



# basic education

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

## SENIOR CERTIFICATE EXAMINATIONS/ NATIONAL SENIOR CERTIFICATE EXAMINATIONS

**ENGINEERING GRAPHICS AND DESIGN P2**

**2019**

**MARKING GUIDELINES**

**MARKS: 100**

**These marking guidelines consist of 9 pages  
and 1 A3 sheet.**

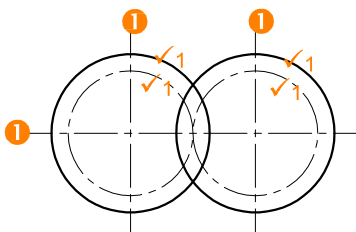
**APPROVED:**

UMALUSI - S. de Bruin  
IM - J van Leeuwen  
CM - W Goodchild

<b>ANSWERS</b>			
1	COMPASS	1	
2	WESSLY	1	
3	TOOL STEEL	1	
4	16	1	
5	RIGHT VIEW	1	
6	MORE ACCURATE ADJUSTMENT/REMAINS ACCURATE	1	
7	QUICK RELEASE FOR EASIER or QUICKER OPENING / CLOSING OF THE LEGS	1	
8	Ø 78	1	
9	12°, 13°, 14°	1	
10	C: M3                      D: 156	2	
11	REVOLVED SECTION	1	
12	STRAIGHT KNURLING / KNURLING / GROOVED	1	
13	BETTER GRIP	1	
14	0.92	1	
15	FIELD/SITE WELD	E	5
	TAIL	C	
	WELD LENGTH	A	
	WELD PITCH	B	
	WELD PROCESS	D	
16	<i>See below</i>	6	
17		4	
<b>TOTAL</b>		<b>30</b>	

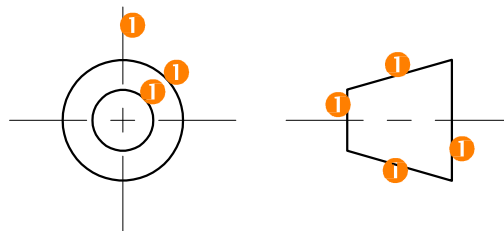
**ANSWER 16:**  
Convention for gears meshing

