



**higher education
& training**

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

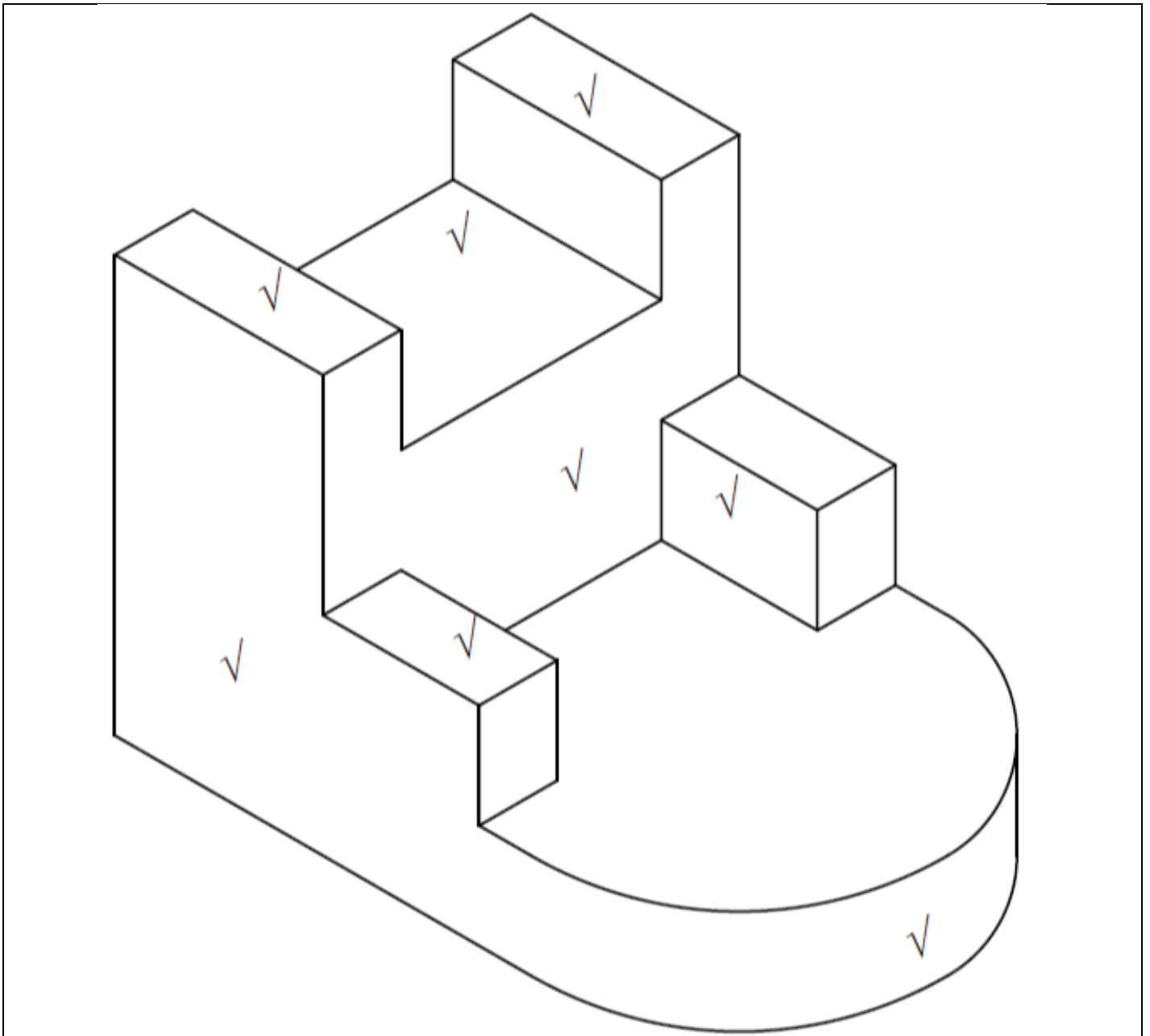
NATIONAL CERTIFICATE ENGINEERING DRAWING N3

5 August 2021

This marking guideline consists of 11 pages.

