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basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

ENGINEERING GRAPHICS AND DESIGN P1

NOVEMBER 2023

MARKING GUIDELINES

MARKS: 100

These marking guidelines consist of 8 pages.

ANSWERS

1	acearc@africa.com / ACEARC@AFRICA.COM	1
2	1 : 450	1
3	30/01/2023	1
4	QUALITY STREET	1
5	351	1
6	<u>BRICK</u> PAVING	1
7	3	1
8	SPEED <u>HUMP</u>	1
9	1 : 40	1
10	2500	1
11	GULLY	1
12	EVERGREEN <u>TREE</u> (TREE = $\frac{1}{2}$)	1
13	ADJACENT BUILDING / <u>CIVIL</u> STRUCTURE	1
14	<u>EXISTING</u> SEWER LINE	1
15	0,15	1
16	RED	1
17	SOUTH EAST / EAST-SOUTH-EAST / SE	2
18	1800	2
19	See below	3
20		3
21		4
TOTAL		30

ANSWER 19

Show ALL calculations.

APPLYING CORRECT FORMULA ✓

$$P = AB + BC + CD + DE + EA$$

$$= 40 + 48 + 23,34 + 7,5 + 44,56$$

$$= 163,4 \quad \text{ANSWER IN METRES} \quad \checkmark$$

ANSWER 20

Show ALL calculations.

APPLYING CORRECT FORMULA ✓

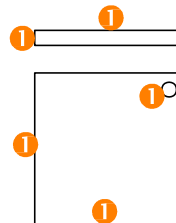
$$A = (10 \times 9,2) + (7,4 \times 4) + (6,2 \times 3,2)$$

$$= 92 + 29,6 + 19,84$$

$$= 141,44 \text{ m}^2 \quad \text{ANSWER IN SQUARE METRES} \quad \checkmark$$

ANSWER 21

(a) NOT FAO P
= - $\frac{1}{2}$



1 FREEHAND

(b)



Orthographic projection of a hexagonal prism with a pentagonal cutout. The front view (top) shows a rectangle with a pentagonal cutout. The top view (bottom) shows a hexagon with a pentagonal cutout. The side view (right) shows a rectangle with a pentagonal cutout. The cutout is a square rotated 45 degrees, with dimensions 0.5 and 0.5. The pentagon is constructed from a hexagonal edge. The drawing includes construction lines and dimension lines. Marking points are indicated by red circles with numbers 1, 2, and 3.

ASSESSMENT CRITERIA	
1	SECTIONAL TOP VIEW
2	FRONT VIEW
3	SECTIONAL LEFT VIEW
TOTAL	

15 ½
8 ½
14
38

PAPER 1 QUESTION 2
GRADE 12
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MARKING GUIDELINES

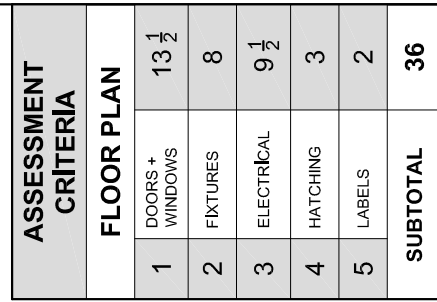
RVP

ASSESSMENT CRITERIA

1	CONSTRUCTION	6
2	FLOOR	11
3	WALLS	8 $\frac{1}{2}$
4	ROOF	4 $\frac{1}{2}$
5	WINDOWS + ARC	10
TOTAL		40

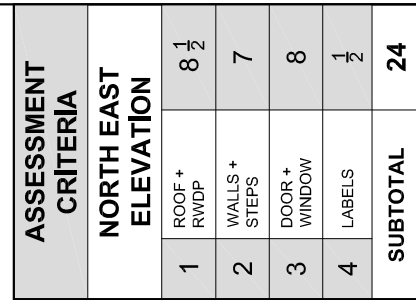
PAPER 1 QUESTION 3
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LVP

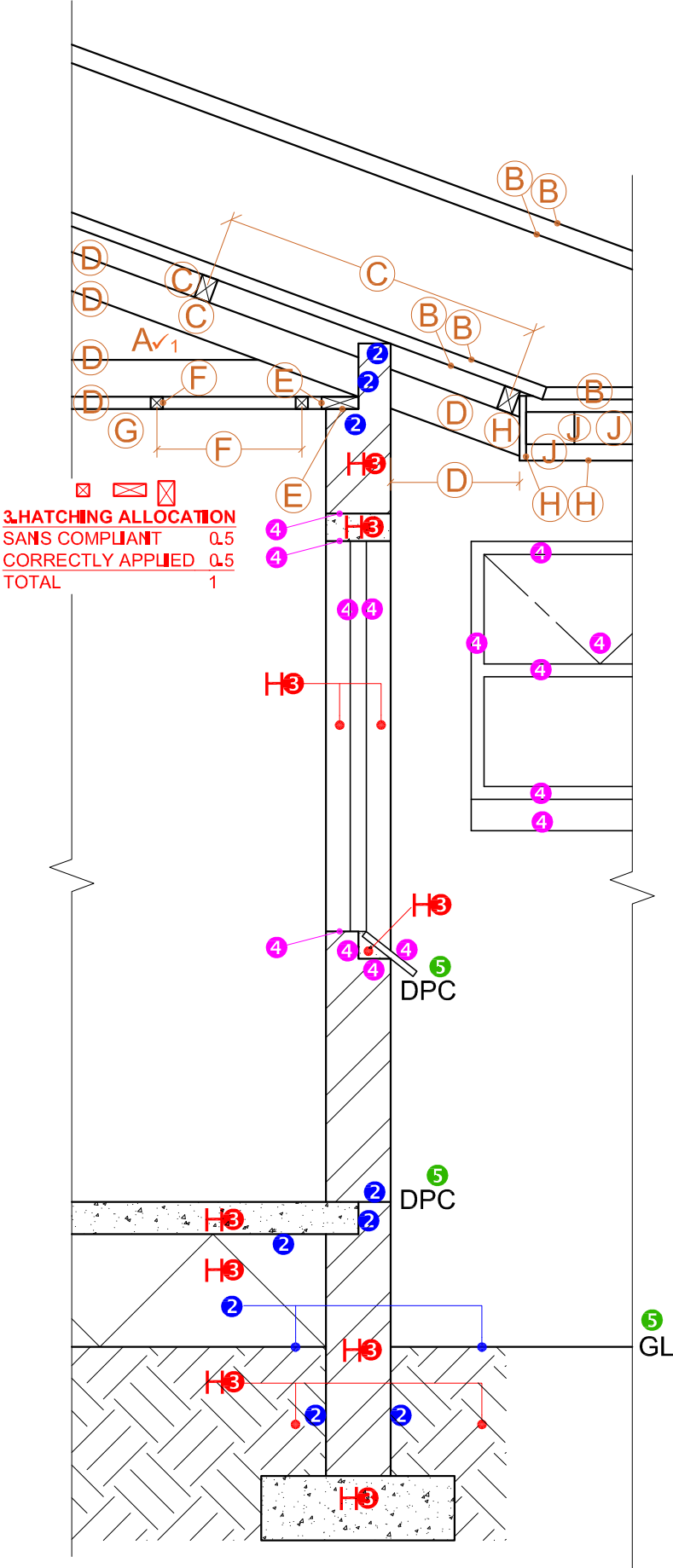


PAPER 1 QUESTION 4
GRADE 12
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MARKING GUIDELINES

FLOOR PLAN
SCALE 1 : 50



Please turn over



SECTION A-A
SCALE 1 : 20