① FREEHAND



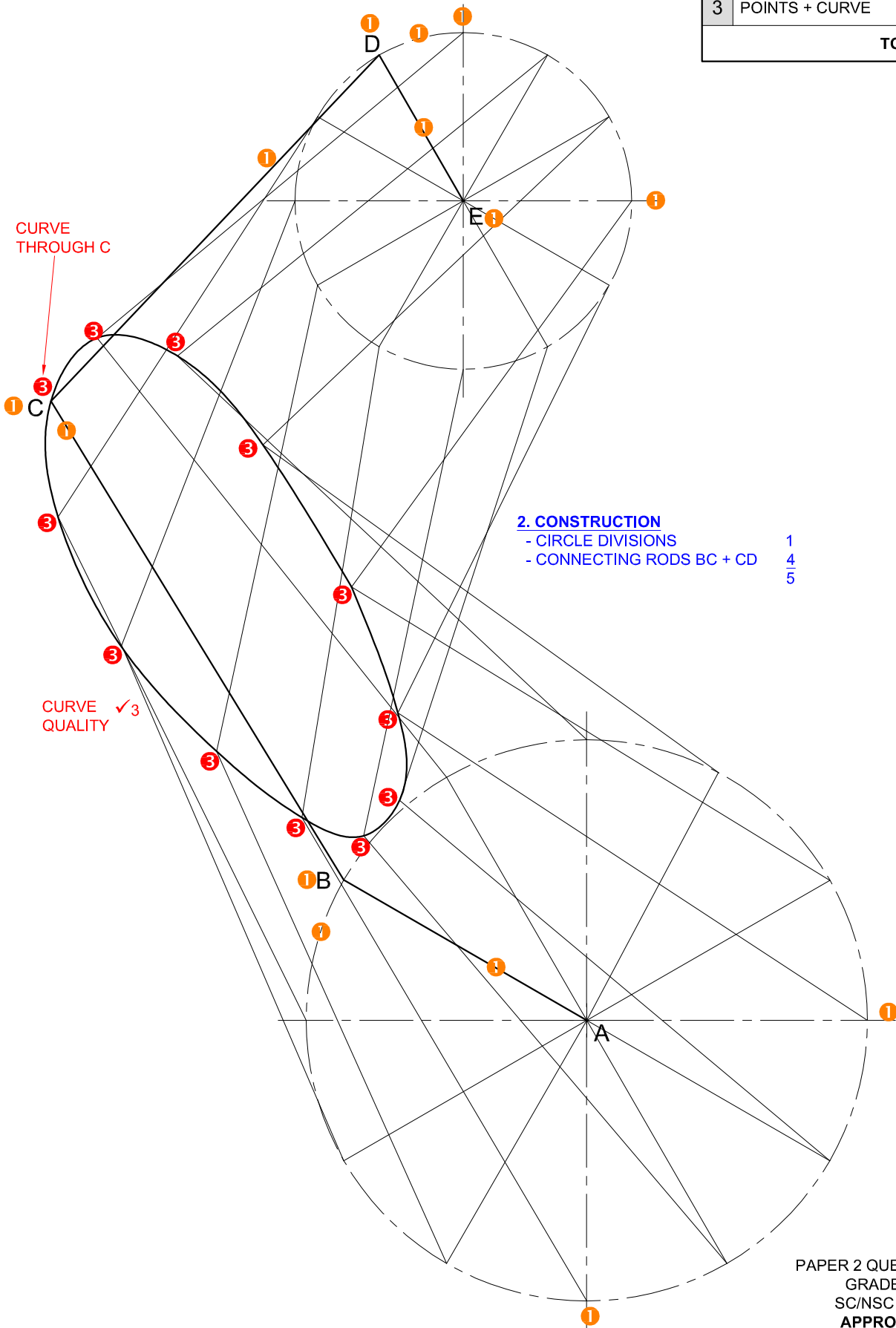
**ANSWER 17:** Projection symbol

① FREEHAND



