



**higher education  
& training**

Department:  
Higher Education and Training  
**REPUBLIC OF SOUTH AFRICA**

# **MARKING GUIDELINE**

**NATIONAL CERTIFICATE  
ENGINEERING DRAWING N2**

**29 NOVEMBER 2019**

**This marking guideline consists of 11 pages.**

√ = ½ mark  
✓ = 1 mark

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

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

- 1.1
- Pencil
  - Ruler
  - T-square
  - Set Squares (30°/60° and 45° set)
  - Bow Compass
  - Drawing Board
- (Any 3 × 1) (3)

1.2 Either 5 mm ✓ or 7 mm ✓ (2)

1.3

Correctness	3
Line work	2
Accuracy	1
<b>TOTAL:</b>	<b>6</b>

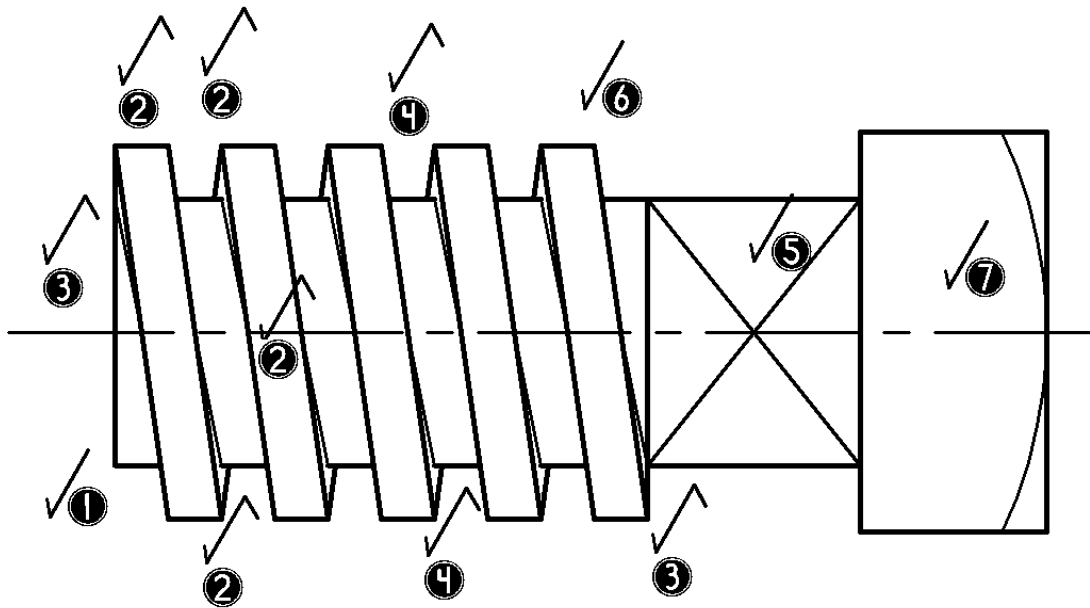
**Note:**  
Candidates not to be penalised if answer not labelled.

(6)

- 1.4
- |       |   |
|-------|---|
| 1.4.1 | C |
| 1.4.2 | A |
| 1.4.3 | B |
| 1.4.4 | D |
| 1.4.5 | E |
- (5 × 1) (5)  
**[16]**

MARKING CRITERIA FOR CORRECTNESS		MARK ALLOCATION
1.1	Fundamentals of Engineering Drawing	3
1.2	Fundamentals of Engineering Drawing	2
1.3	Electrical Fitting	6
1.4	Fastening Devices	5
<b>TOTAL:</b>		<b>15</b>

