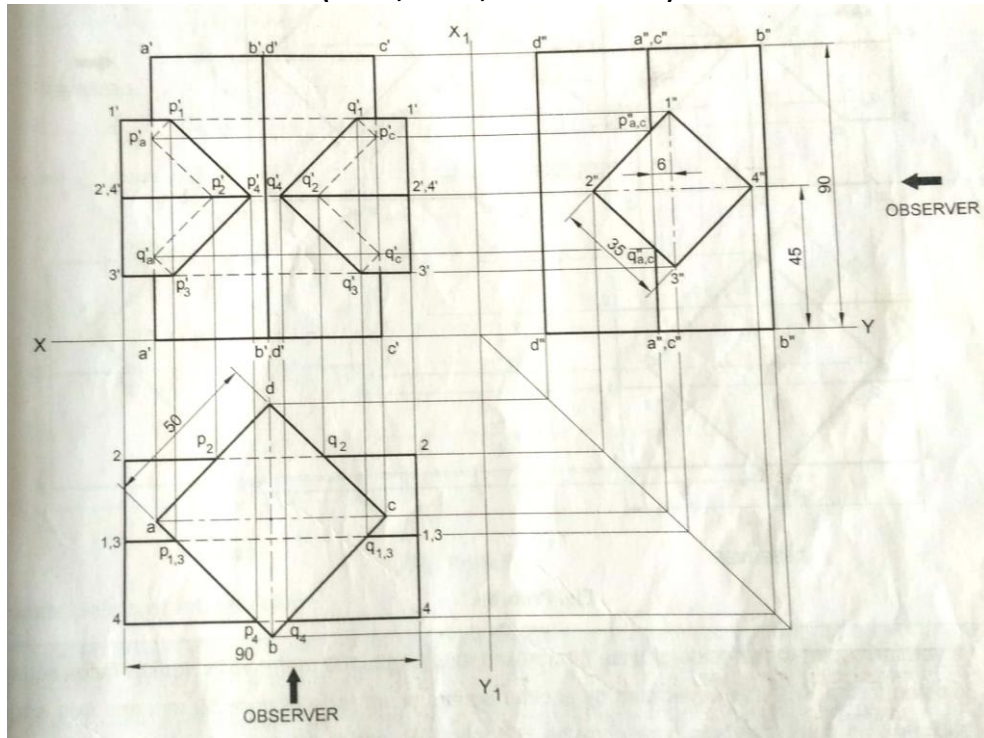
iii) X= The tolerance edge is parallel within 0.02 mm to the datum line A

