higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE

ENGINEERING DRAWING N2

21 April 2021

This marking guideline consists of 12 pages.

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QUESTION 1: FUNDAMENTALS OF ENGINEERING DRAWING, ELECTRICAL FITTINGS AND WELDING SYMBOLS

ANSWER SHEET:

1.1 1.1.1 Repetitive detail and dimensions can be drawn much quicker.

1.1.2 Drawings can be easily stored.

1.1.3 Changes to drawings can be made to suit various clients.

Alternative: Drawings can be printed quickly.
Linework is consistently good.

(Any 3 x 1) (3)

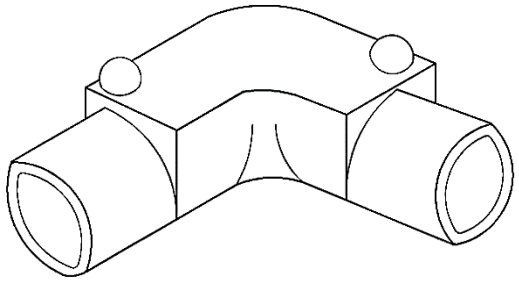
1.2 1.2.1 Very good printing quality

1.2.2 Quiet operation

Alternative: Colour printing possible

(Any 2 x 1) (2)

1.3



Correctness	3
Accuracy	1
Line work	1

(5 × 1) (5)

1.4 1.4.1 C
1.4.2 B
1.4.3 D
1.4.4 A
1.4.5 C

(5 x 1) (5)
[15]

MARKING CRITERIA FOR CORRECTNESS		MARK ALLOCATION
1.1	Fundamentals of engineering drawing	3
1.2	Fundamentals of engineering drawing	2
1.3	Electrical fitting	5
1.4	Welding symbol	5

[15]

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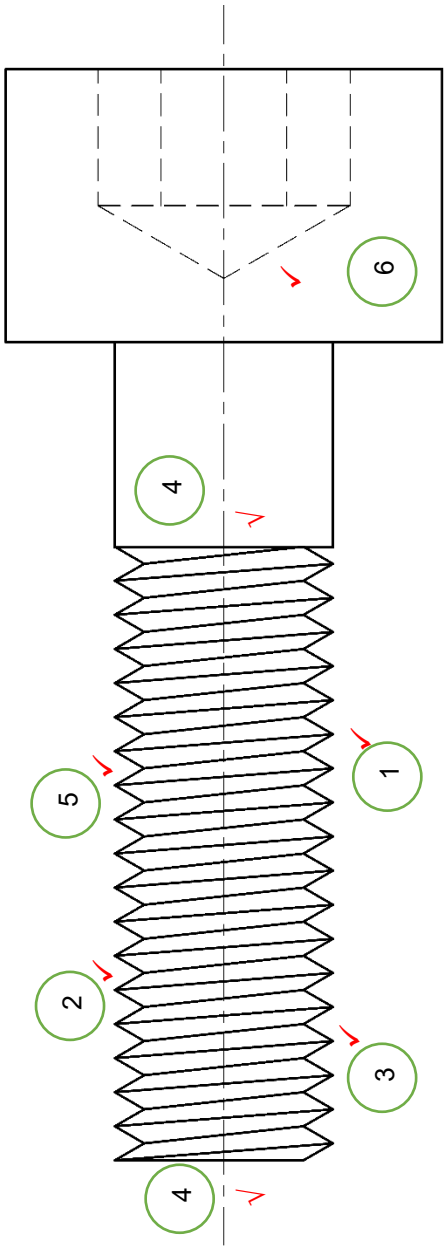
QUESTION 2: SCREW THREADS



[10]

MARKING CRITERIA	
Correctness	6
Line work	2
Accuracy	1
Layout and neatness	1
TOTAL:	**10**

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MARK ALLOCATION FOR CORRECTNESS

1	1	mark for the direction	1	mark
2	1	mark for the thread detail	1	mark
3	1	mark for angle of the thread	1	mark
4	1	mark for start and end detail	1	mark
5	1	mark for the pitch	1	mark
6	1	mark for bolt head with hidden detail	1	mark
		TOTAL	**6**	**marks**