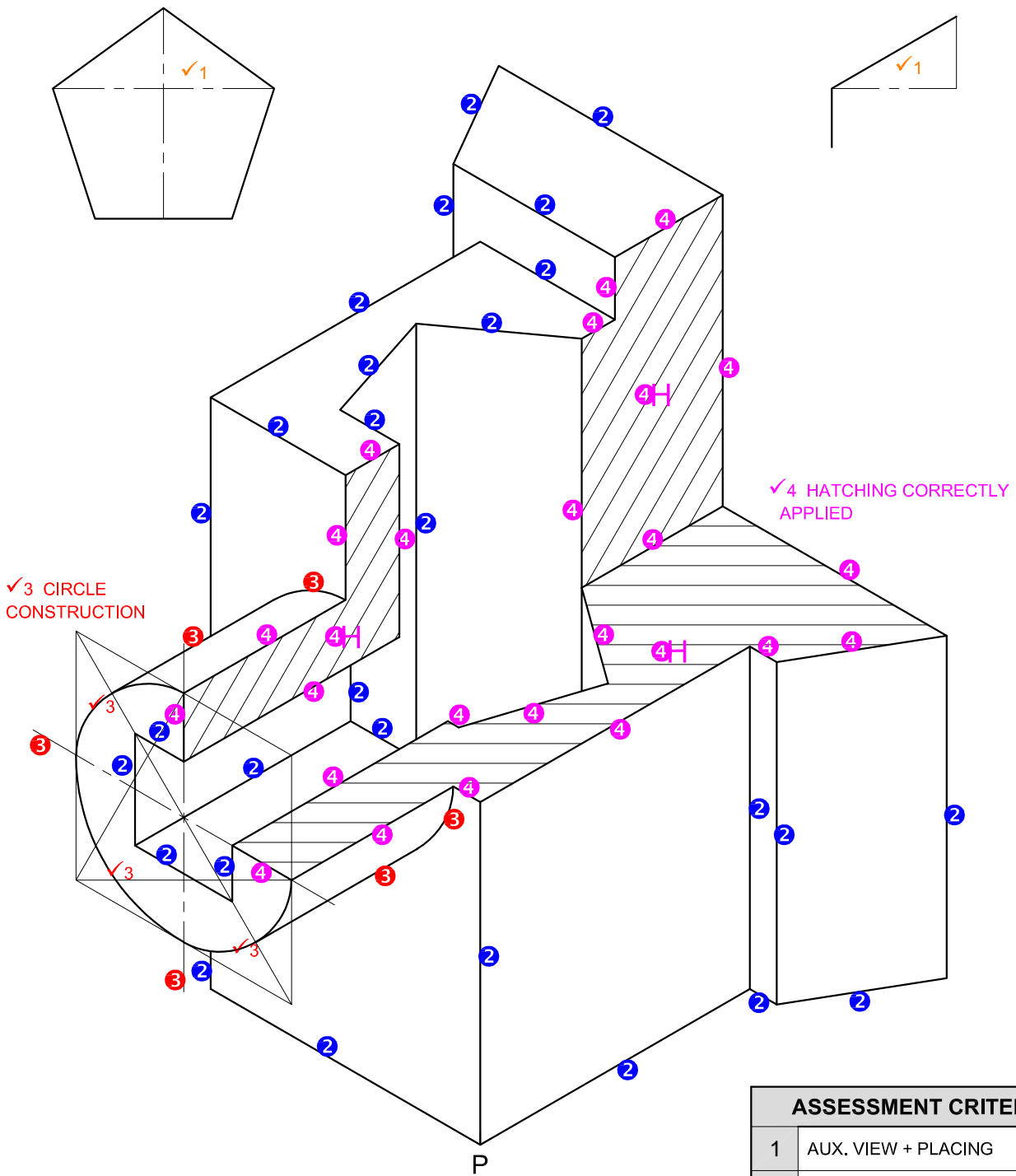
PAPER 2 QUESTION 1  
GRADE 12  
SC/NSC 2019  
**APPROVED**  
MARKING GUIDELINE

