



**higher education
& training**

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE

ENGINEERING DRAWING N2

16 April 2020

This marking guideline consists of 11 pages.

INSTRUCTIONS TO MARKERS

✓ = ½ mark and ✓ = 1 mark

NOTE: Scanning and copying of drawings from AUTOCAD may affect the accuracy thereof. Marking-centre managers must ensure that all markers prepare their own marking guidelines to mark candidates' work.

QUESTION 1: FUNDAMENTALS OF ENGINEERING DRAWING, MACHINE SYMBOLS AND WELDING

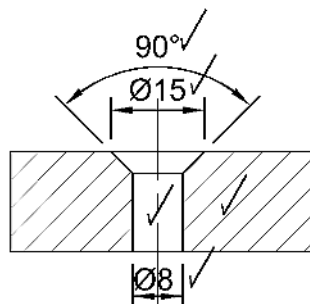
- 1.1 1.1.1 C
 1.1.2 B
 1.1.3 B
 1.1.4 B
 1.1.5 D
 1.1.6 A
 1.1.7 C
 1.1.8 A

(8 × 1) (8)

- 1.2 • Use only a pencil and an eraser.
 • Draw to good proportion (ratio).
 • All line work must be neat, continuous and freehand.
 • Draw horizontal lines from left to right.
 • Draw centre lines first.

(Any 2 × 1) (2)

1.3



(2 for drawing + 2 for dimensions + 1 for angle) (5)

MARKING CRITERIA FOR CORRECTNESS		
1.1	Short questions	8
1.2	Fundamentals of Engineering Drawing	2
1.3	Fundamentals of Engineering Drawing	5
	TOTAL:	15

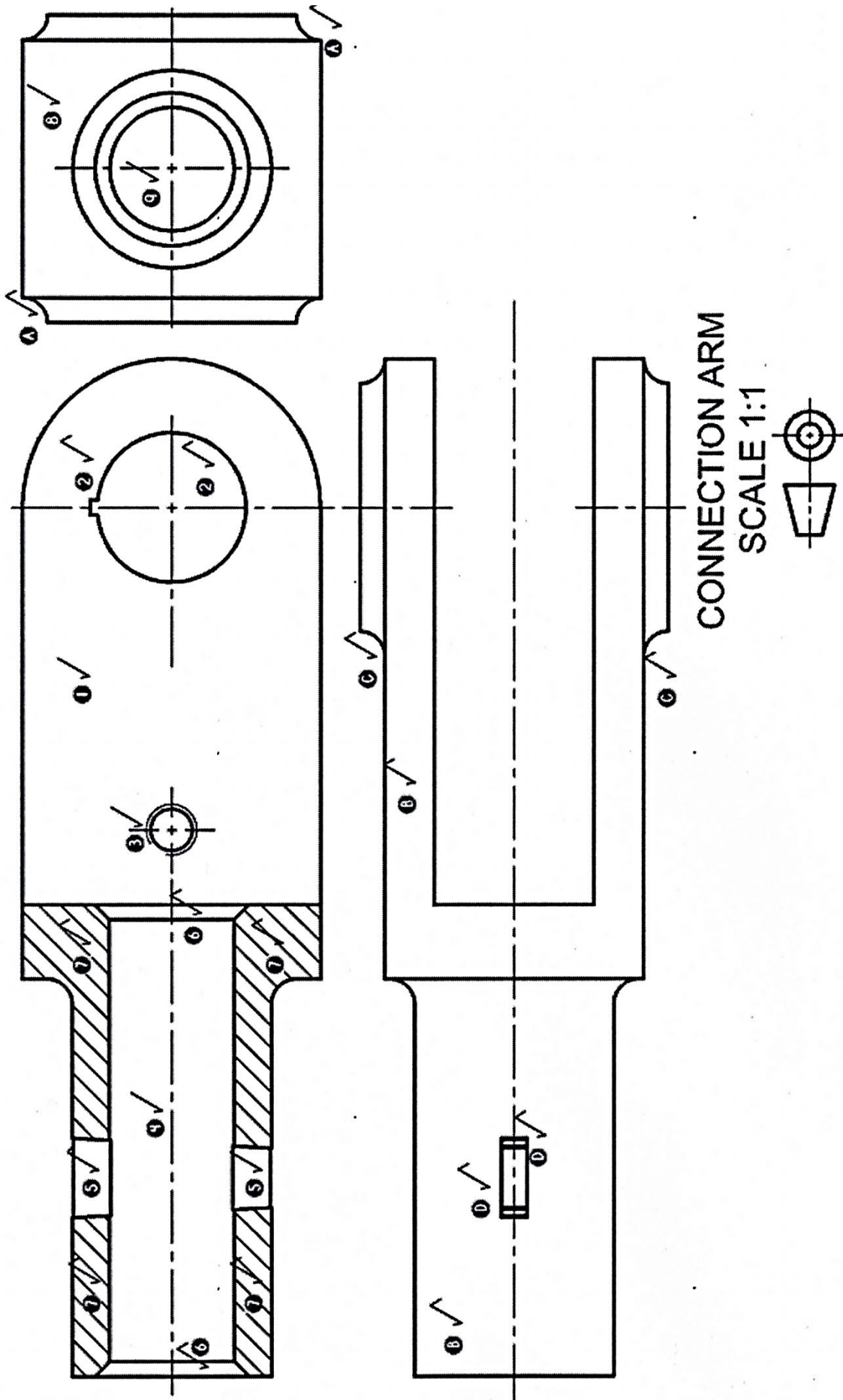
[15]