**QUESTION 2: SCREW THREADS**

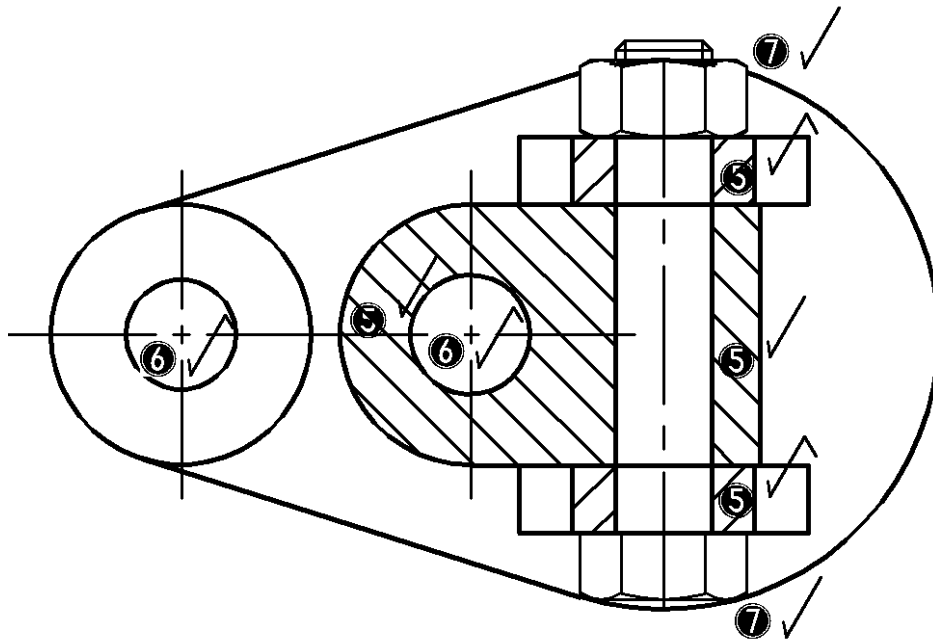
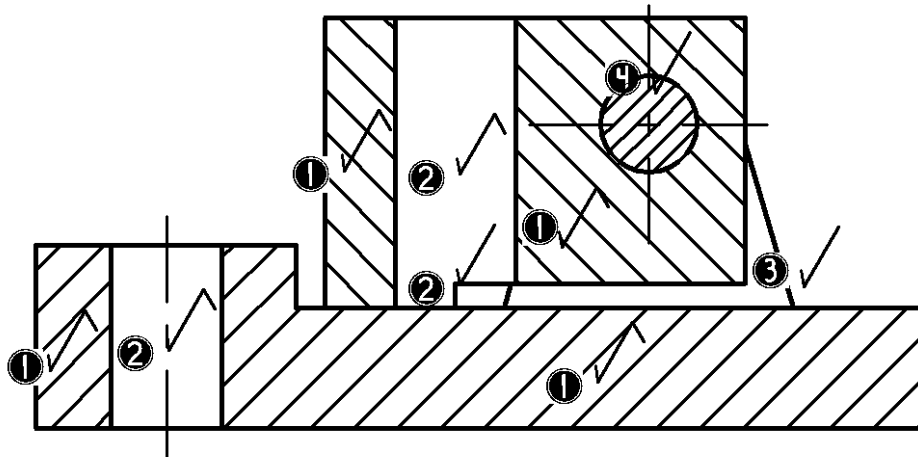


MARKING CRITERIA	
CORRECTNESS	8
LINE WORK	2
ACCURACY	1
LAYOUT AND NEATNESS	1
<b>TOTAL:</b>	<b>12</b>

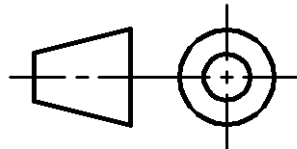
**MARK ALLOCATION FOR CORRECTNESS – QUESTION 2**

1	DIRECTION	1	Mark
2	THREAD DETAIL	2	Marks
3	START AND END DETAIL	1	Mark
4	PITCH	1	Mark
5	SQUARE STUD	1	Mark
6	EXTERNAL THREAD	1	Mark
7	BOLT HEAD	1	Mark
	<b>TOTAL</b>	<b>8</b>	<b>Marks</b>

