



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

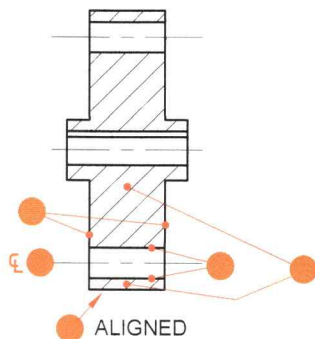
These marking guidelines consist of 7 pages.

ANSWERS

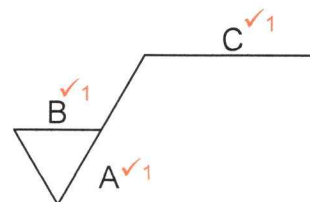
1	SAMANTHA	1
2	CLAMPIT TOOLS CC	1
3	AutoCAD 2024	1
4	THIRD-ANGLE ORTHOGRAPHIC / TAOP	1
5	MILD STEEL	1
6	2	1
7	860°	1
8	TOP VIEW	1
9	DETAIL T	1
10	A: R2 B: 9 C: R7 D: Ø122 E:70	5
11	ROUNDING	1
12	BOLT	1
13	R63	1
14	REVOLVED SECTION	1
15	PART SECTION	1
16	SITE WELD / FIELD WELD	1
17	25 = LENGTH 75 = PITCH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

ANSWER 19

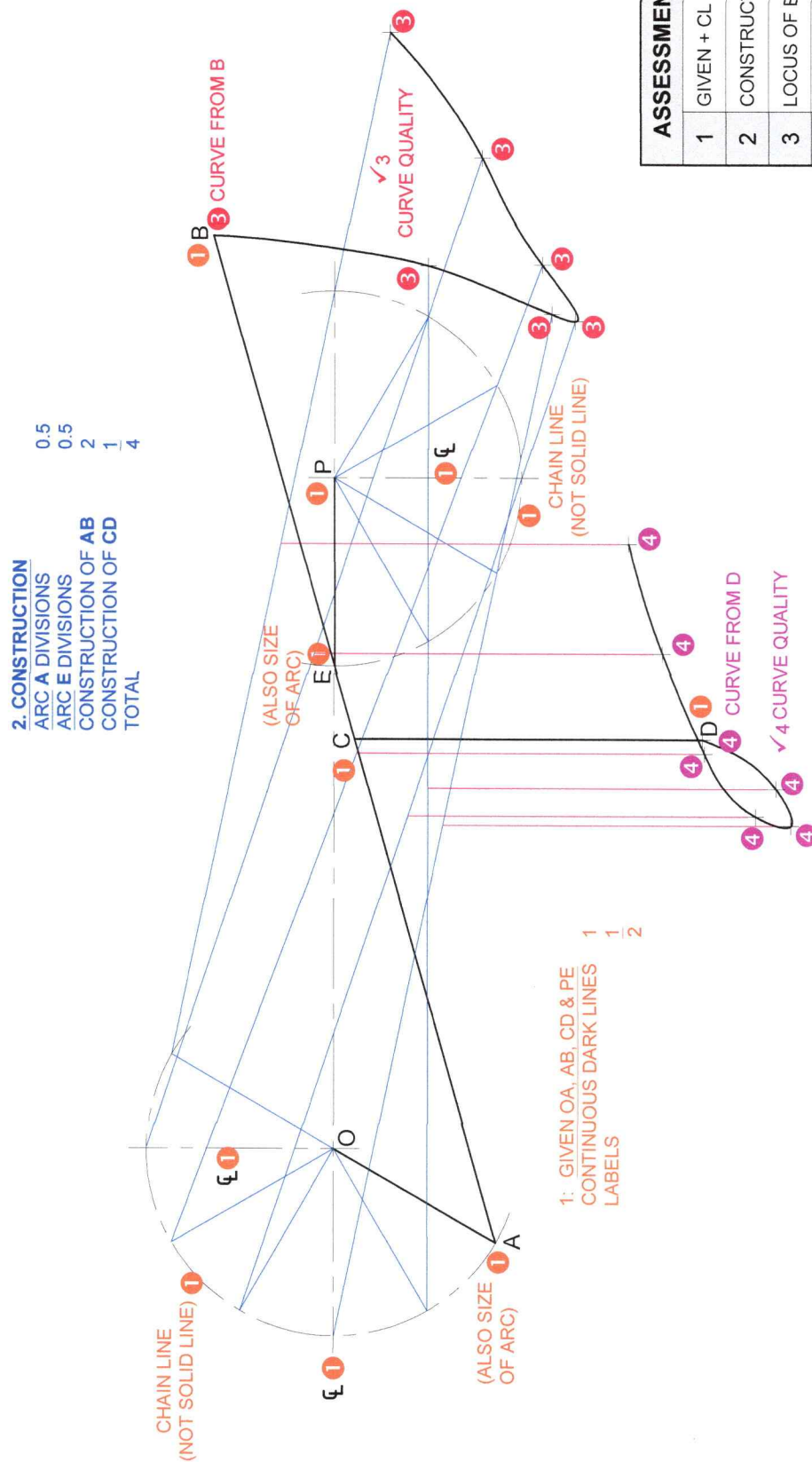
 FREEHAND



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



1	CIRCLE DIVISION
1	STARTING ON ROLLER-FOLLOWER AS 0°
1	TRANSFERRING FROM GRAPH
1	PLOT DIRECTION (ANTI-CLOCKWISE)
1	ARROW (CLOCKWISE)
5	TOTAL

