

WINTER- 16 EXAMINATION

Model Answer




Subject Code:

17305

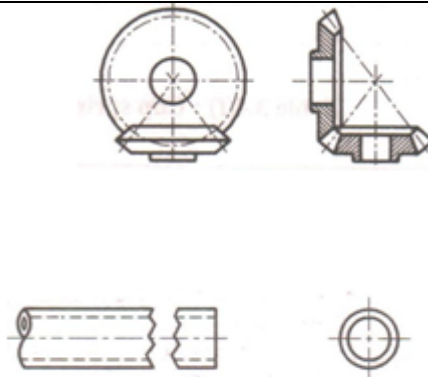
Important Instructions to examiners:

Imp Note:- "For Q.2 a), Q. 4 a), Q. 4 b), Q.5 a), Q. 5 b) if students assumed the dimensions and attempted to solve then give credits accordingly."

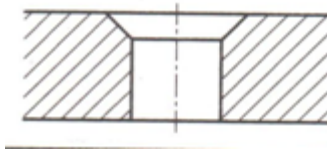
- 1) The answers should be examined by key words and not as word-to-word as given in the model answer scheme.
- 2) The model answer and the answer written by candidate may vary but the examiner may try to assess the understanding level of the candidate.
- 3) The language errors such as grammatical, spelling 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) Cast iron</p>  <p>ii) Gate Valve</p>  <p>iii) External Thread</p>  <p>iv) Bevel Gear</p>	02 marks each any six

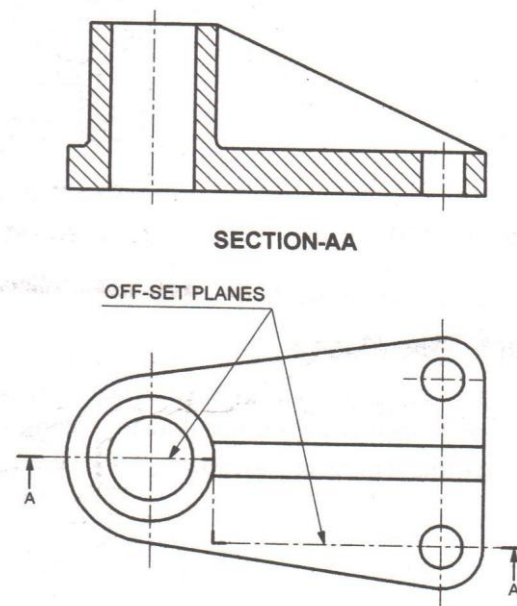
v) Short Break in pipe



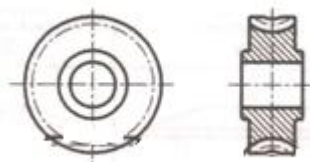
vi) Counter sunk



vii) Offset section



viii) Worm gear

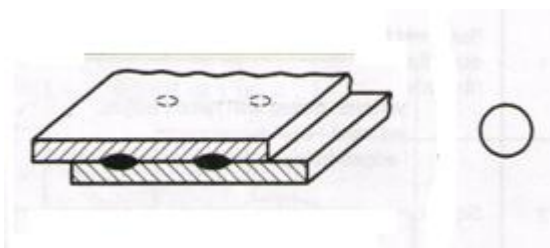


b

Solve any two

i)

1. Spot weld



2. Single U butt weld



3. Convex Double V butt weld

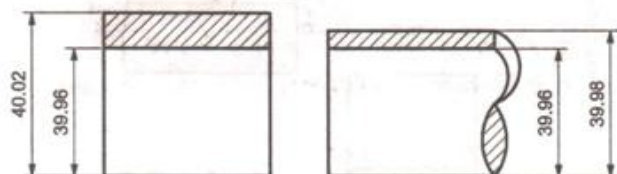


4. Seam weld



01 mark
each

ii)



$$\text{Lower limit} = 40 - 0.04 = 39.96$$

For hole :

$$\text{Upper limit} = 40 + 0.02 = 40.02$$

$$\text{Lower limit} = 40 - 0.04 = 39.96$$

it is concluded that the given fit is transition fit.