ASSESSMENT CRITERIA 2.1		
1	GIVEN	7
2	CONSTRUCTION	5
3	POINTS + CURVE	7
<b>TOTAL</b>		<b>19</b>



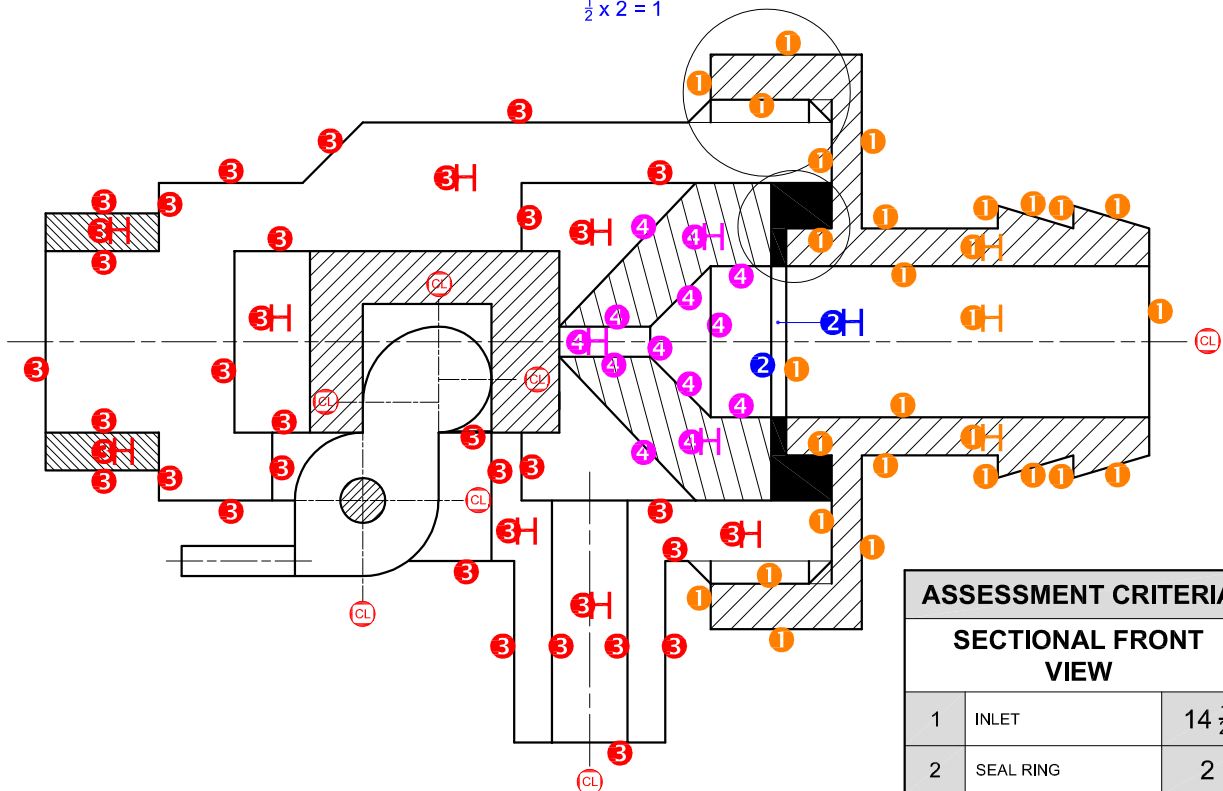
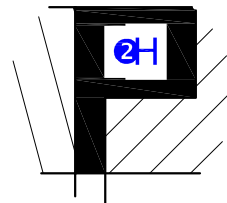
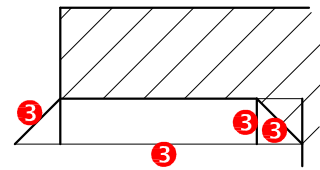
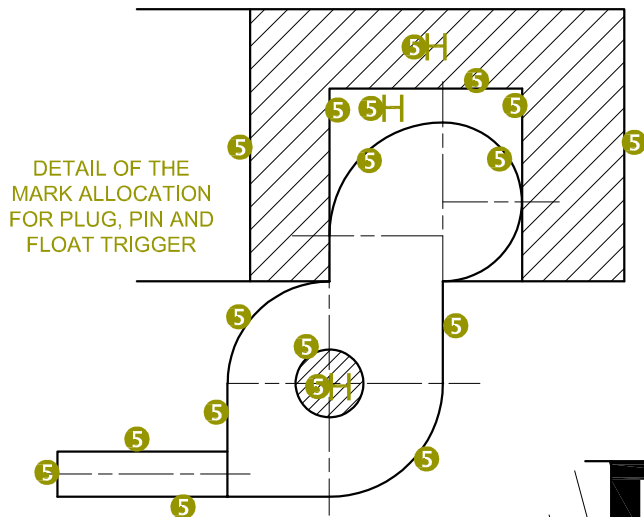
PAPER 2 QUESTION 2.1  