7	7	PLOTTED CENTRE POINTS (14 x 0.5)
2	2	Ø12 ROLLERS
2	2	(1 - 5 = 0.5, 6 - 9 = 1, 10 - 12 = 1.5, 13 + 14 = 2)
2	2	POINTS OF TANGENCY
2	2	(1 - 5 = 0.5, 6 - 9 = 1, 10 - 12 = 1.5, 13 + 14 = 2)
0.5	0.5	POINTS OF TANGENCY TO GIVEN ROLLER
2	2	CURVES AND ARC QUALITY
13.5	13.5	TOTAL

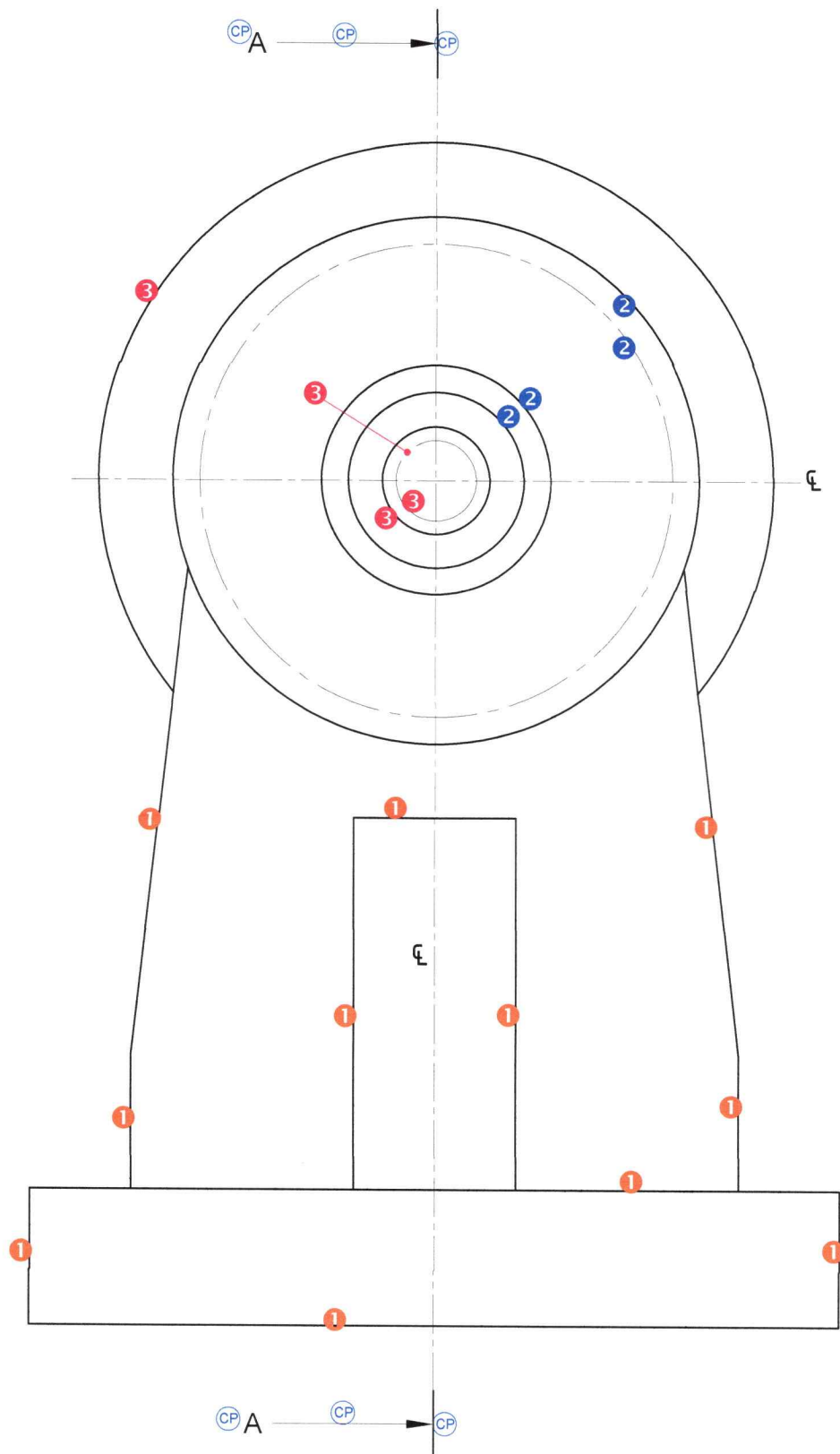
ASSESSMENT CRITERIA 2.2		
1	CONSTRUCTION	5
2	CAM PROFILE	13 $\frac{1}{2}$
3	TYPE OF MOTION	1
SUBTOTAL		19 $\frac{1}{2}$