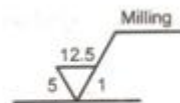
iii)

12.5 → Roughness value in μm (Ra) or roughness grade.

5 → Machining allowance

1 → Direction of lay

Milling → Manufacturing method



Correct
answer
04
marks

Each
meaning
01 mark

02

a)

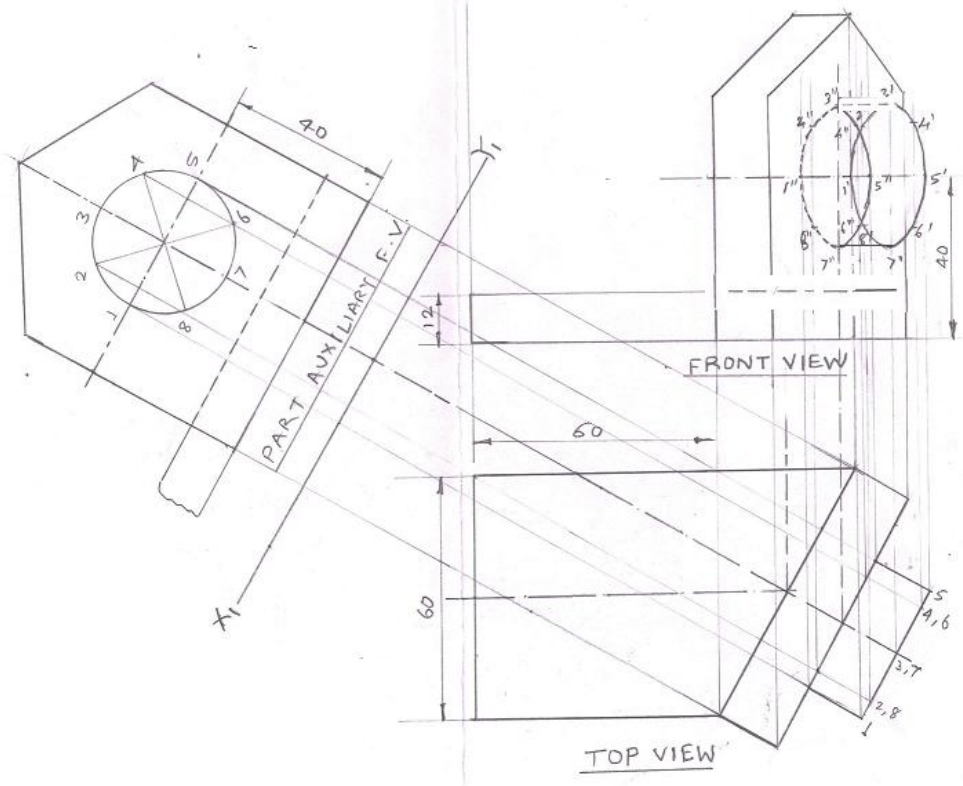
FV=06

TV = 03

PART
AV= 03

02

b



01 mark
each

Correct
answer
04
marks

Solve any two

i)

1. Circularity



2. Angularity



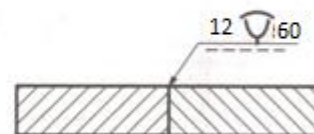
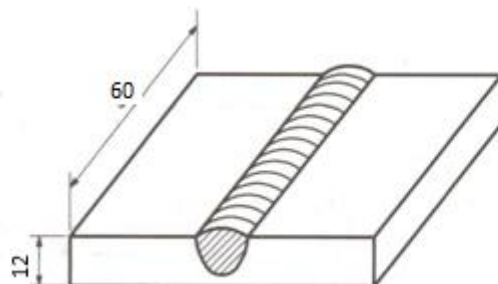
3. Straightness