 GRADE 12  
 SC/NSC 2019  
**APPROVED**  
 MARKING GUIDELINE





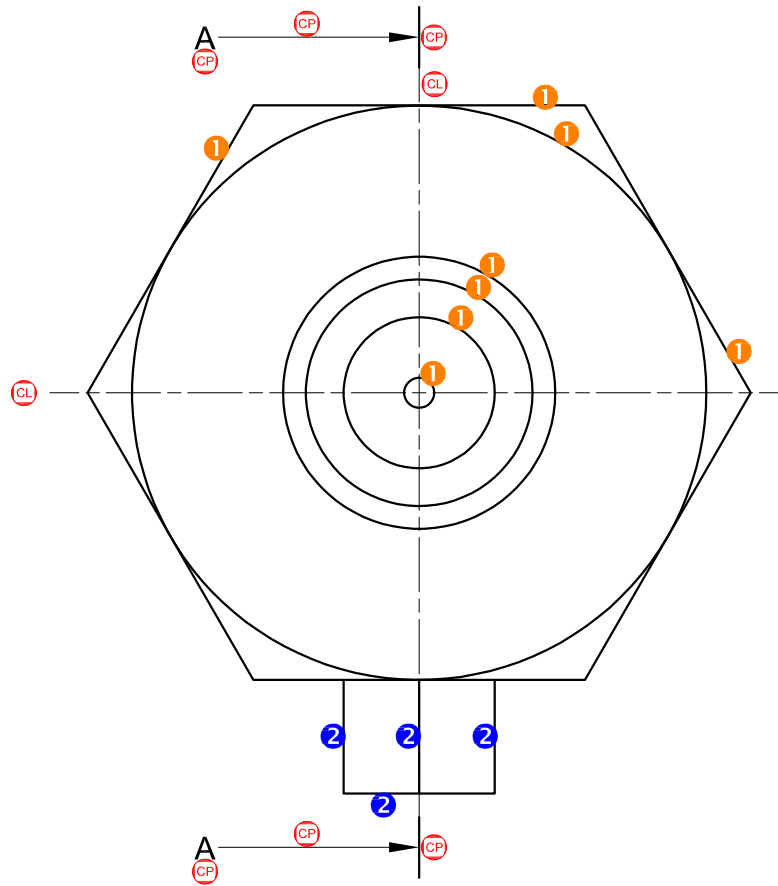
ASSESSMENT CRITERIA		
1	AUX. VIEW + PLACING	3
2	ISOMETRIC + NON-ISO' LINES	14
3	ISOMETRIC CIRCLES + CIRCLE CONSTR'	7
4	SECTIONED SURFACES + HATCHING	14
<b>TOTAL</b>		<b>38</b>