INSTRUCTIONS AND INFORMATION

1. Copying and scanning of drawings will affect the accuracy of the drawings on the marking guideline.
 2. All markers must prepare their own marking guideline to use during the marking of candidates' drawings.
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QUESTION 1: FREEHAND DRAWING**[10]**

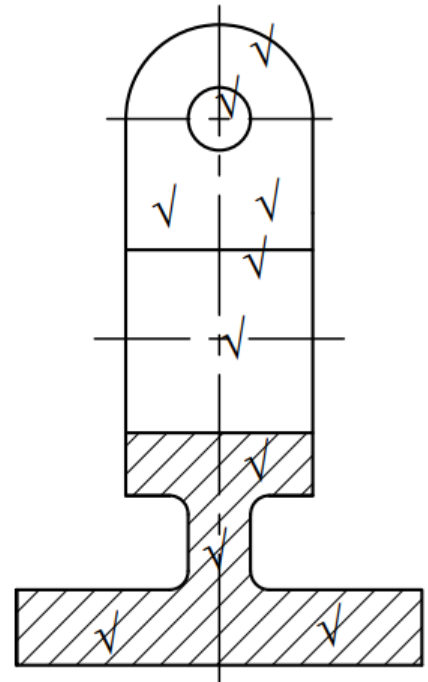
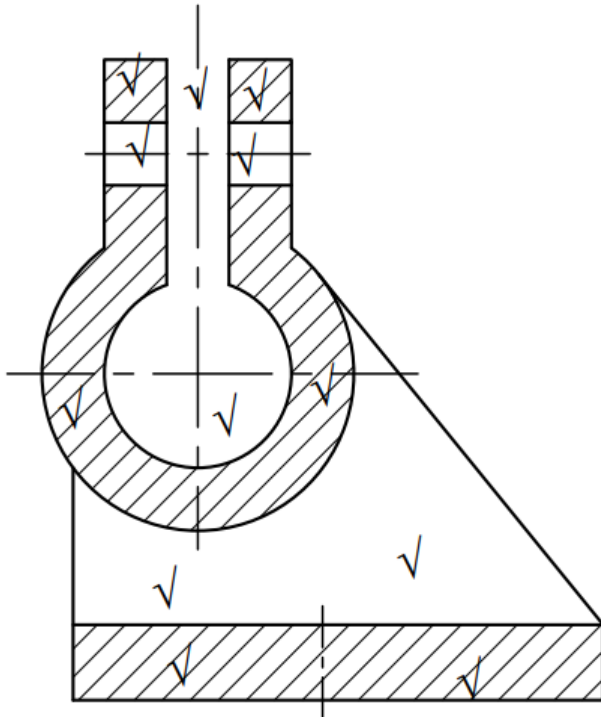
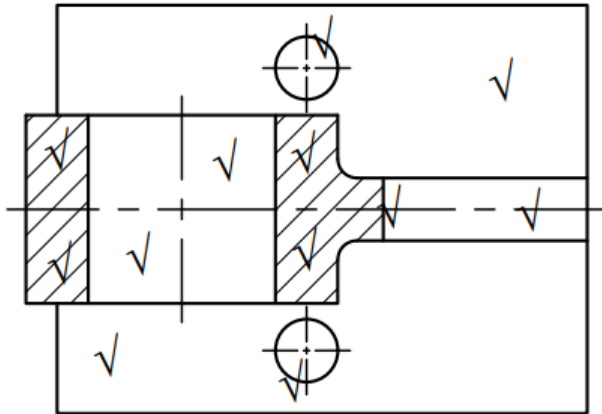
MARK ALLOCATION	
Correctness	4
Line work	3
Accuracy and proportion	3
TOTAL:	[10]

MARK ALLOCATION FOR CORRECTNESS – QUESTION 1

$\frac{1}{2}$ mark for each of the areas indicated in the marking guideline

4 marks

QUESTION 2: SECTIONAL DRAWING



[25]

MARK ALLOCATION	
Correctness:	
FSFV	6
FSRV	5
FSTV	6
Line work	3
Accuracy	3
Layout and neatness	2
TOTAL:	25