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

3

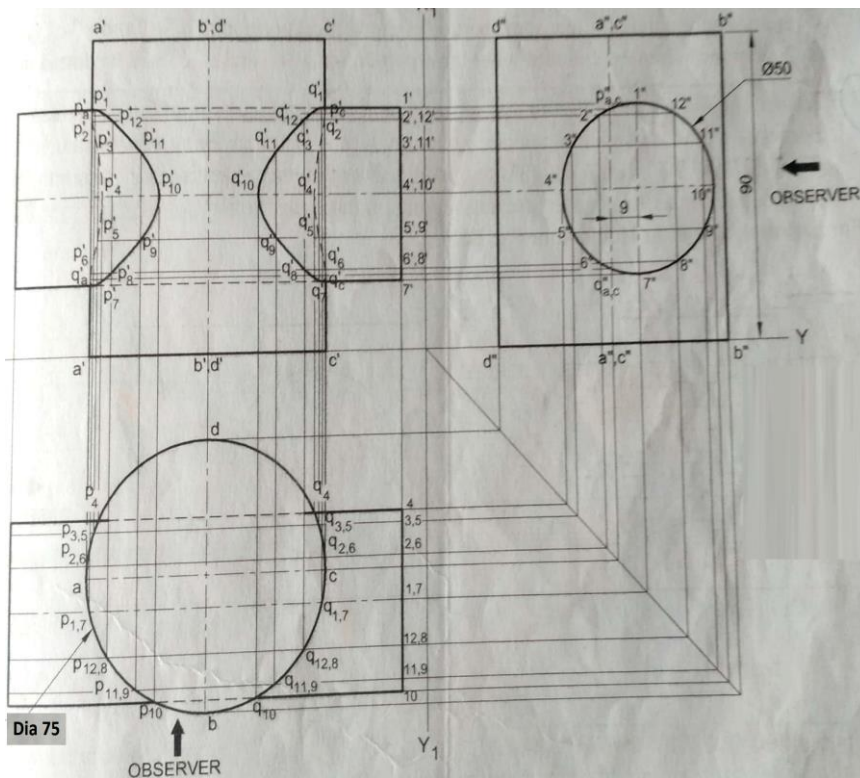
a

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



b

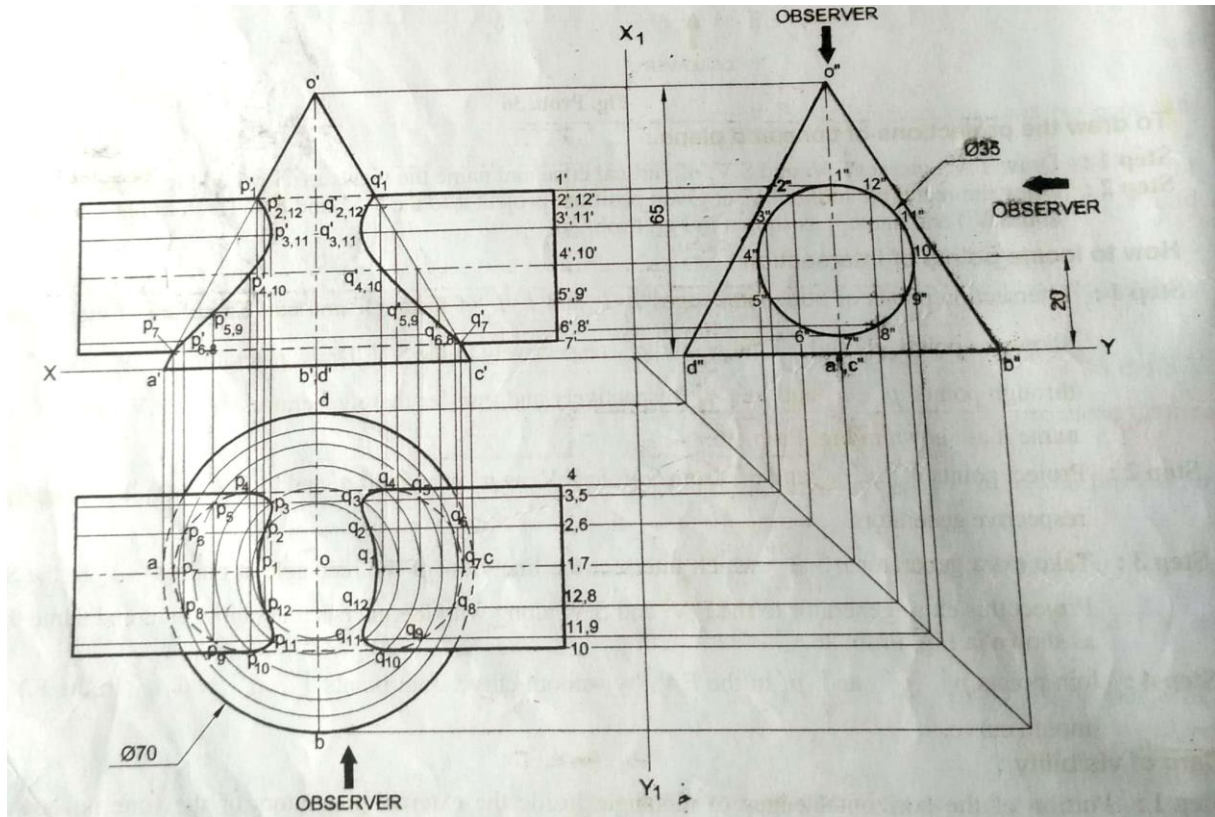
(FV-4, TV-4, SV-2 MARKS)





