



# **basic education**

Department:  
Basic Education  
**REPUBLIC OF SOUTH AFRICA**

## **SENIOR CERTIFICATE EXAMINATIONS/ NATIONAL SENIOR CERTIFICATE EXAMINATIONS**

### **ENGINEERING GRAPHICS AND DESIGN P2**

**MAY/JUNE 2025**

### **MARKING GUIDELINES**

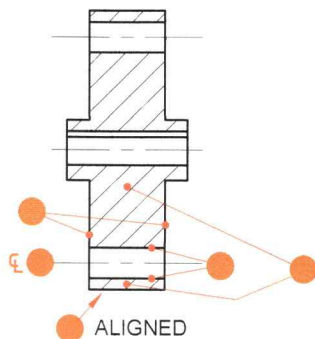
**MARKS: 100**

**These marking guidelines consist of 7 pages.**

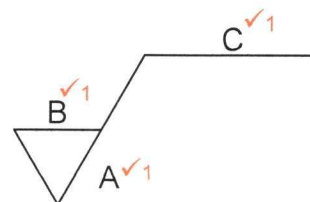
# ANSWERS

1	SAMANTHA	1
2	CLAMPIT TOOLS CC	1
3	AutoCAD 2024	1
4	THIRD-ANGLE ORTHOGRAPHIC / TAOP	1
5	MILD STEEL	1
6	2	1
7	860°	1
8	TOP VIEW	1
9	DETAIL T	1
10	A: R2      B: 9      C: R7      D: Ø122      E:70	5
11	ROUNDING	1
12	BOLT	1
13	R63	1
14	REVOLVED SECTION	1
15	PART SECTION	1
16	SITE WELD / FIELD WELD	1
17	25 = LENGTH 75 = PITCH	2
18	MAXIMUM: 40,23 MINIMUM: 39,9	2
19	See below	3
20		3
TOTAL		30