MARK ALLOCATION FOR CORRECTNESS – QUESTION 2**FSFV**

3 marks for correct sectioning	3 marks
1 mark for the web not sectioned	1 mark
½ mark for the Ø 30 hole not sectioned	½ mark
½ mark for the gap	½ mark
½ mark for each Ø10 hole not sectioned	1 mark

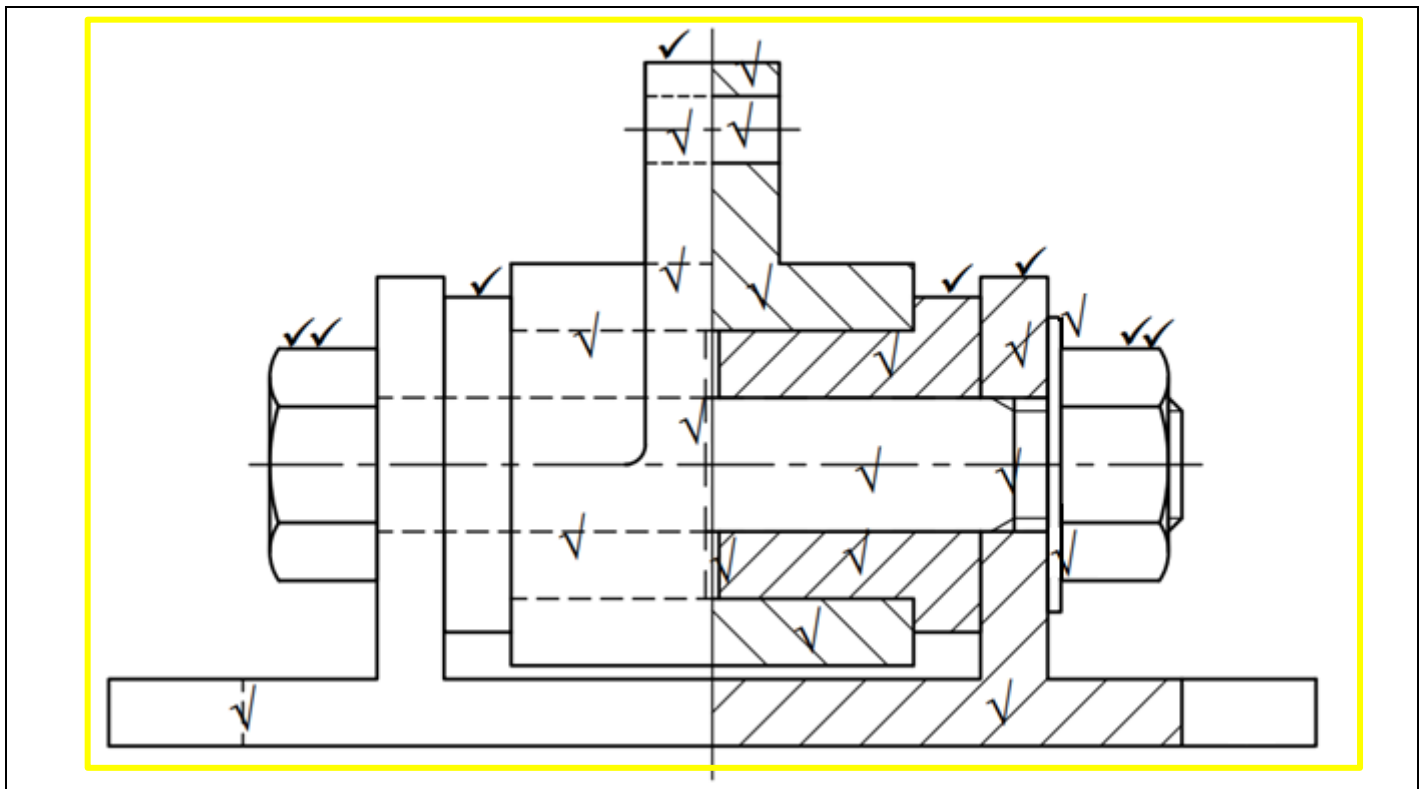
TOTAL **6 marks****FSRV**

2 marks for correct sectioning	2 marks
½ mark for the Ø 30 hole not sectioned	½ mark
½ mark for the line indicating the top of the Ø30 hole	½ mark
½ mark for the Ø 10 hole not sectioned	½ mark
½ mark for drawing the R15 arc	½ mark
1 mark for not sectioning the portion above the Ø30 hole	1 mark