4. Profile of any surface



ii) Rectangular plate

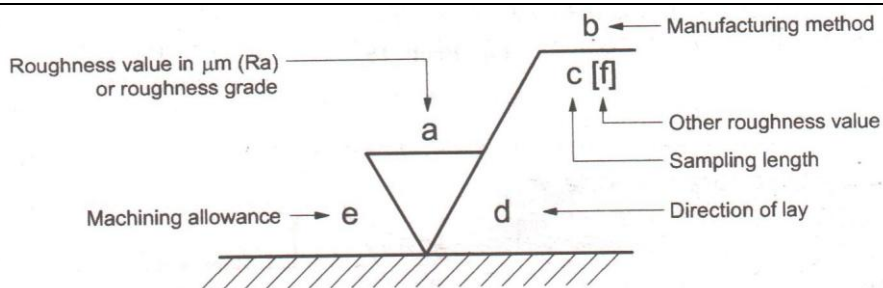


iii)

Correct
answer
04
marks

03

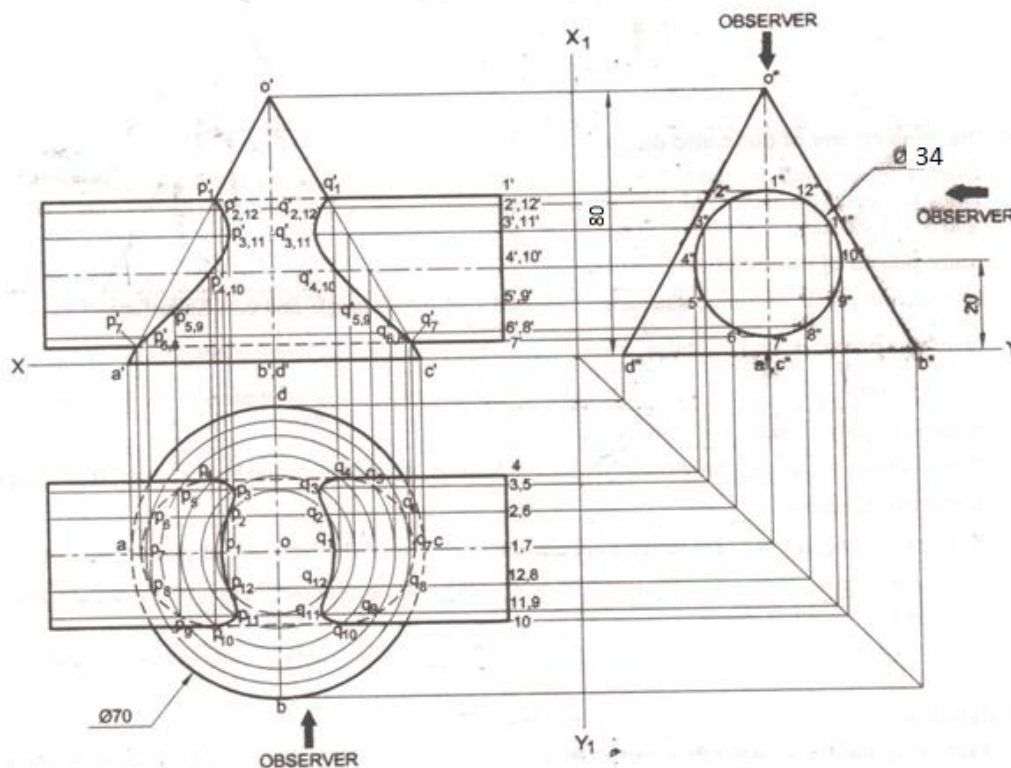