[10]

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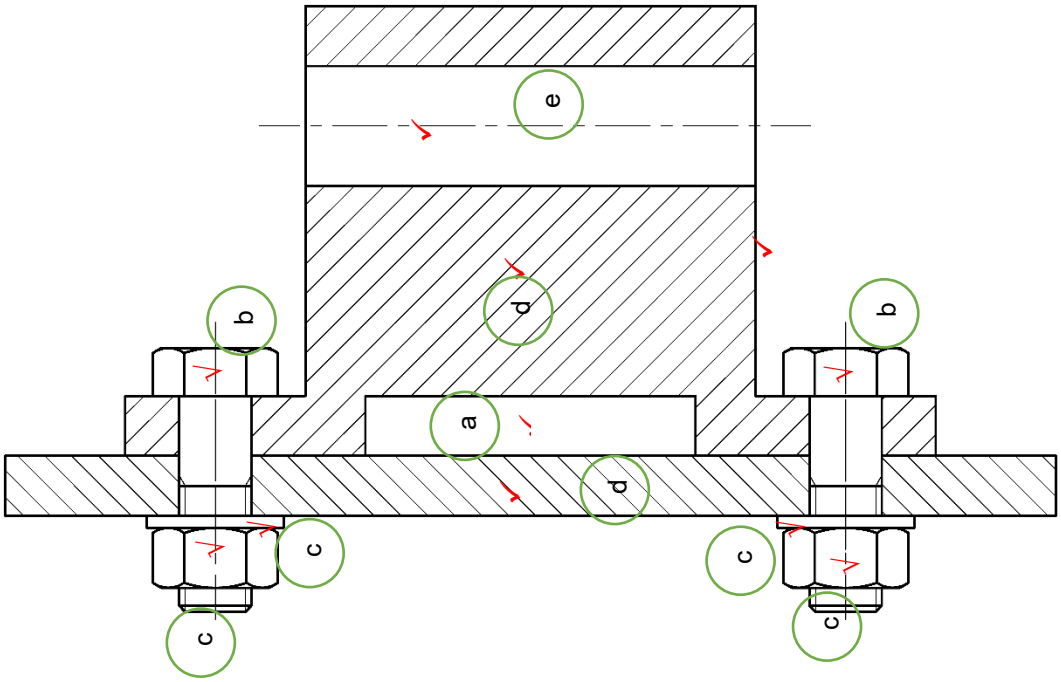