TOTAL **5 marks****FSTV**

2 marks for correct sectioning	2 marks
1 mark for the Ø30 hole not sectioned	1 mark
½ mark for each Ø10 hole not sectioned	1 mark
1 mark for the base not sectioned	1 mark
½ mark for line indicating the edge of the cutting plane on the rib	½ mark
½ mark for the portion of the rib not sectioned	½ mark

TOTAL **6 marks**

QUESTION 3: ASSEMBLY DRAWING**[30]**

MARK ALLOCATION	
Correctness	18
Line work	5
Accuracy	5
Layout and neatness	2
TOTAL:	30

MARK ALLOCATION FOR CORRECTNESS – QUESTION 3

1	mark for each of item correctly assembled (2 x Item 3), except item 4	6 marks
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$\frac{1}{2}$	mark for the Item 4 correctly assembled	$\frac{1}{2}$ mark
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Item 1

$1\frac{1}{2}$	marks for correct sectioning	$1\frac{1}{2}$ marks
$\frac{1}{2}$	mark for the slot not sectioned	$\frac{1}{2}$ mark
$\frac{1}{2}$	mark for the outside edge shown as hidden detail (between the protruding part)	$\frac{1}{2}$ mark
$\frac{1}{2}$	mark for both inside edges shown as hidden detail	$\frac{1}{2}$ mark
$\frac{1}{2}$	mark for the slot shown as hidden detail	$\frac{1}{2}$ mark

Item 2

1	mark for correct sectioning	1 mark
$\frac{1}{2}$	mark for the slot not sectioned	$\frac{1}{2}$ mark
$\frac{1}{2}$	mark for the slot shown as hidden detail	$\frac{1}{2}$ mark

Item 3

1	mark for correctly sectioning Item 3	1 mark
$\frac{1}{2}$	mark for the gap between the Item 3s	$\frac{1}{2}$ mark
$\frac{1}{2}$	mark for drawing the edge of Item 3 as hidden detail (vertical line)	$\frac{1}{2}$ mark

Item 4

$\frac{1}{2}$	mark for not sectioning the washer	$\frac{1}{2}$ mark
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Item 5