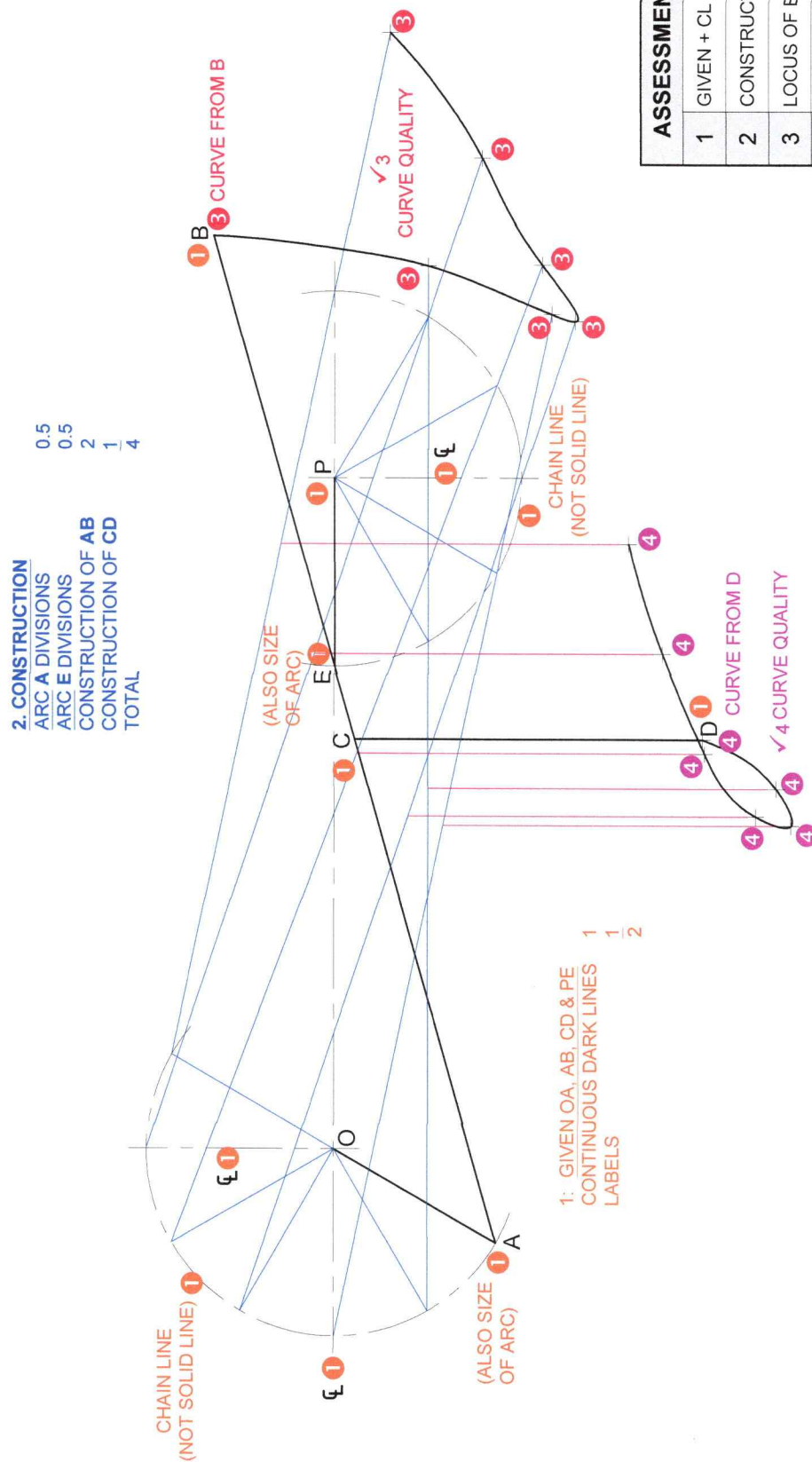
ANSWER 19

 FREEHAND


ANSWER 20



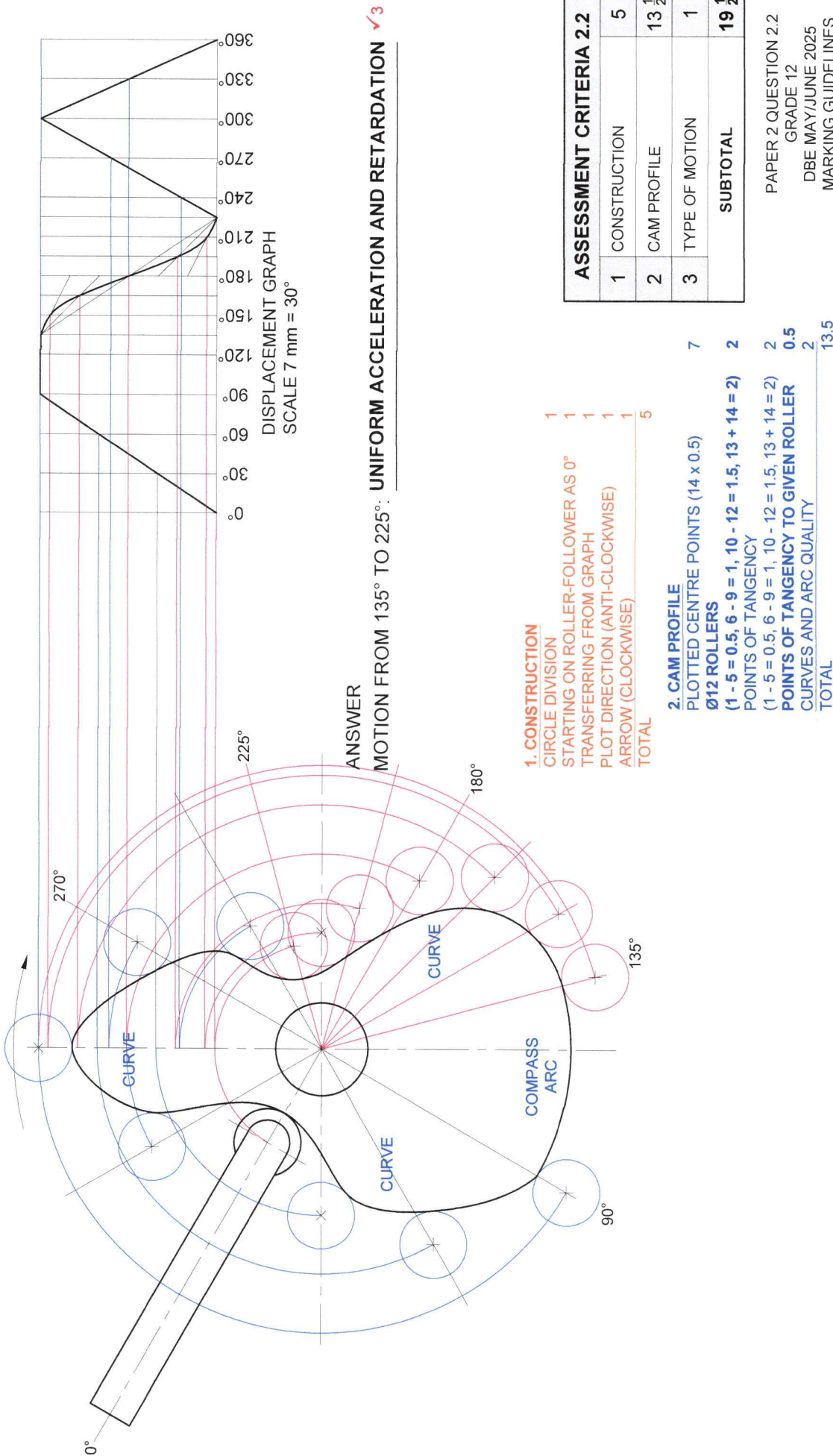
PAPER 2 QUESTION 1  
GRADE 12  
DBE MAY/JUNE 2025  
MARKING GUIDELINES



ASSESSMENT CRITERIA 2.1		
1	GIVEN + CL	$7\frac{1}{2}$
2	CONSTRUCTION	4
3	LOCUS OF B	$4\frac{1}{2}$
4	LOCUS OF D	$4\frac{1}{2}$
SUBTOTAL		$20\frac{1}{2}$