C

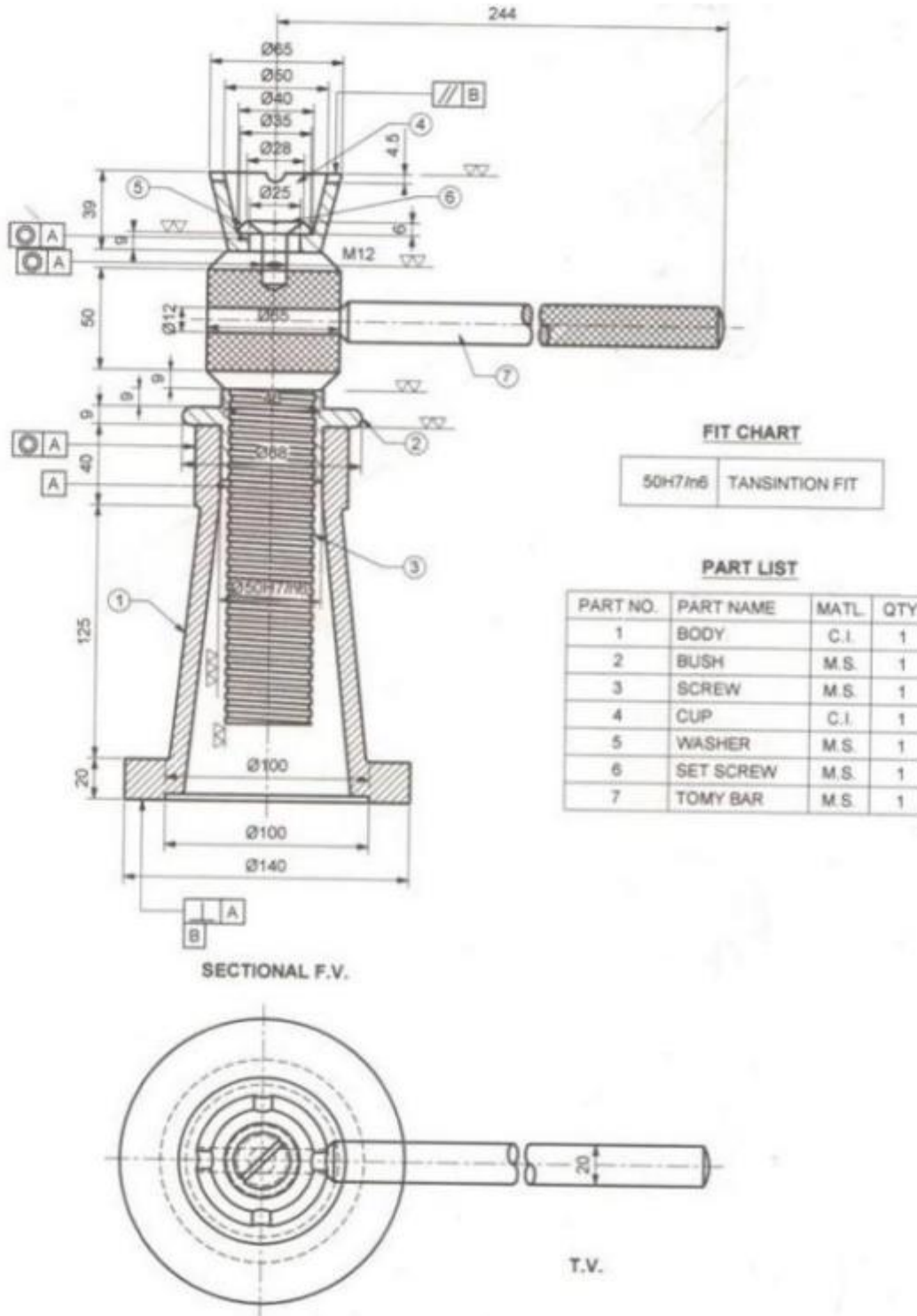
(FV-4, TV- 4, SV -2 MARKS)