a



F.V 04
MARKS,
T.V 04
MARKS,
S.V 02
MARKS

03

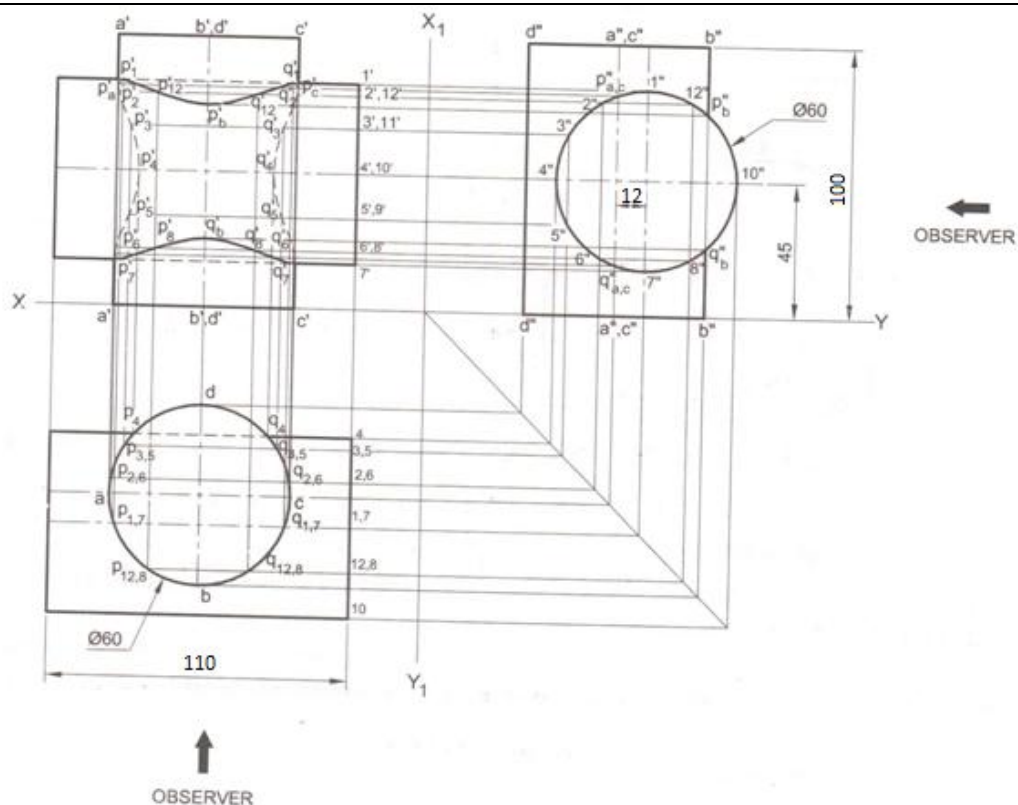
b



F.V 04
MARKS,
T.V 04
MARKS,
S.V 02
MARKS

03