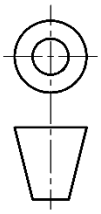
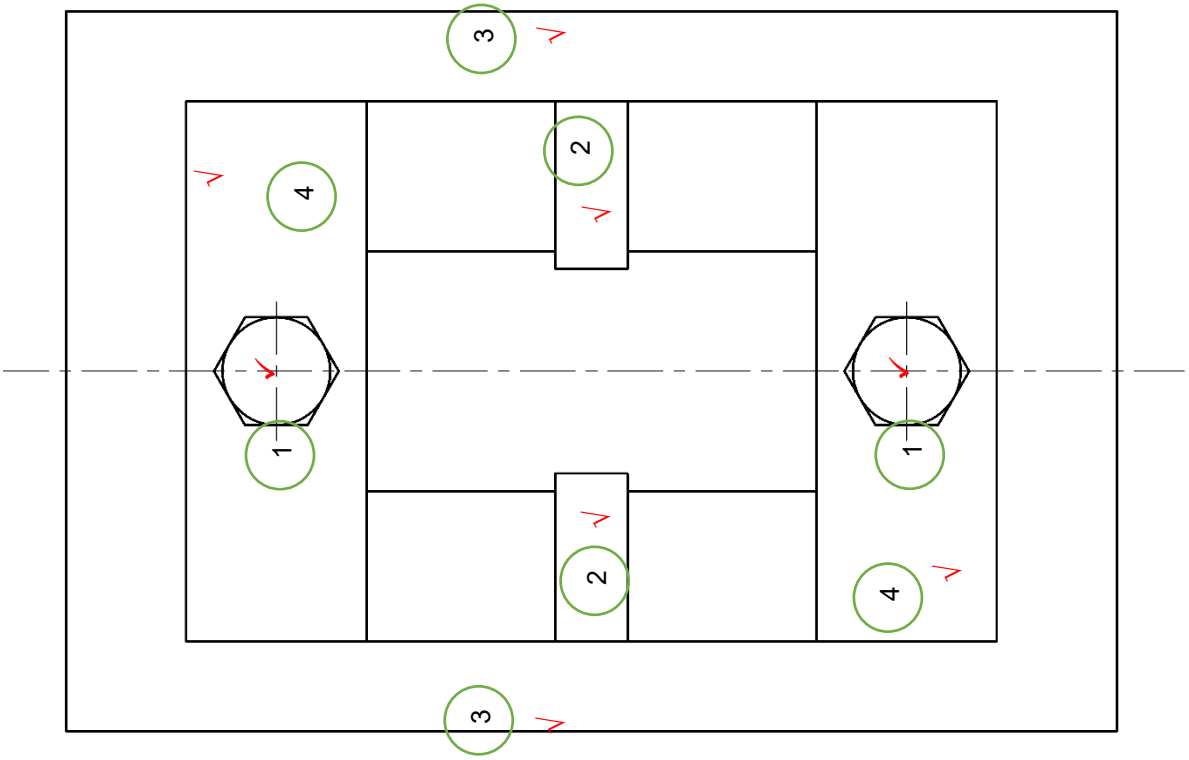
QUESTION 3: FIRST-ANGLE ORTHOGRAPHIC PROJECTION