PAPER 2 QUESTION 3  
 GRADE 12  
 SC/NSC 2019  
**APPROVED**  
 MARKING GUIDELINE



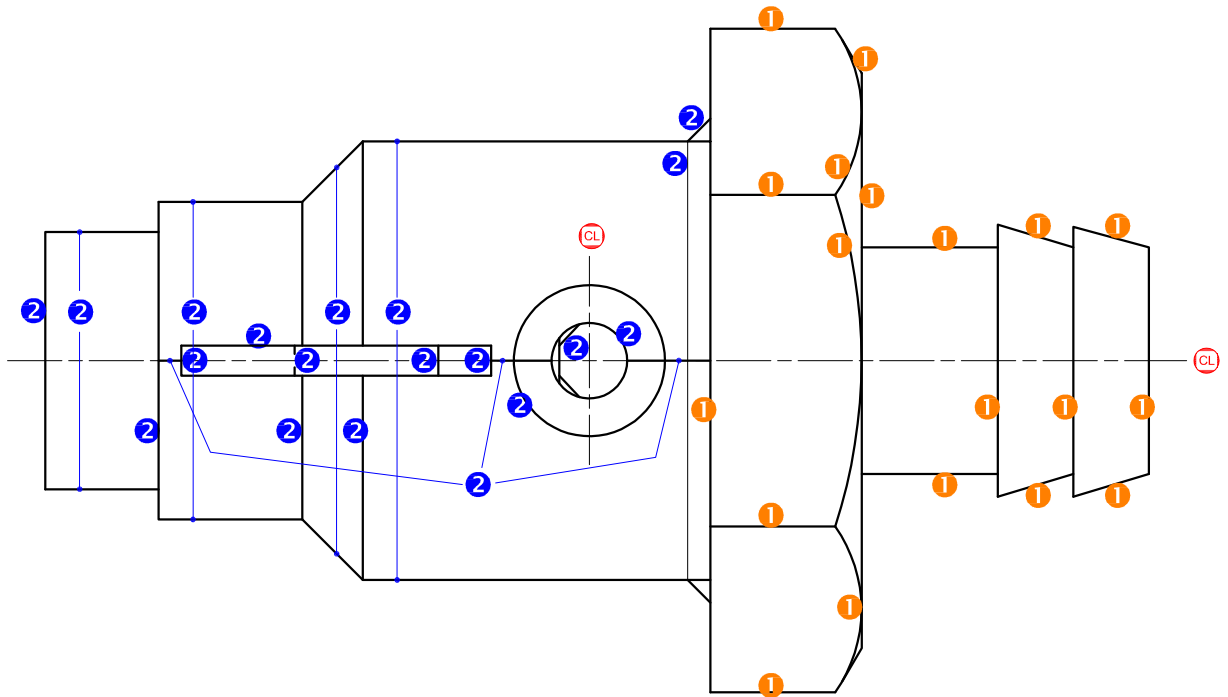
ASSESSMENT CRITERIA		
SECTIONAL FRONT VIEW		
1	INLET	14 $\frac{1}{2}$
2	SEAL RING	2
3	VALVE BODY + RETAINING RING	22
4	JET	6 $\frac{1}{2}$
5	FLOAT TRIGGER + PIN + PLUG	9
<b>SUBTOTAL</b>		<b>54</b>