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 rectangular cutout, a central vertical section with a hexagonal top, and a rear section with a circular feature. Marking points are indicated by colored circles: red (3), orange (6), purple (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



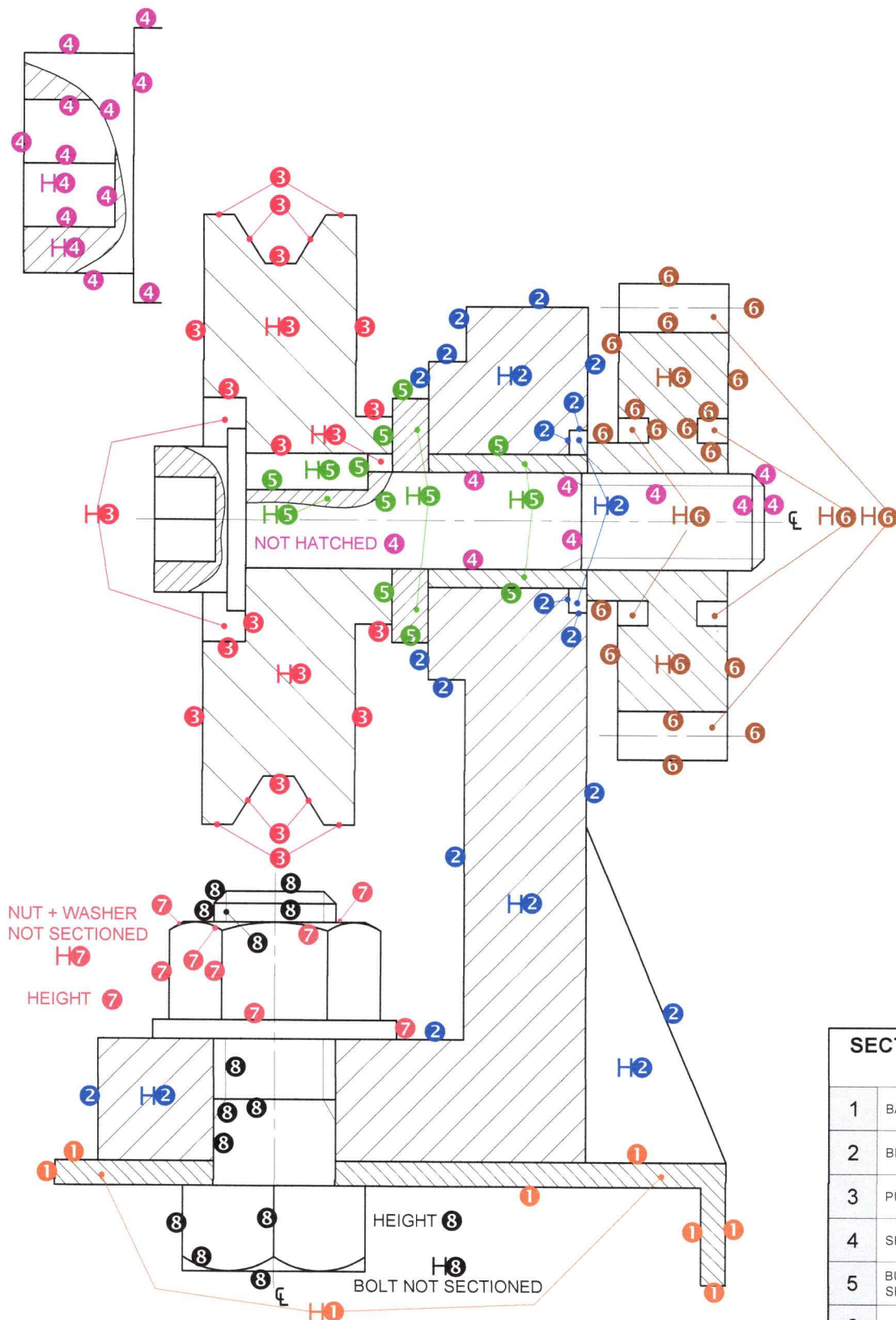
1. CENTRE LINES (CL)
 SANS COMPLIANT
 CENTRE LINES (1 - 2 = 0.5; 3 - 4 = 1)

1
 1
 2

RIGHT VIEW

1	BRACKET + BASE PLATE	5 $\frac{1}{2}$
2	GEAR + CL	2
3	PULLEY + SHAFT	2
SUBTOTAL		9 $\frac{1}{2}$

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