PAPER 2 QUESTION 2.1  
GRADE 12

DBE MAY/JUNE 2025  
MARKING GUIDELINES



ASSESSMENT CRITERIA 2.2			
1	CONSTRUCTION	5	
2	CAM PROFILE	13	1
3	TYPE OF MOTION	1	
SUBTOTAL		19	1

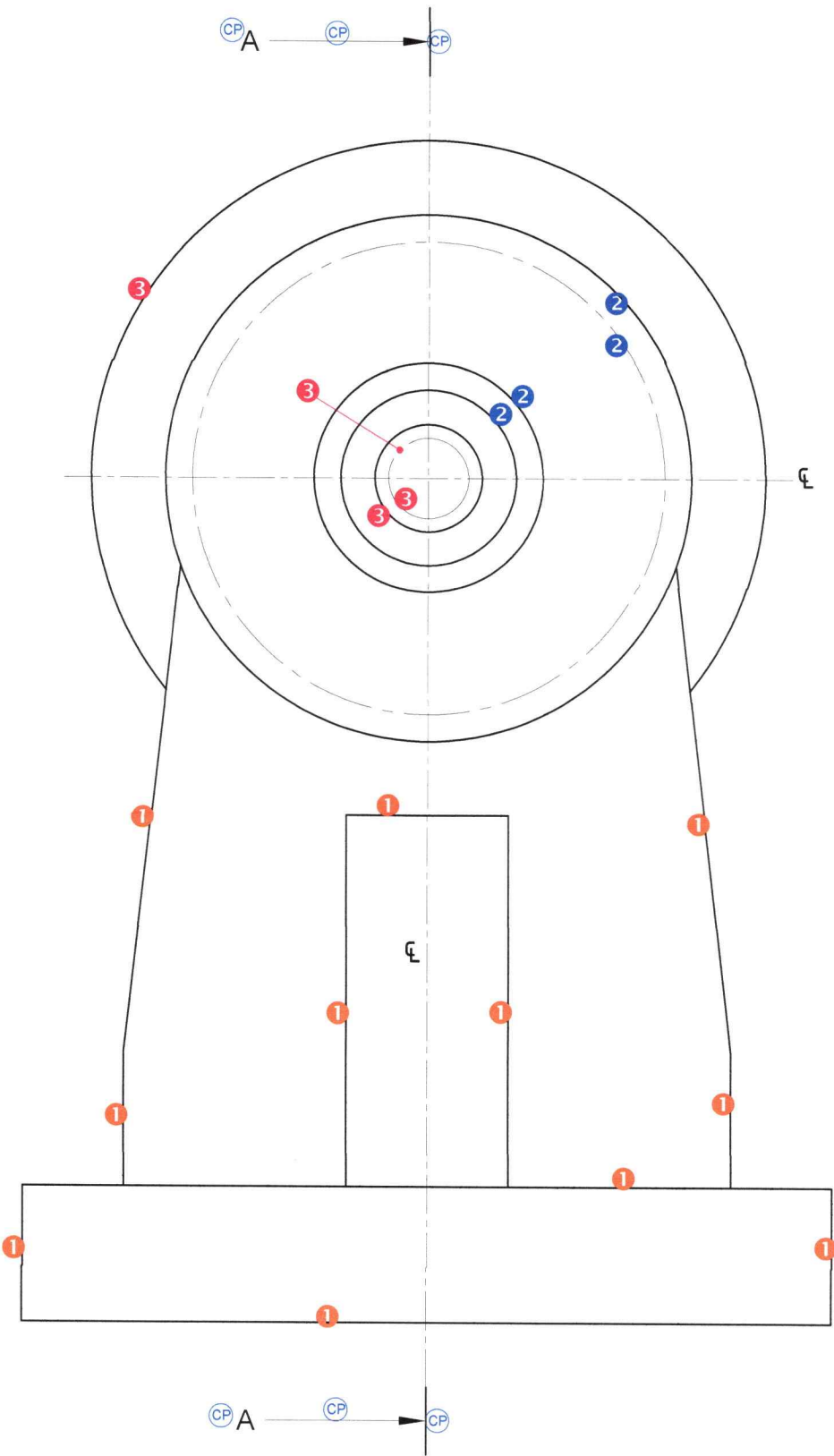
PAPER 2 QUESTION 2.2  
GRADE 12  
DBE MAY/JUNE 2025  
MARKING GUIDELINES



The diagram shows an isometric view of a mechanical component. It features a base with a hexagonal cutout, a central rectangular block, and a top section with a curved surface. Marking points are indicated by colored circles: red (3), orange (6), pink (4), green (5), and blue (2). Construction lines include a green circle with center 'CL' and radius '5', and a pink circle with radius '5' labeled 'CIRCLE CONSTRUCTION'. Sectioned surfaces are indicated by 'H' and hatching. Two auxiliary views are shown at the bottom left: a front view (labeled 1) and a side view (labeled 1).

ASSESSMENT CRITERIA		
1	PLACING/ORIENTATION + AUX. VIEWS	2
2	FRONT PORTION	16 $\frac{1}{2}$
3	MIDDLE + REAR PORTION	7
4	HEXAGON	4 $\frac{1}{2}$
5	CIRCLE + CL	5
6	SECTIONED SURFACE + HATCHING	5
TOTAL		40