PAPER 2 QUESTION 4  
GRADE 12  
SC/NSC 2019  
**APPROVED**  
MARKING GUIDELINE



ASSESSMENT CRITERIA		
RIGHT VIEW		
1	INLET + JET	4
2	VALVE BODY	2
<b>SUBTOTAL</b>		<b>6</b>

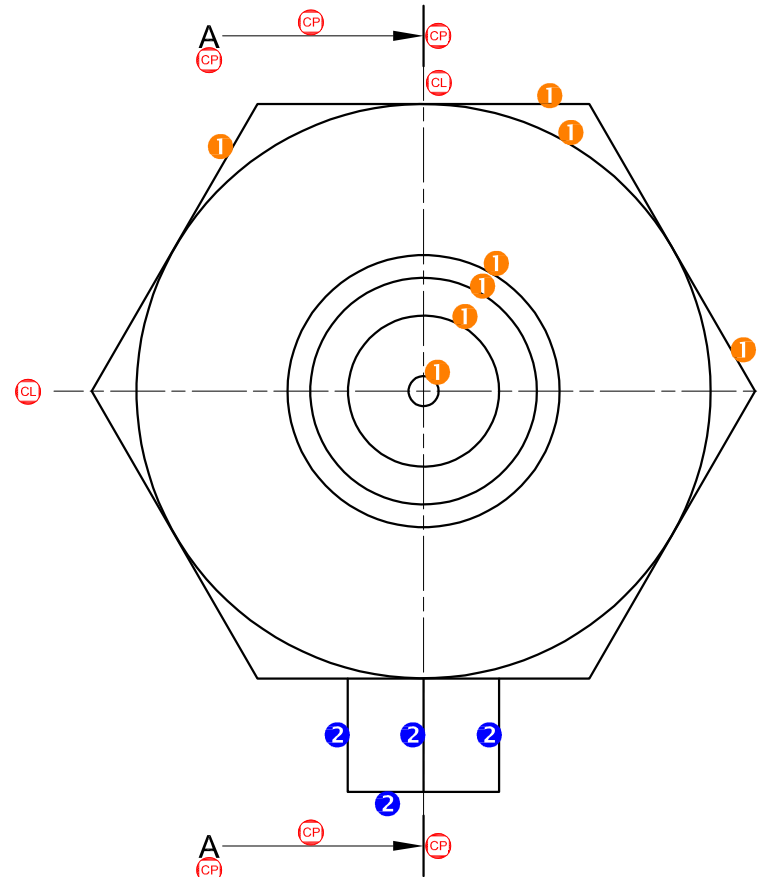
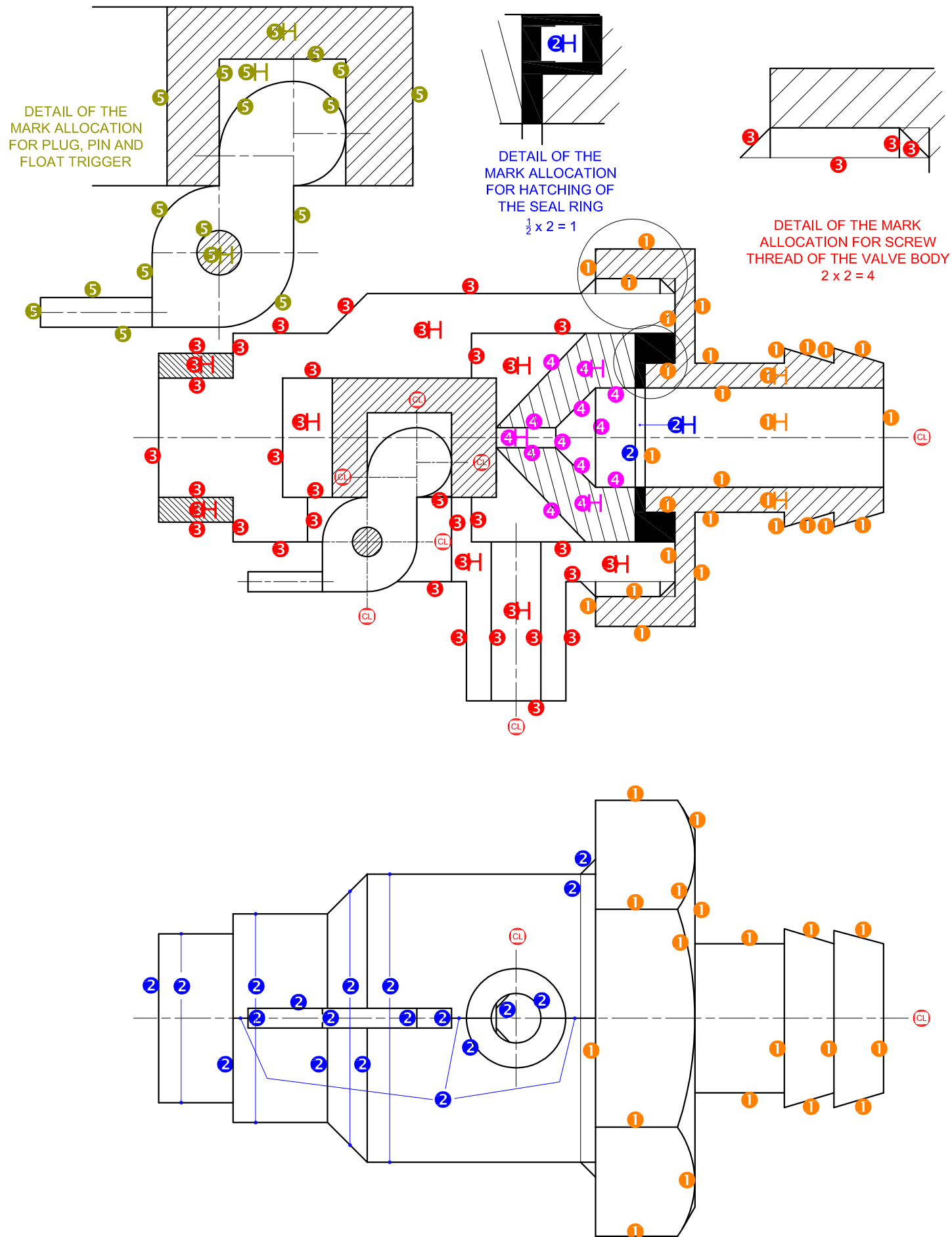
PAPER 2 QUESTION 4  
 GRADE 12  
 SC/NSC 2019  
**APPROVED**  
 MARKING GUIDELINE