4

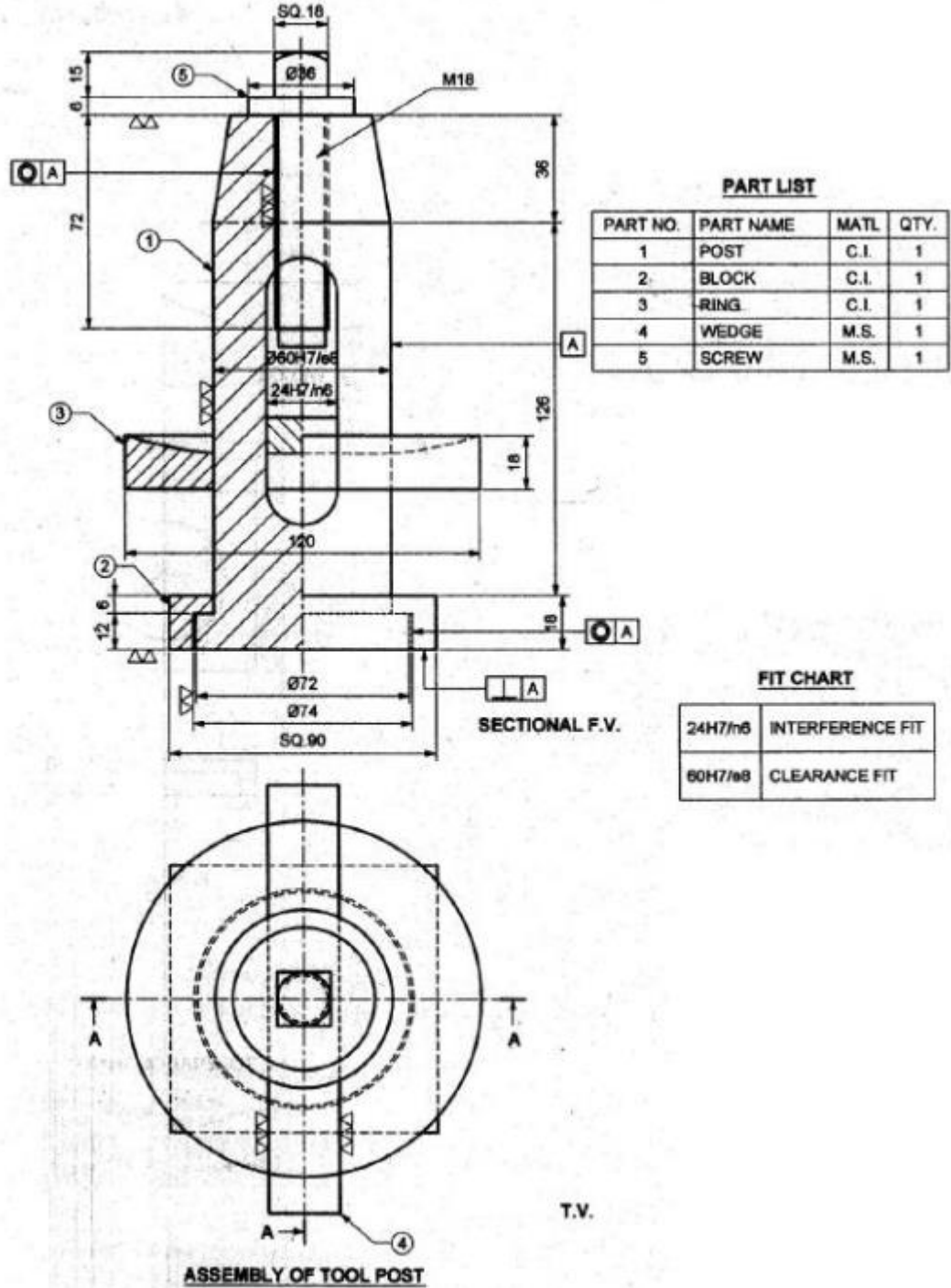
a

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



b

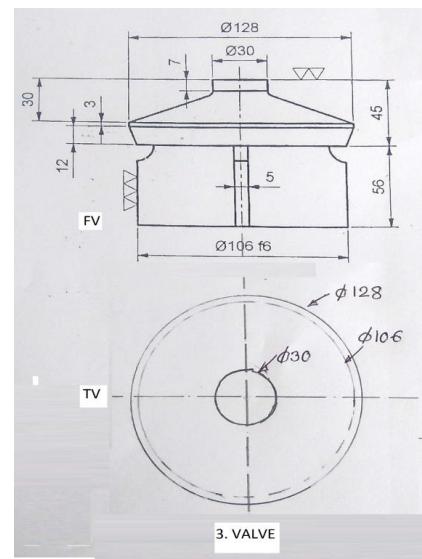
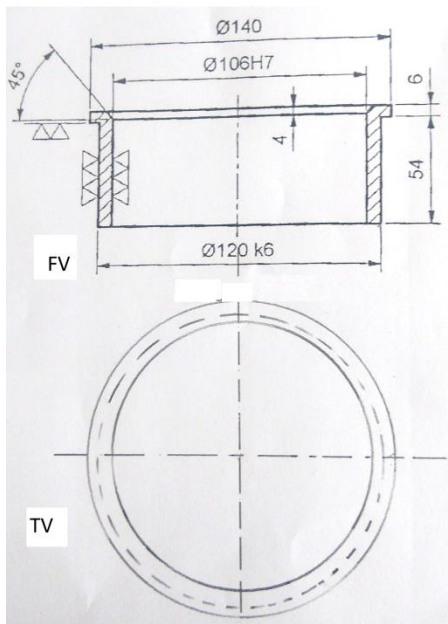
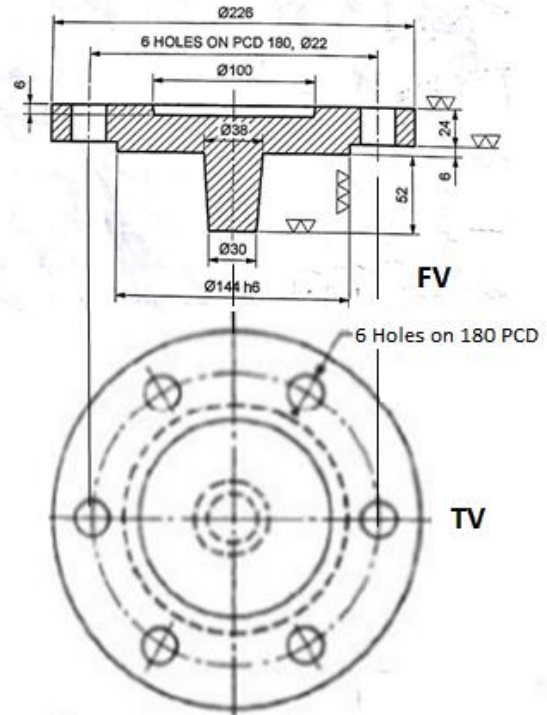