Figure 1 shows two views of a mechanical part. The left view is a front view showing a cross-section of a part with a hatched base and four vertical ribs. The right view is a top view showing a circular part with a square hole in the center. Both views include dimension lines and numerical values.

MARK ALLOCATION FOR CORRECTNESS

[12]

QUESTION 3: FIRST-ANGLE ORTHOGRAPHIC PROJECTION



MARKING CRITERIA	
Correctness:	
SFV	8
TV	3
LV	3
Line work	3
Accuracy	2
Title and scale	2
Projection symbol	1
Layout and neatness	1
TOTAL:	23

MARK ALLOCATION FOR CORRECTNESS**SFV**

1	Fork end (not sectioned)	1
2	Hole and keyway	1
3	Threaded hole	1
4	Cover sleeve – hole Ø 25 (not sectioned)	1
5	Tapered Slot (not sectioned)	1
6	Chamfer	1
7	Sectioning	2
	TOTAL:	8

LV

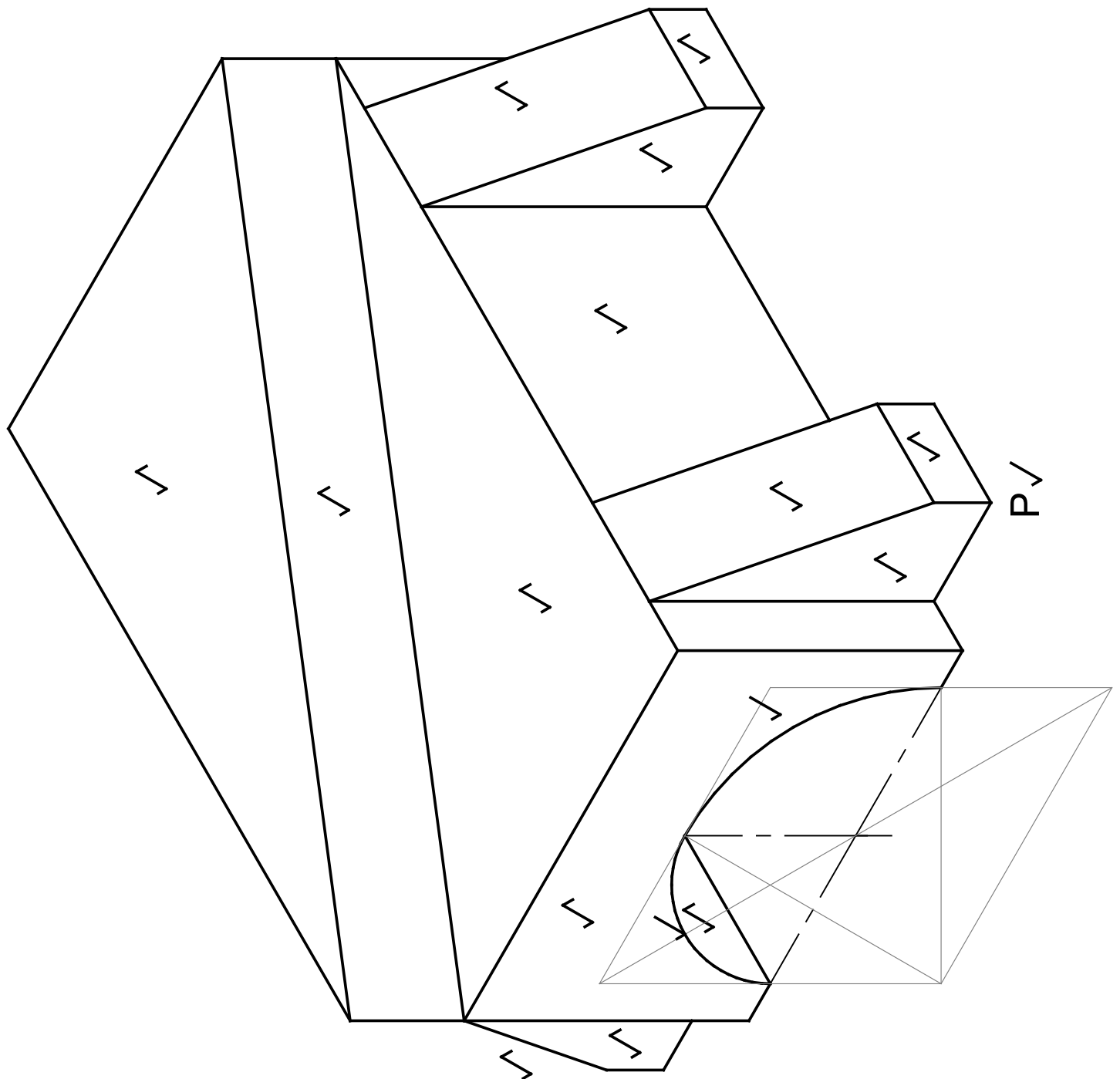
8	Fork end	1
9	Cover sleeve - hole Ø 25 and fillet Ø's	1
A	Filletted sides	1
	TOTAL:	3

TV

B	Outline	1
C	Filletted sides	1
D	Tapered slot detail	1
	TOTAL:	3

[23]