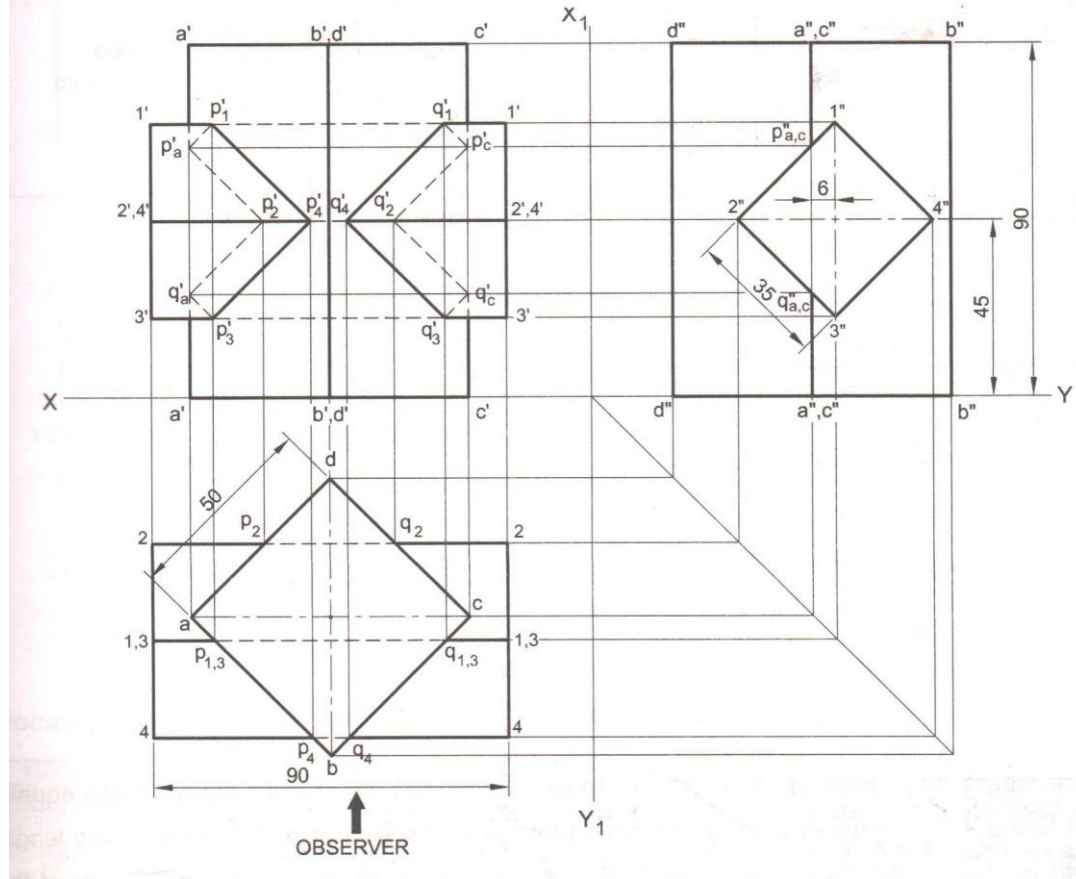
C



F.V 04
MARKS,
T.V 04
MARKS,
S.V 02
MARKS

04

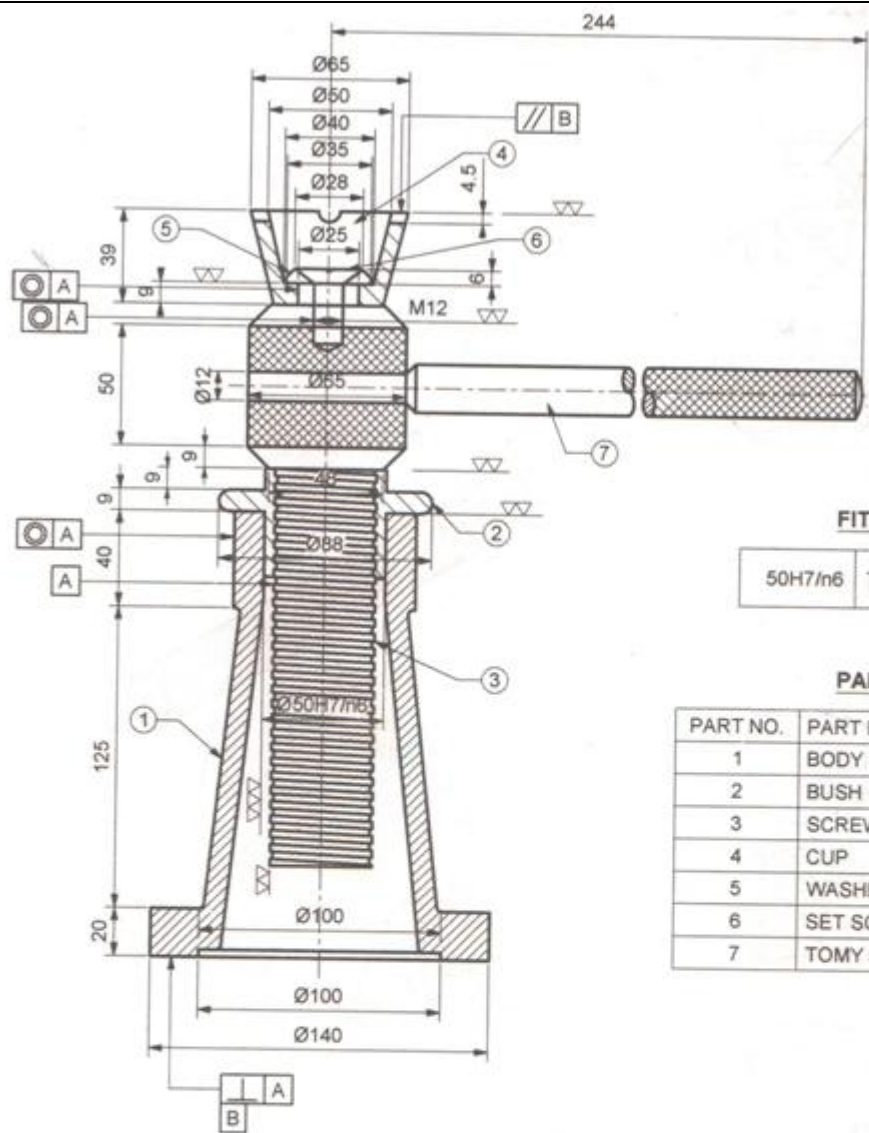
a



Sectional
F.V. 10
MARKS
TV 06
MARKS