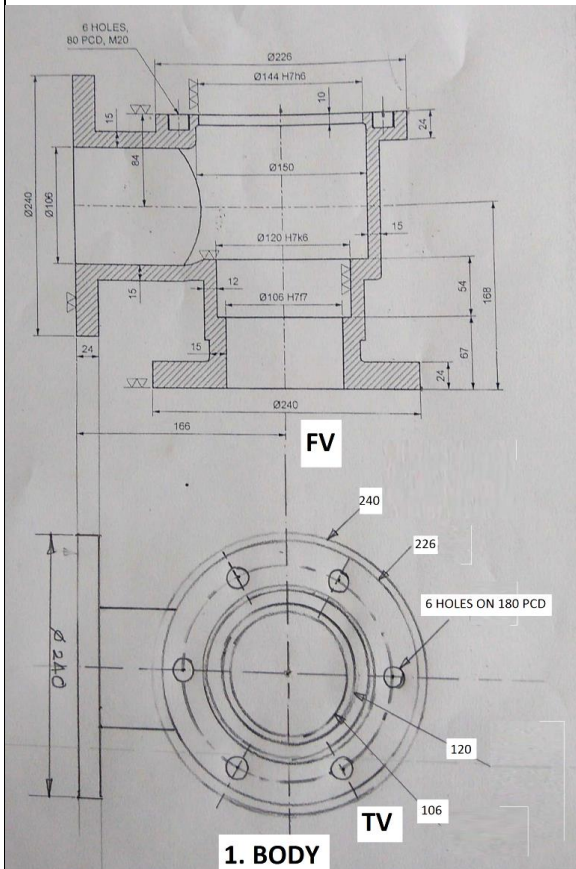
(SECT. FV-12, TV- 06, BILL OF MATERIALS -02 MARKS)



5

a

(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)



b

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