QUESTION 4: ISOMETRIC



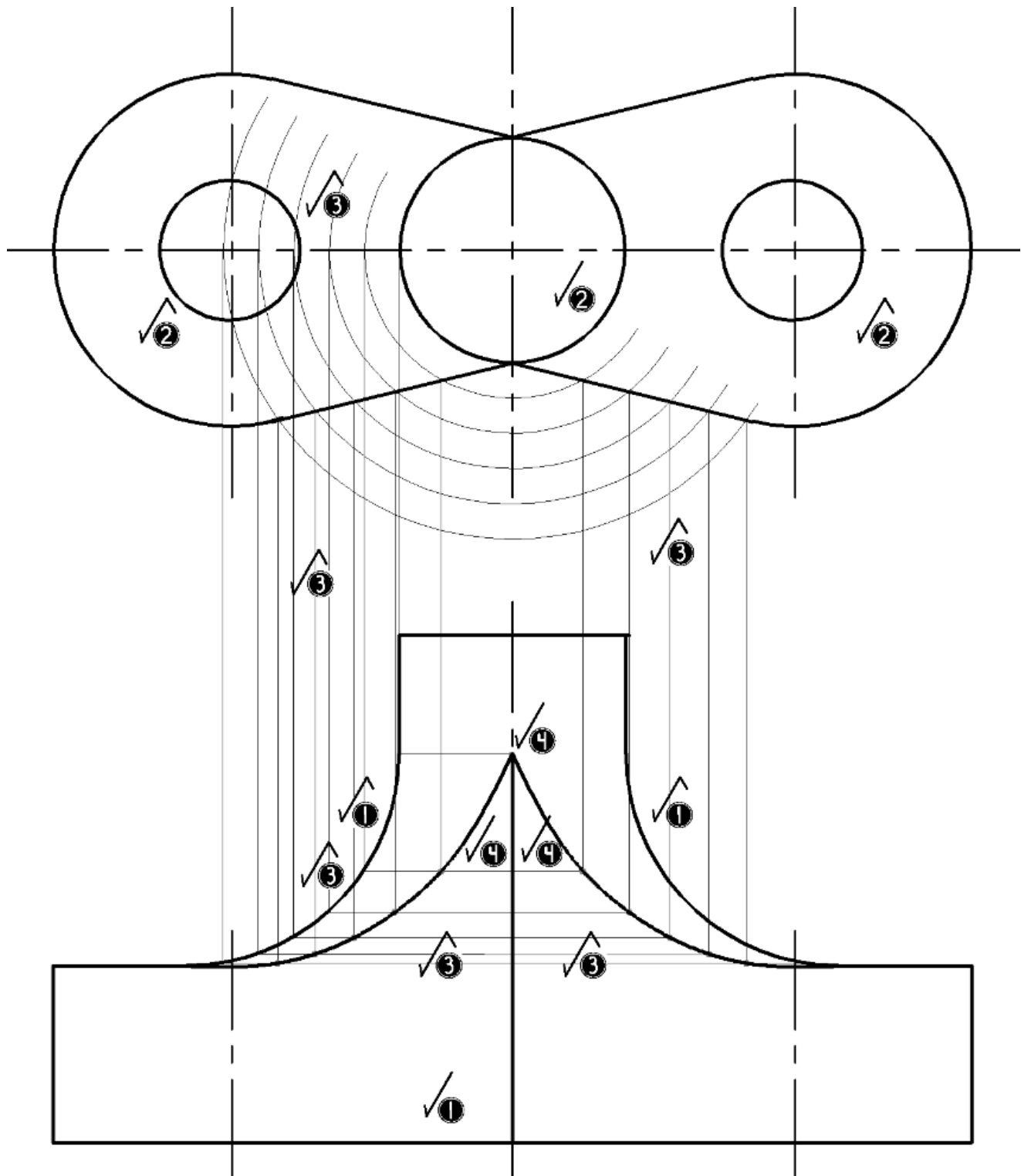
MARKING CRITERIA	
Correctness	9
Point P in correct position	1
Line work	2
Accuracy	1
Layout and neatness	1
TOTAL:	14

MARK ALLOCATION FOR CORRECTNESS

$\frac{1}{2}$	mark for each of the areas indicated on the marking guideline	7
2	marks for the construction and completed semi-circle	2
		9 marks

[14]