BILL OF
MATERIA
L 02
MARK
TYPE OF
FIT 02
MARK

04

b



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

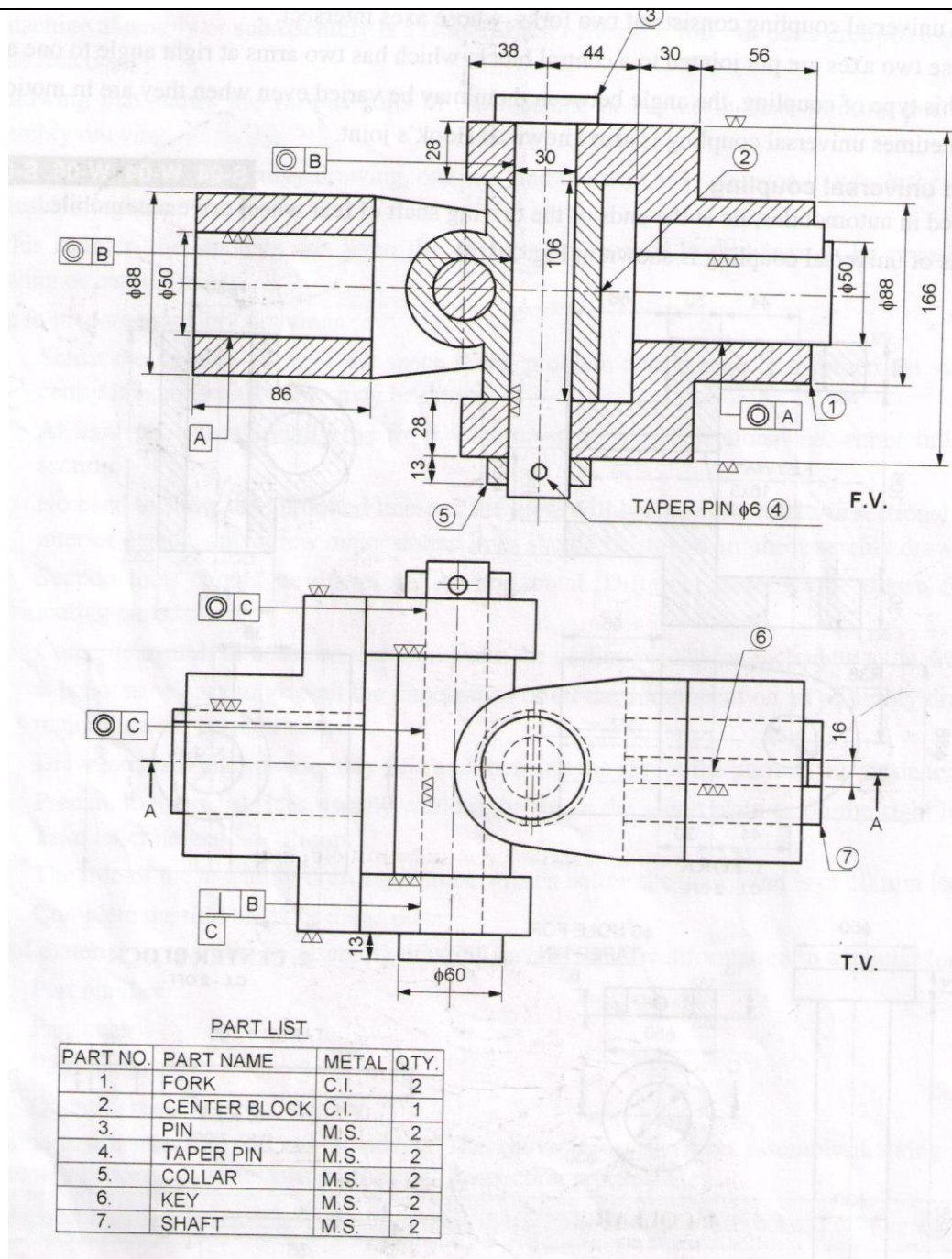
SECTIONAL F.V.