**QUESTION 3: FIRST-ANGLE ORTHOGRAPHIC PROJECTION AND MACHINE SYMBOLS**



CONNECTION HINGE  
SCALE 1:2



<b>MARKING CRITERIA</b>	
<b>CORRECTNESS:</b>	
FV	6
TV	6
TITLE AND SCALE	2
PROJECTION SYMBOL	1
LINE WORK	3
ACCURACY	2
LAYOUT AND NEATNESS	1
<b>TOTAL:</b>	<b>21</b>

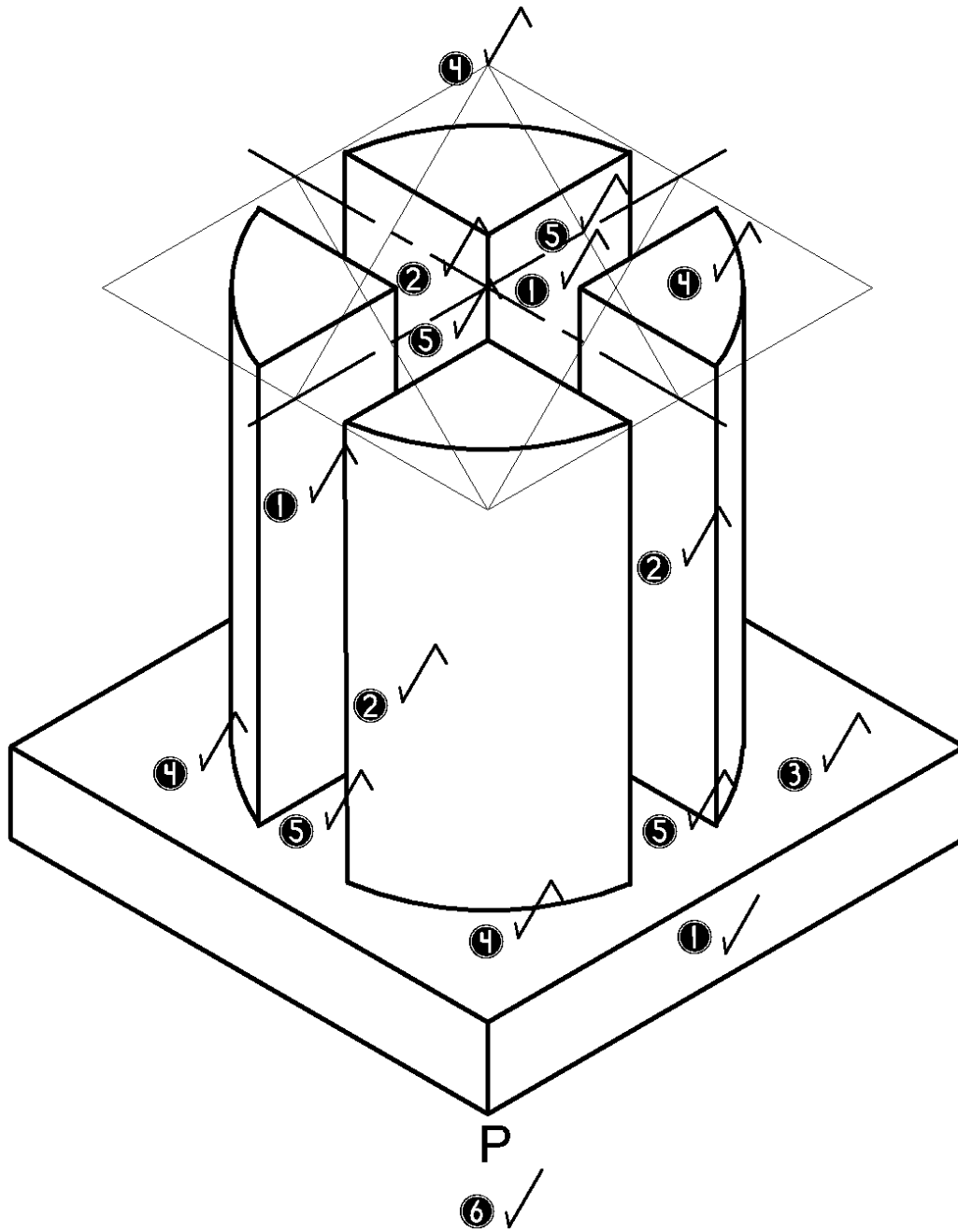
**MARK ALLOCATION FOR CORRECTNESS – QUESTION 3****FV**