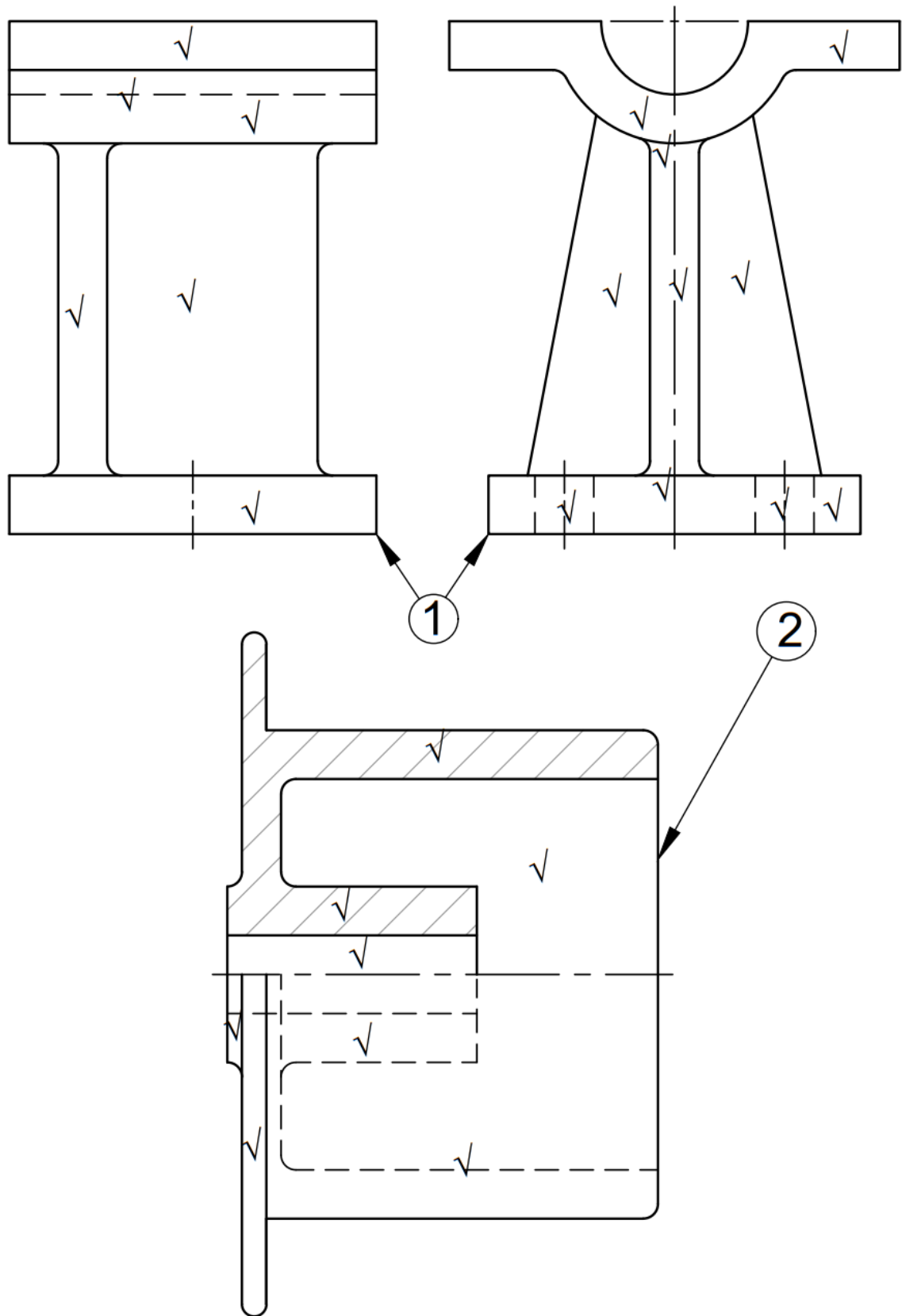
1	mark for correctly drawing the bolt head	1 mark
$\frac{1}{2}$	mark for not sectioning the bolt	$\frac{1}{2}$ mark
$\frac{1}{2}$	mark for drawing the threaded portion	$\frac{1}{2}$ mark
$\frac{1}{2}$	Mark for showing the bolt as hidden detail	$\frac{1}{2}$ mark

Item 6

1	mark for correctly drawing the nut	1 mark
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TOTAL	18 marks
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QUESTION 4: DETAILED DRAWING



[20]

MARK ALLOCATION	
Correctness:	
FSFV (Item 1)	3
FSRV (Item 1)	5
FSFV (Item 2)	4
Line work	3
Accuracy	3
Layout and neatness	2
TOTAL:	20

MARK ALLOCATION FOR CORRECTNESS – QUESTION 4**FV (ITEM 1)**

½ mark for the base	½ mark
½ mark for the vertical upright	½ mark
½ mark for the web	½ mark
½ mark for the top flange	½ mark
½ mark for the cylindrical part	½ mark
½ mark for hidden detail	½ mark