QUESTION 5: INTERPENETRATION

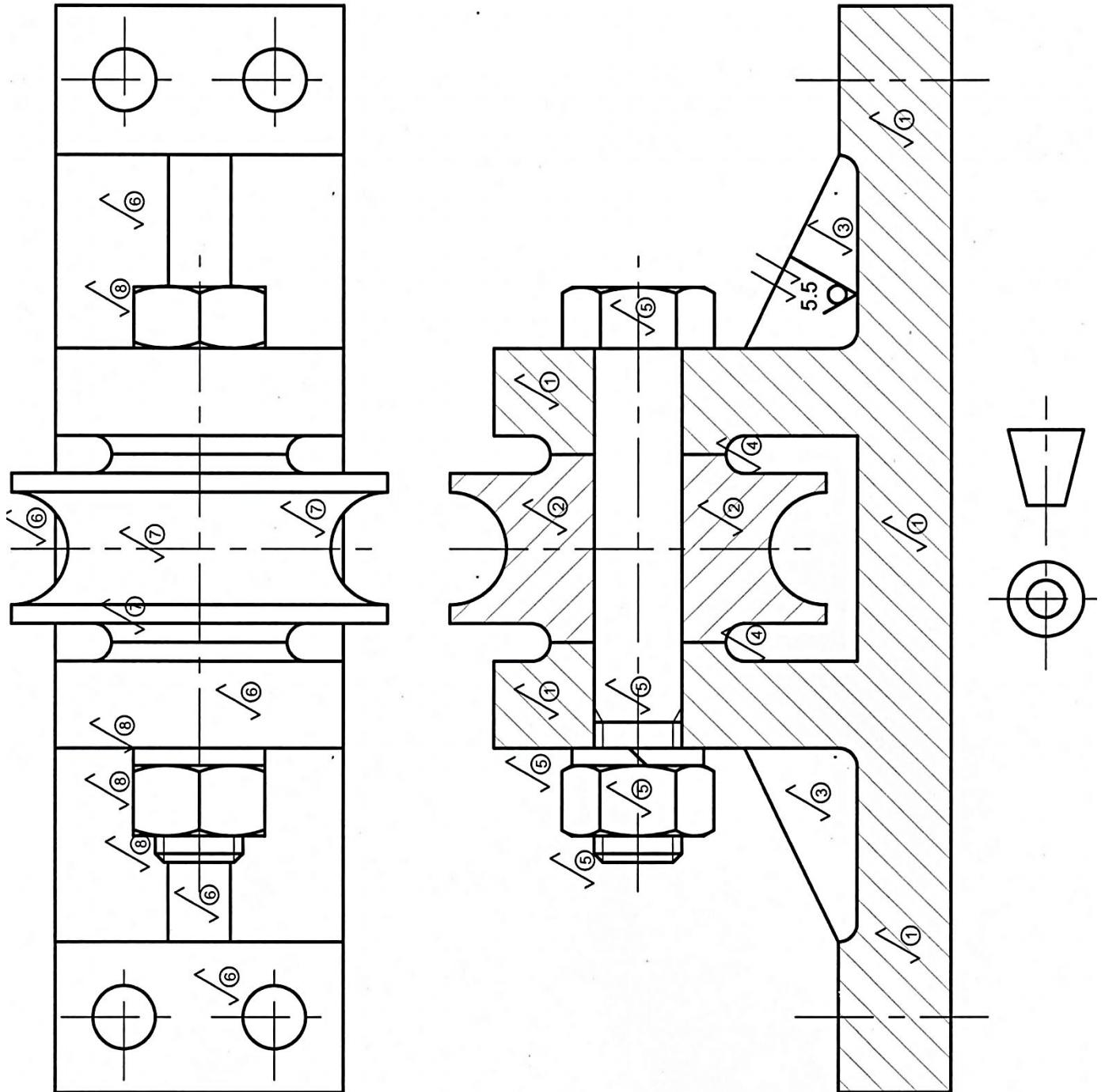


MARKING CRITERIA	
Correctness:	
FV and TV	4
Construction lines (to project curve)	3
Interpenetration Curve	3
Line work	2
Accuracy	1
TOTAL:	13

MARK ALLOCATION FOR CORRECTNESS – QUESTION 5

1	Front view	2 MARKS
2	Top view	2 MARKS
3	Construction lines (to project the curve)	3 MARKS
4	Interpenetration curves	3 MARKS
TOTAL		10 MARKS

QUESTION 6: THIRD-ANGLE ORTHOGRAPHIC PROJECTION AND MACHINE SYMBOLS



MARKING CRITERIA	
Correctness:	
FV	8
TV	6
Machine symbol	2
Projection symbol	
Line work	3
Accuracy	2
Layout and neatness	1
TOTAL:	23

MARK ALLOCATION FOR CORRECTNESS**SFV**

1	Sectioning - base	2½
2	Sectioning - pulley	1
3	Ribs (not sectioned)	1
4	Fillets	1
5	Bolt, washer and nut	2½
TOTAL:		8

TV

6	Base detail	2½
7	Pulley detail	1½
8	Bolt, washer and nut	2
TOTAL:		6

[23]**TOTAL: 100**