1	SECTIONING	2	Marks
2	HOLES	2	Marks
3	WEB BEHIND	1	Mark
4	SHANK OF BOLT SECTIONED	1	Mark
	<b>TOTAL</b>	<b>6</b>	<b>Marks</b>

**TV**

5	SECTIONING	3	Marks
6	HOLES	1	Mark
7	BOLT AND NUT IN POSITION	2	Marks
	<b>TOTAL</b>	<b>6</b>	<b>Marks</b>

QUESTION 4: ISOMETRIC

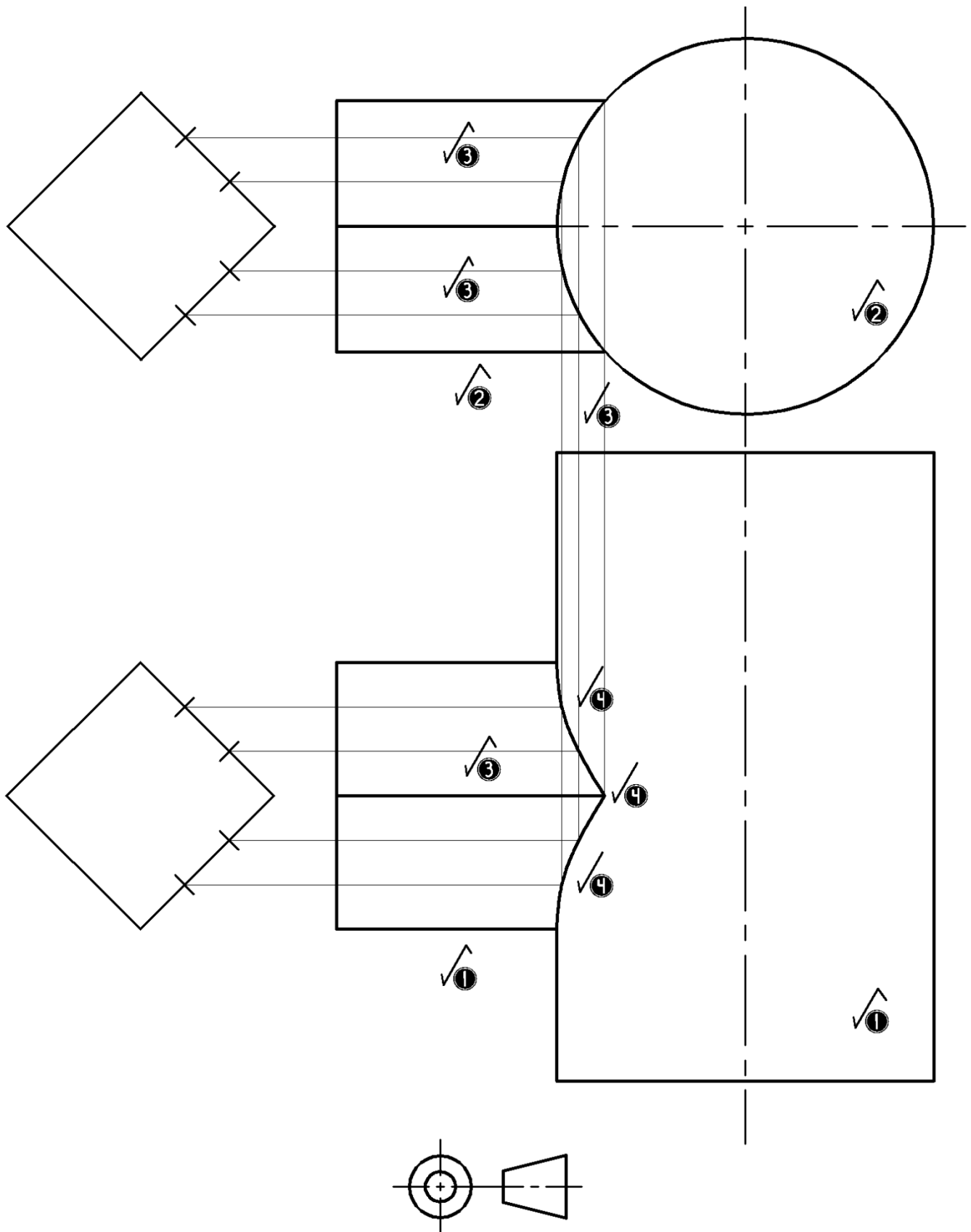


<b>MARKING CRITERIA</b>	
CORRECTNESS	8
POINT P IN CORRECT POSITION	1
LINE WORK	2
ACCURACY	2
LAYOUT AND NEATNESS	1