TOTAL **3 marks****RV (ITEM 1)**

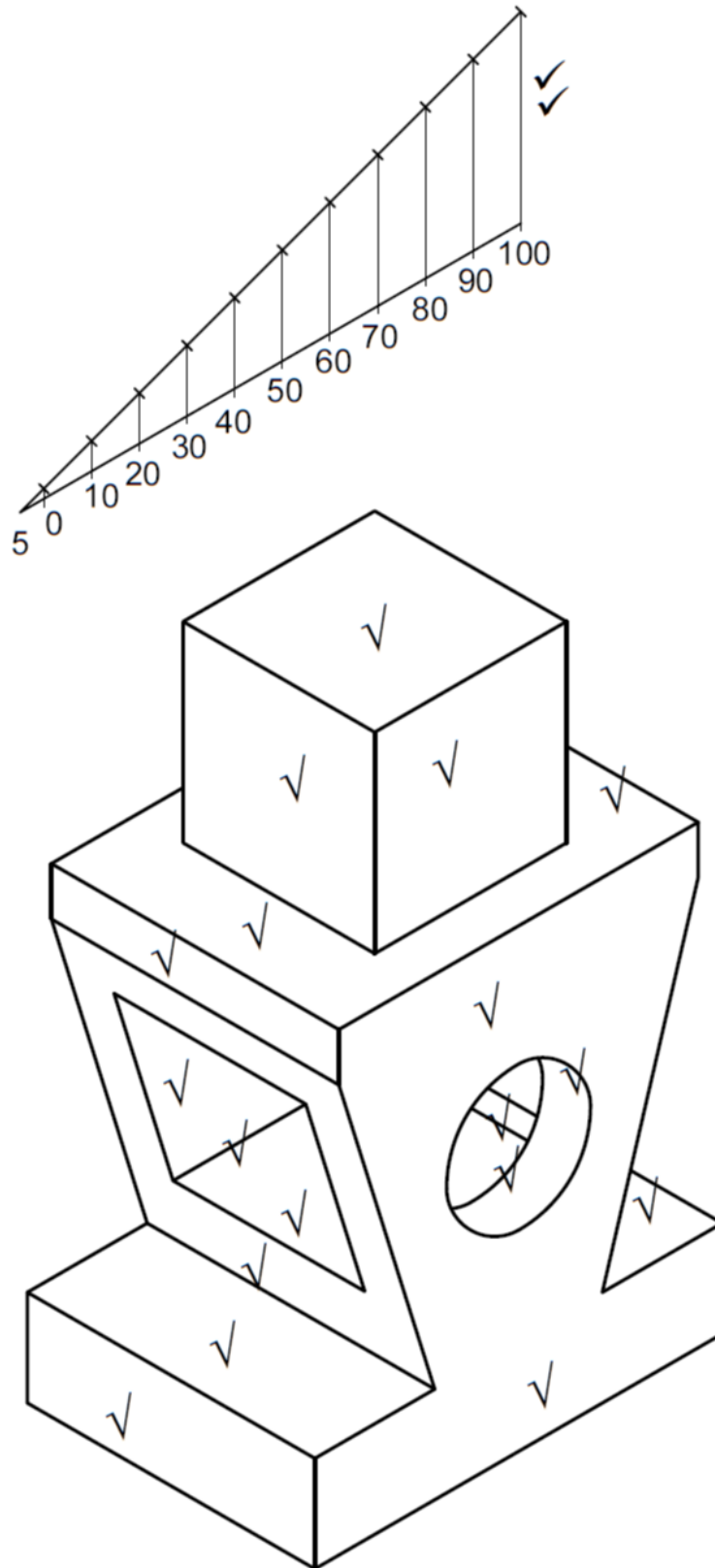
½ mark for the base	½ mark
½ mark for each Ø12 hole shown as hidden detail	1 mark
½ mark for the vertical upright	½ mark
½ mark for each web	1 mark
½ mark for the top flange	½ mark
½ mark for curved portion at the top	½ mark
½ mark for the line at the top of the rib	½ mark
½ mark for the line at the bottom of the rib	½ mark

TOTAL **5 marks****HSFV (ITEM 2)**

1 mark for correct sectioning	1 mark
½ mark for the inner surface not sectioned	½ mark
½ mark for half of the Ø16 hole not sectioned	½ mark
½ mark for the embossed part going up to the centre line	½ mark
½ mark for the flange of the pulley going up to the centre line	½ mark
½ mark for hidden detail showing the thickness of the boss	½ mark
½ mark for hidden detail showing the inner surface of the pulley	½ mark

TOTAL **4 marks**

QUESTION 5: ISOMETRIC PROJECTION



[15]

MARK ALLOCATION	
Correctness	9
Line work	3
Accuracy	3
TOTAL:	15

MARK ALLOCATION FOR CORRECTNESS – QUESTION 5

$\frac{1}{2}$ mark for each of the areas indicated on the marking guideline **9 marks**

TOTAL: 100