[20]

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MARKING CRITERIA	
Correctness:	
FV	5
LV	7
Title and scale	2
Projection symbol	1
Line work	2
Accuracy	2
Layout and neatness	1
TOTAL:	**20**

MARK ALLOCATION FOR CORRECTNESS

FV

1	2	marks for bolts	2	marks
2	1	mark for webs	1	mark
3	1	mark for base plate	1	mark
4	1	mark for casting	1	mark
		TOTAL	**5**	**marks**

SECTIONED LV

a	1	mark for the 10 x 55 space	1	mark
b	½	mark for the m12 bolts in correct position (x2)	1	mark
c	½	mark for the washers and nuts in correct position (x2)	2	marks
d	2	marks for the sectioning	2	marks
e	1	mark for hole	1	mark
		TOTAL	**7**	**marks**

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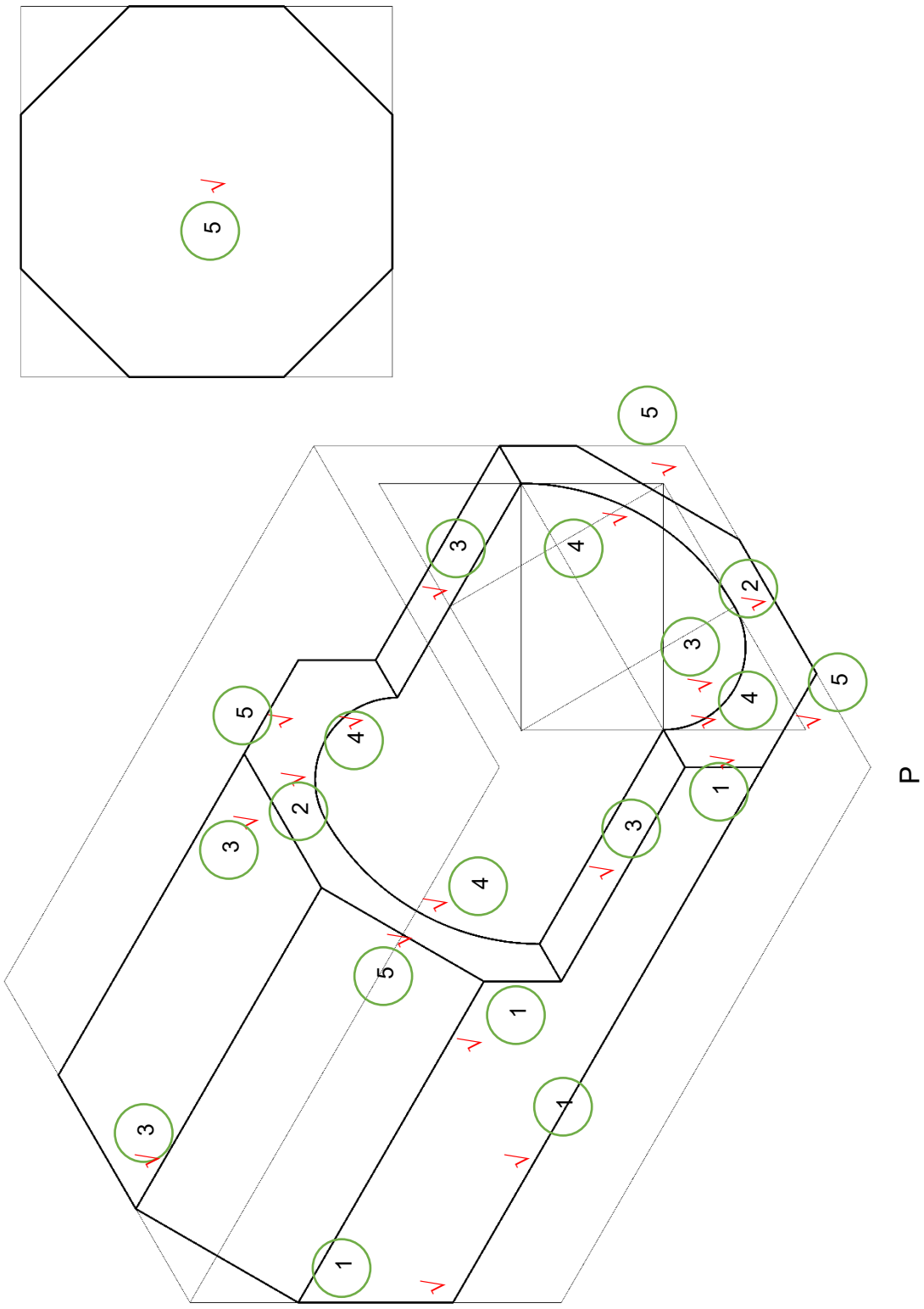
QUESTION 4: ISOMETRIC



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MARKING CRITERIA	
Correctness	10
Point P in correct position	1
Line work	2
Accuracy	1
Layout and neatness	1
TOTAL:	**15**

MARK ALLOCATION FOR CORRECTNESS

1	2	marks for the Front view	2	marks
2	1	mark for the Left view	1	marks
3	2½	marks for the Top view	2½	marks
4	2	marks for the isometric circles	2	marks
5	2½	marks for the octagon	2½	marks
		TOTAL	**10**	**marks**

[15]