<b>TOTAL:</b>	<b>14</b>

**MARK ALLOCATION FOR CORRECTNESS – QUESTION 4**

1	RIGHT PLANE	2	Marks
2	FRONT PLANE	1½	Marks
3	TOP PLANE	½	Mark
3	CIRCLE	2	Mark
4	CROSS CUT OUT	2	Marks
	<b>TOTAL</b>	<b>8</b>	<b>Marks</b>

**QUESTION 5: INTERPENETRATION**



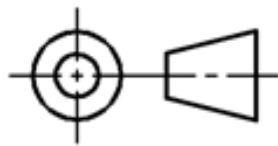
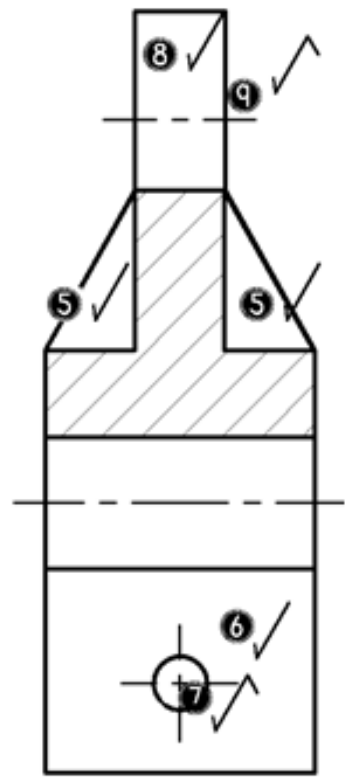
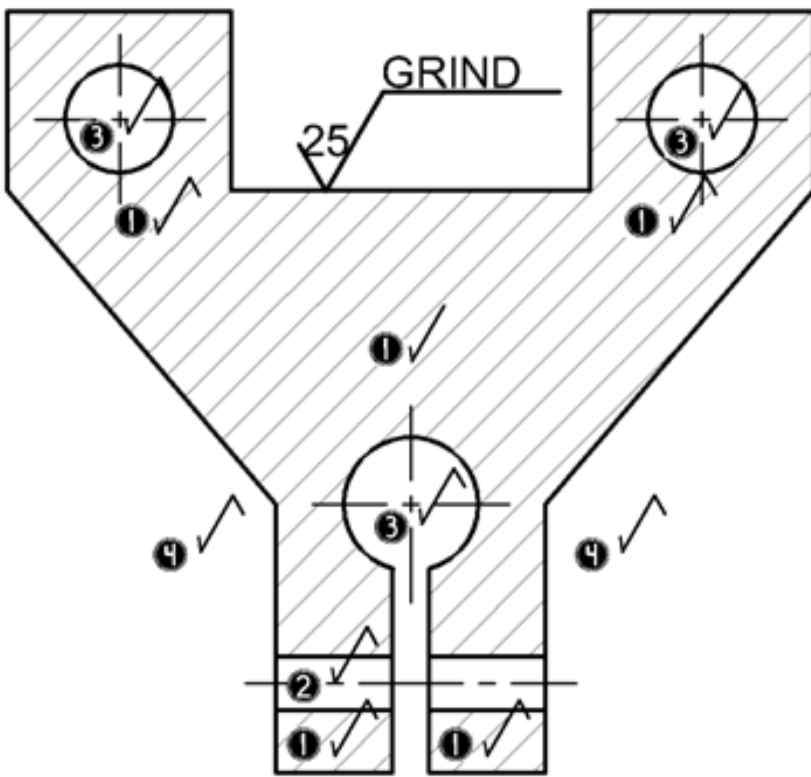
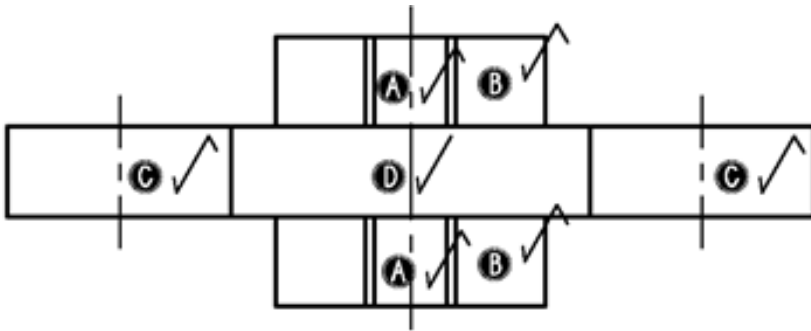