ASSESSMENT CRITERIA		
BOTTOM VIEW		
1	INLET	9 $\frac{1}{2}$
2	VALVE BODY + RETAINING RING + JET	9 $\frac{1}{2}$
<b>SUBTOTAL</b>		<b>19</b>

PAPER 2 QUESTION 4  
 GRADE 12  
 SC/NSC 2019  
**APPROVED**  
 MARKING GUIDELINE



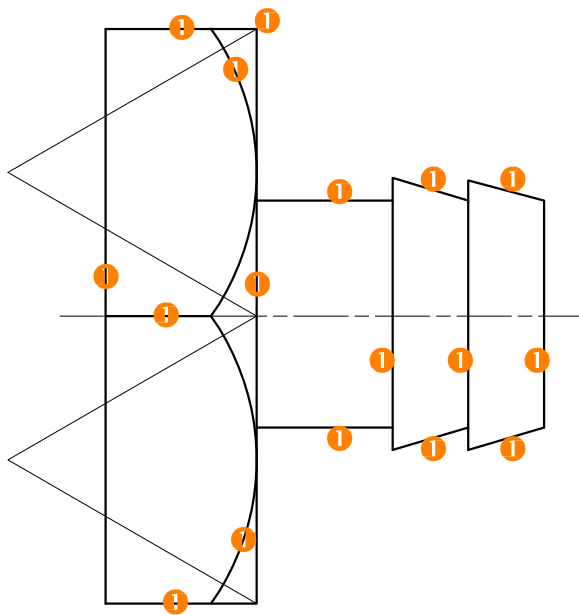
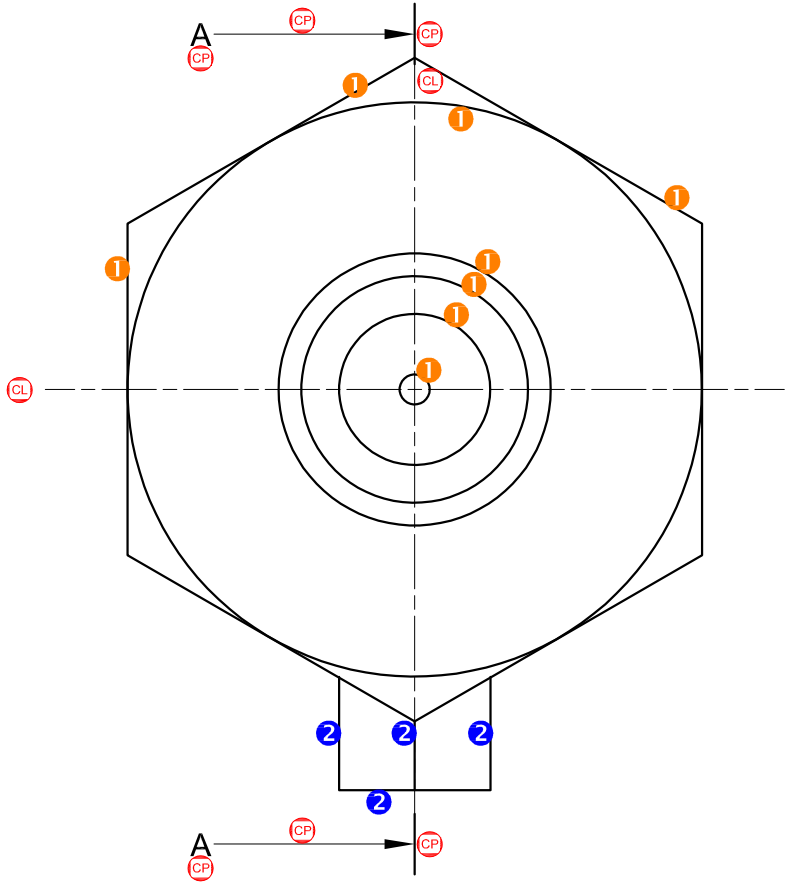


**3. ASSEMBLY**  
 1 MARK FOR EVERY COMPONENT CORRECTLY ASSEMBLED (9 PARTS -1) = 8

**1. CENTRE LINE MARK ALLOCATION**  
 SANS COMPLIANT (LINE TYPE) 2  
 11 CENTRE LINES 2  
**TOTAL 4**

FOR OFFICIAL USE ONLY	
INCORRECT ORTHOGRAPHIC PROJECTION	
INCORRECT OVERALL SCALE	
INCORRECT HATCHING	
PARTS NOT ASSEMBLED	
TOTAL PENALTIES (-)	

ASSESSMENT CRITERIA					
RIGHT VIEW					
		POSSIBLE	OBTAINED	SIGN	MODERATED
1	INLET + JET	4			
2	VALVE BODY	2			
<b>SUBTOTAL</b>		<b>6</b>			
SECTIONAL FRONT VIEW					
1	INLET	14 $\frac{1}{2}$			
2	SEAL RING	2			
3	VALVE BODY + RETAINING RING	22			
4	JET	6 $\frac{1}{2}$			
5	FLOAT TRIGGER + PIN + PLUG	9			
<b>SUBTOTAL</b>		<b>54</b>			
BOTTOM VIEW					
1	INLET	9 $\frac{1}{2}$			
2	VALVE BODY + RETAINING RING + JET	9 $\frac{1}{2}$			
<b>SUBTOTAL</b>		<b>19</b>			
GENERAL					
1	CENTRE LINES	4			
2	SECTION A-A	3			
3	ASSEMBLY	8			
<b>SUBTOTAL</b>		<b>15</b>			
<b>TOTAL</b>		<b>94</b>			
PENALTIES (-)					
<b>GRAND TOTAL</b>					



**(PENALTY -2)**  
 DETAIL OF THE MARK  
 ALLOCATION SHOWING  
 TWO FACES  
**(NOT FOR DISTRIBUTION)**