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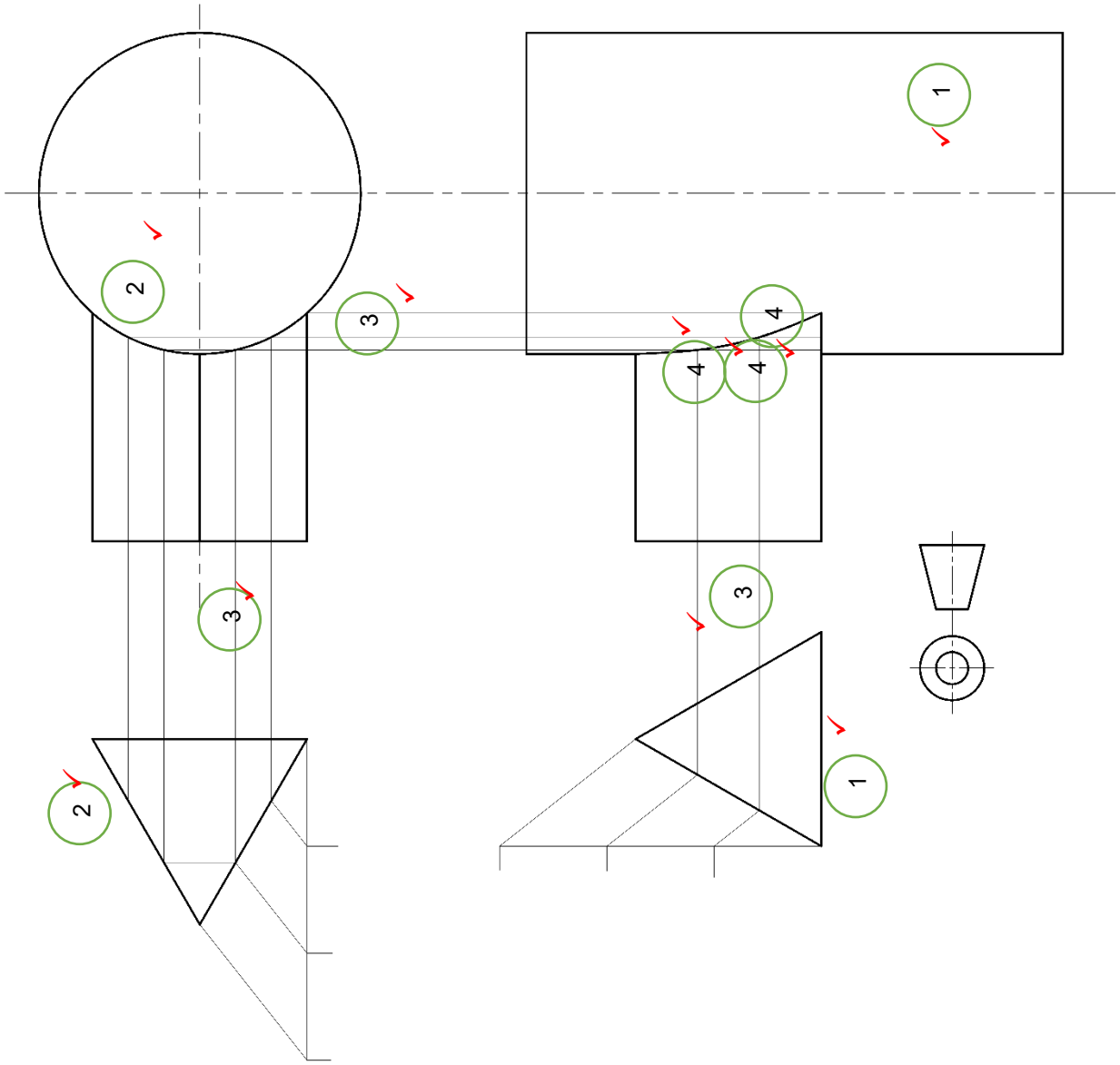
QUESTION 5: INTERPENETRATION



[13]

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

MARK ALLOCATION FOR CORRECTNESS

1	2	marks for the given front view/auxiliary view	2	marks
2	2	mark for the top view and auxiliary view	2	marks
3	3	marks for the construction lines (to project the curve)	3	marks
4	3	marks for the interpenetration curves	3	marks
		TOTAL	**9**	**marks**

[13]