T.V.

Sectional
F.V. 10
MARKS
TV 08
MARKS
BILL OF
MATERIA
L 02
MARK

5

a



Piston
FV 03
MARKS
TV 03
MARKS

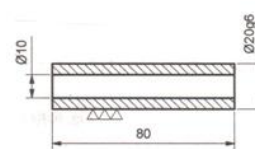
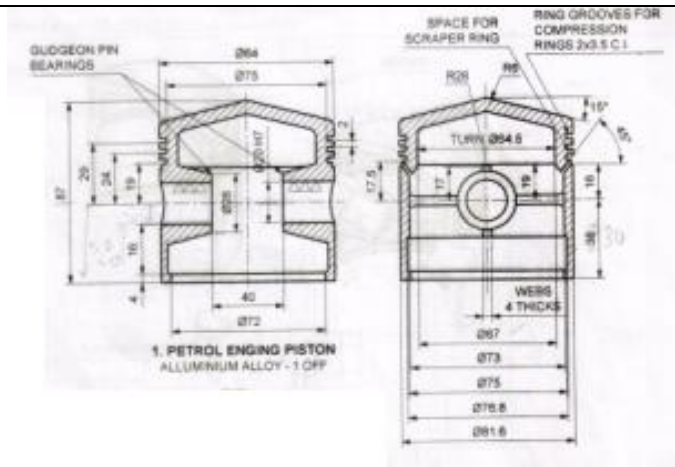
Connecti
ng rod
FV 05
MARKS
TV 05
MARKS

Big end
Bolt
FV 01
MARK
TV 01
MARK

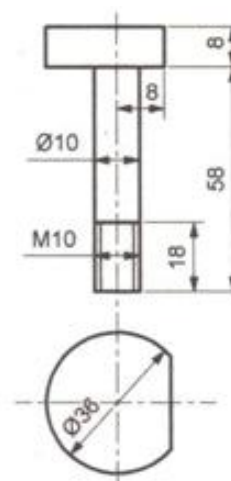
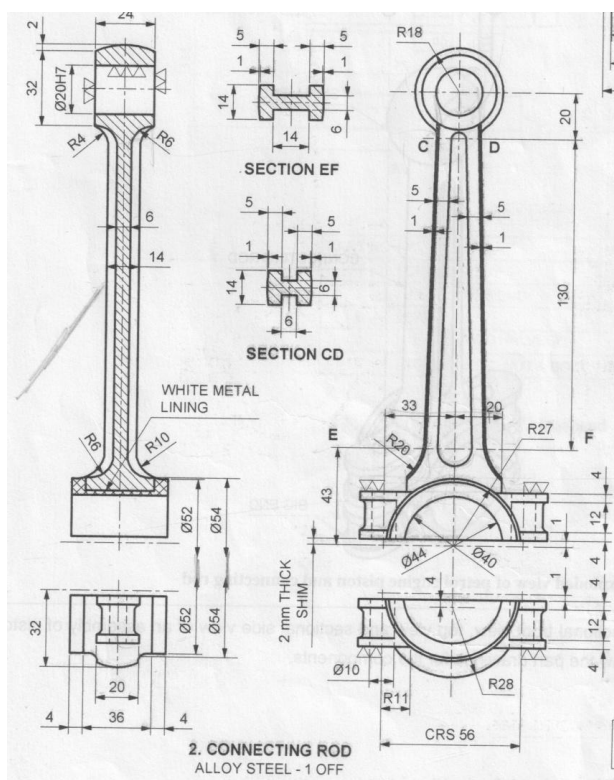
Gudgeo
n Pin
FV 01
MARK
TV 01
MARK