PAPER 2 QUESTION 3  
GRADE 12  
DBE MAY/JUNE 2025  
MARKING GUIDELINE

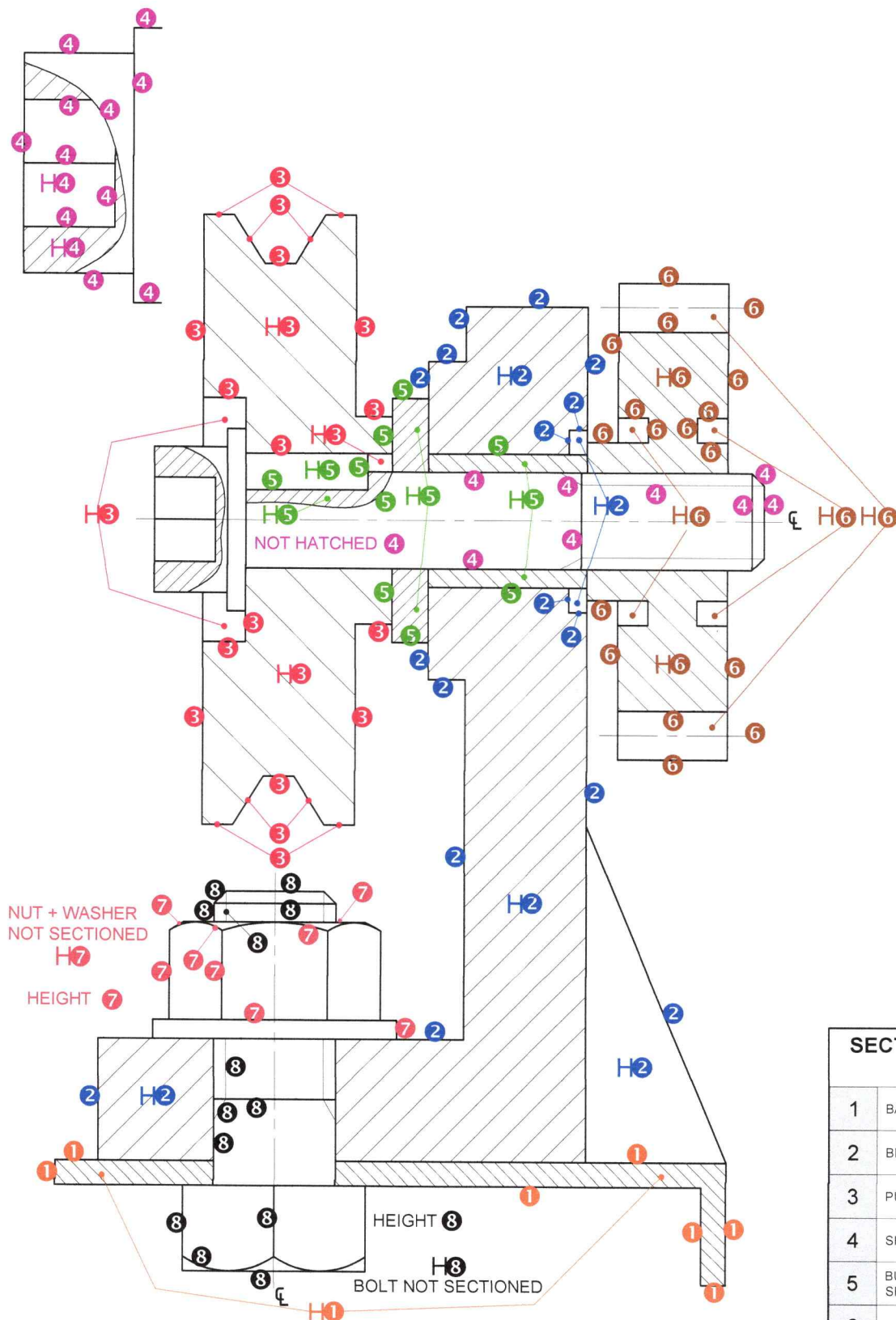


1. CENTRE LINES (CL)  
SANS COMPLIANT  
CENTRE LINES (1 - 2 = 0.5; 3 - 4 = 1)

1  
1  
2

RIGHT VIEW		
1	BRACKET + BASE PLATE	5 <sup>1</sup> / <sub>2</sub>
2	GEAR + CL	2
3	PULLEY + SHAFT	2
SUBTOTAL		9 <sup>1</sup> / <sub>2</sub>

PAPER 2 QUESTION 4  
GRADE 12  
DBE MAY/JUNE 2025  
MARKING GUIDELINE



### SECTIONAL FRONT VIEW

1	BASE	4
2	BRACKET + RIB	10 $\frac{1}{2}$
3	PULLEY	10
4	SHAFT	11
5	BUSH + KEY + SPACER	6 $\frac{1}{2}$
6	SPUR GEAR	11
7	M20 NUT + WASHER	5
8	M20 BOLT	7 $\frac{1}{2}$
SUBTOTAL		65 $\frac{1}{2}$

PAPER 2 QUESTION 4  
GRADE 12  
DBE MAY/JUNE 2025  
MARKING GUIDELINE