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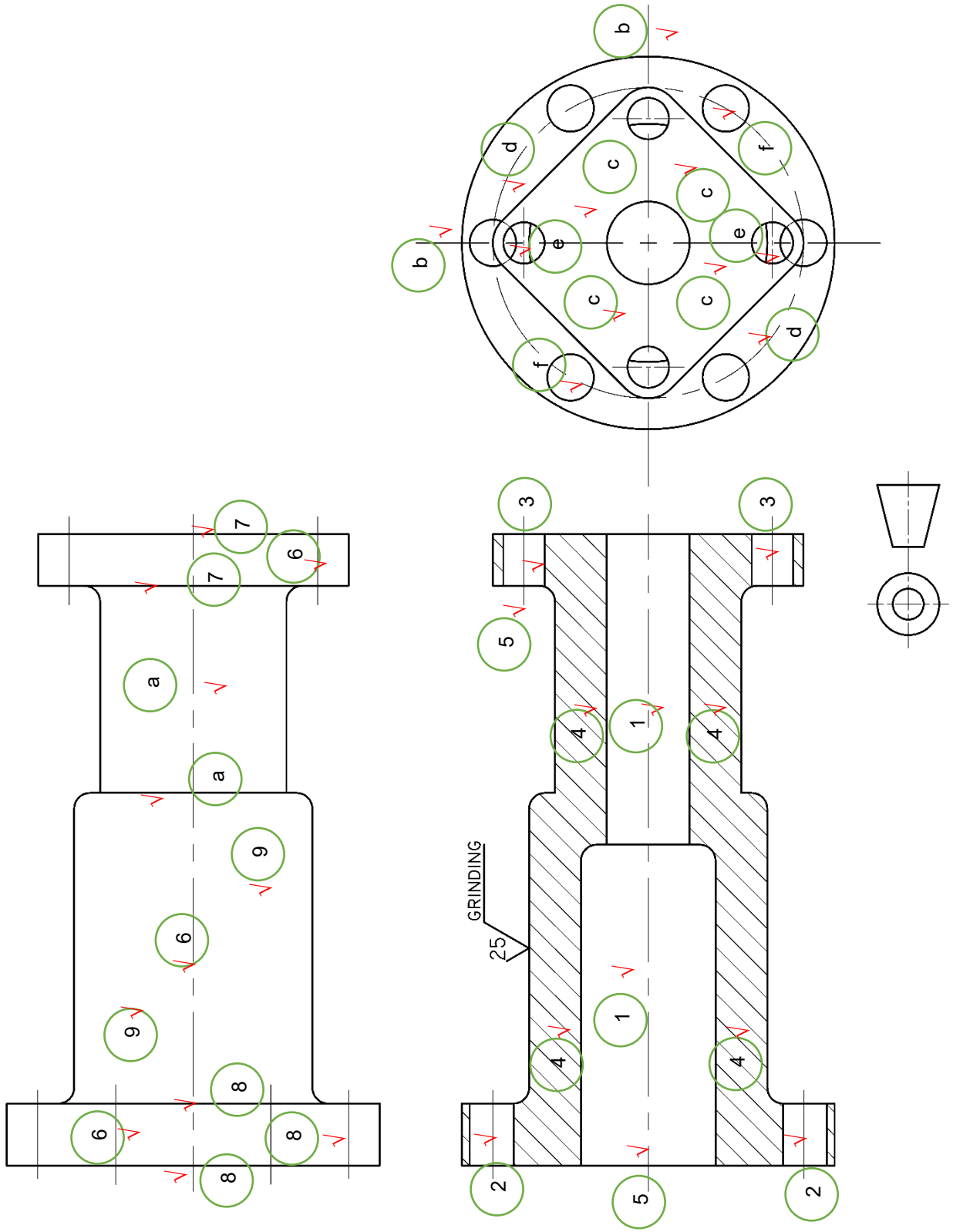
QUESTION 6: THIRD-ANGLE ORTHOGRAPHIC PROJECTION AND MACHINE SYMBOLS



[13]

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MARKING CRITERIA	
Correctness:	
Sectional FV	6
RV	6
TV	6
Projection symbol	1
Machine symbol	2
Line work	3
Accuracy	2
Layout and neatness	1
TOTAL:	**27**

MARK ALLOCATION FOR CORRECTNESS

FULL SECTIONAL FV

1	1	mark for centre hole	1	mark
2	1	mark for centre round flange holes	1	mark
3	1	mark for centre square flange holes	1	mark
4	2	marks for sectioning	2	mark
5	1	marks for centre lines	1	mark
		TOTAL	**6**	**marks**

TV

6	1½	mark for centre lines	1½	mark
7	1	mark for the square flange	1	mark
8	1½	mark for the round flange	1½	mark
9	1	mark for the diameter 46 part	1	mark
a	1	marks for the diameter 36 part	1	mark
		TOTAL	**6**	**marks**

RV

b	1	mark for centre lines	1	mark
c	2	marks for square flange	2	marks
d	1	Mark for the round flange	1	marks
e	1	mark for the Ø8 holes	1	mark
f	1	mark for the Ø9 holes	1	mark
		TOTAL	**6**	**marks**

(27)

TOTAL: 100

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