05

b



4. Gudgeon pin

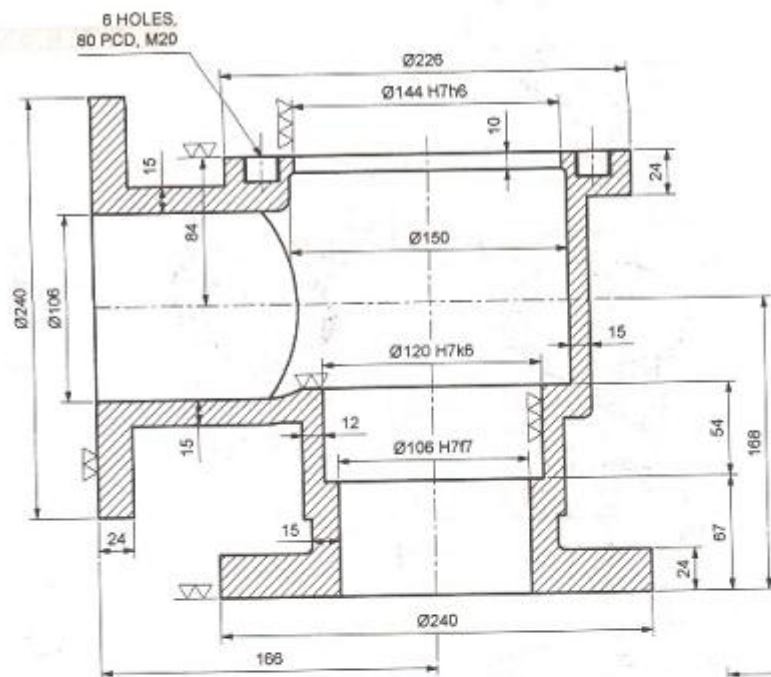


3. BIG-END BOLT
M.S. - 2 OFF

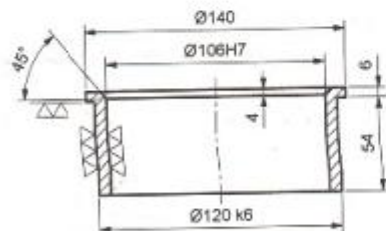
Body
SFV &
TV 10
marks

Valve FV
& TV 04
marks
Valve
seat FV
& TV 04
marks

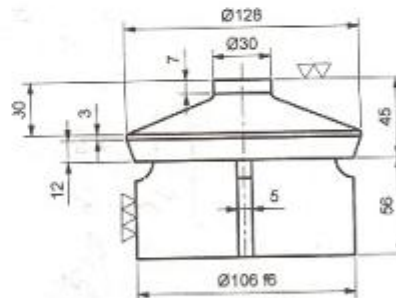
Geometrical
tolerance 02
marks



1. BODY
C.I. 1-OFF



2. VALVE SEAT
G.M. 1-OFF



3. VALVE
G.M. 1-OFF

TOLERANCE CHART

106H7 = +0.054 +0.000	106f7 = -0.036 -0.071
120H7 = +0.035 +0.000	120k6 = +0.025 +0.003
144H7 = +0.040 +0.000	144h6 = +0.000 -0.025