<b>MARKING CRITERIA</b>	
<b>CORRECTNESS:</b>	
FV, TV	2
CONSTRUCTION LINES (TO PROJECT CURVE)	3
INTERPENETRATION CURVE	3
LINE WORK	2
ACCURACY	2
LAYOUT AND NEATNESS	1
<b>TOTAL:</b>	<b>13</b>

**MARK ALLOCATION FOR CORRECTNESS – QUESTION 5**

1	FRONT VIEW	1	Mark
2	TOP VIEW	1	Mark
3	CONSTRUCTION LINES (TO PROJECT THE CURVE)	3	Marks
4	INTERPENETRATION CURVE	3	Marks
	<b>TOTAL</b>	<b>8</b>	<b>Marks</b>

**QUESTION 6: THIRD-ANGLE ORTHOGRAPHIC PROJECTION AND MACHINING SYMBOLS**



<b>MARKING CRITERIA</b>	
<b>CORRECTNESS:</b>	
FV	6
RV	5
TV	4
MACHINE SYMBOL	2
PROJECTION SYMBOL	1
LINE WORK	3
ACCURACY	2
LAYOUT AND NEATNESS	1
<b>TOTAL:</b>	<b>24</b>

**MARK ALLOCATION FOR CORRECTNESS – QUESTION 6****SFV ON CUTTING PLANE A-A**

1		SECTIONING	3	Marks
2		Ø6 HOLE	½	Mark
3		3 HOLES, WITH CENTRE LINES	1½	Marks
4		BODY OUTLINE	1	Marks
		<b>TOTAL</b>	<b>6</b>	<b>Marks</b>

**SRV ON CUTTING PLANE B-B**

5		RIBS NOT SECTIONED	2	Marks
6		BOTTOM PLATE NOT SECTION	1	Mark
7		Ø6 HOLE	½	Mark
8		PART NOT CUT	1	Mark
9		THE CENTRE LINES	½	Mark
		<b>TOTAL</b>	<b>5</b>	<b>Marks</b>

**TV**

A		RIBS	1	Mark
B		PIPE CLAMP	1	Mark
C		TOP OUTLINE	1	Mark
D		CUT OUT	1	Mark
		<b>TOTAL</b>	<b>4</b>	<b>Marks</b>

**TOTAL: 100**