

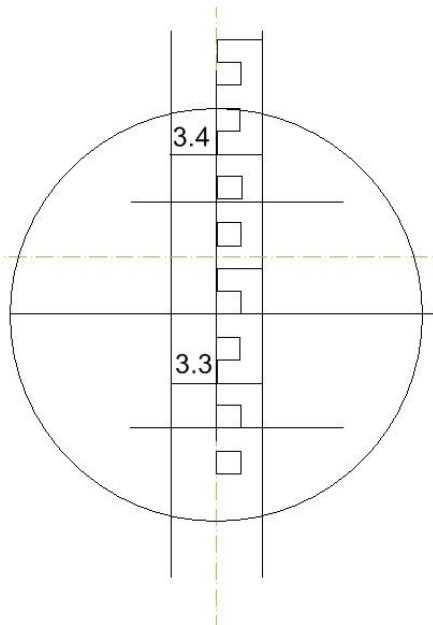
**CIVIL TECHNOLOGY**

**ANSWER BOOKLET – MARKING GUIDELINES**

Time: 3 hours

200 marks

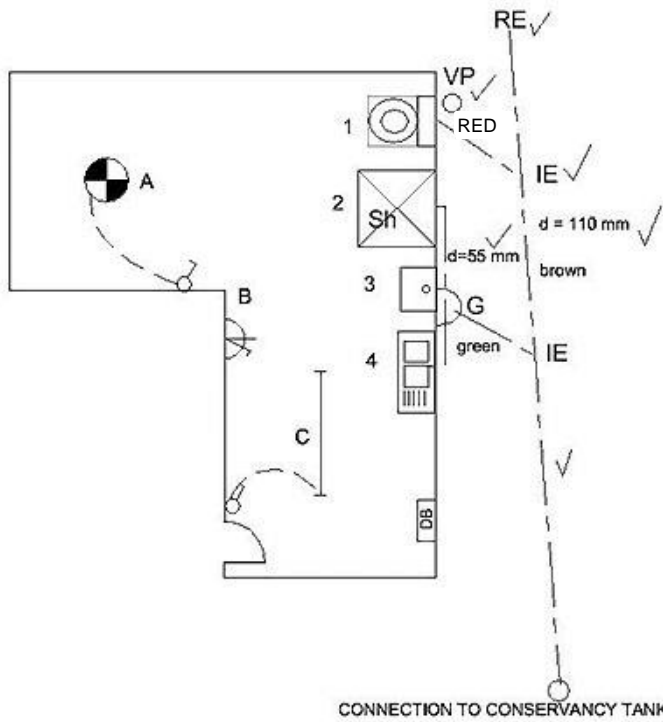
**QUESTION 2.4**



**\*Any other acceptable drawing**

Assessment Criteria	Marks	Mark obtained
Correctness	3	
Circle of eyepiece	1	
<b>TOTAL</b>	<b>4</b>	

**QUESTION 3.2**



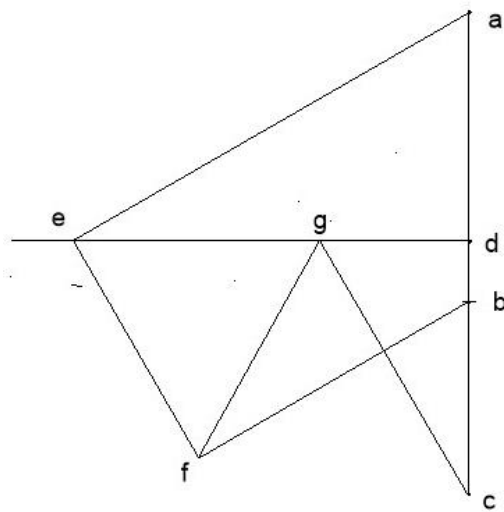
	Assessment Criteria	Marks	Mark obtained
3.2.1	Symbols for sanitary fittings	4	
3.2.2	Correctness of sewerage system	3	
	Correct line type	1	
	Any two abbreviations	2	
	Colour code for ONE pipe	1	
	Diameter of drain pipe indicated	1	
3.2.3	Electrical symbols	3	
	<b>TOTAL</b>	<b>15</b>	

**QUESTION 4.4**

**Quantity Surveying**

Item	Measurement	Result	Description
			(4.4.1)
1/	6,0		Area of building
	<u>4,0</u>	24 m <sup>2</sup>	
			(2)
			Perimeter of building
2/	<u>6,0</u>	12 m	
2/	<u>4,0</u>	<u>8 m</u>	
		20 m	
			(3)
			(4.4.2) Bricks
			Total wall area (Southern Wall)
1/	2,7		
	<u>6,0</u>	16,2 m <sup>2</sup>	(1)
			Door area
1/	2,1		
	<u>0,9</u>	1,89 m <sup>2</sup>	(1)
			Window area
1/	1,5		
	<u>1,2</u>	= 1,8 m <sup>2</sup>	(1)
			Total area less openings
			16,2 – 1,89 + 1,8 = 12,51 m <sup>2</sup> (1)
1/	12,51		Total number of bricks
	<u>110</u>	= 1 377 bricks	(1)
			(4.4.3) Volume of slab:
1/	5,56 m		Inside length: 6 – 0,44 = 5,56 m
	3,56 m		Inside width: 4 – 0,44 = 3,56 m
	<u>0,075</u>	1,48 m <sup>3</sup>	(4)
			(4.4.4)
			Ratio: 2 Cement: 4 Stone: 4 Sand
			2 + 4 + 4 = 10 (1)
			Cubic meter stone needed:
$\frac{4}{10}$	<u>1,48</u> OR	0,59 m <sup>3</sup>	(3)
0,4	<u>1,4</u>	0,59 m <sup>3</sup>	

**QUESTION 5.2.1 VECTOR DIAGRAM**



N.T.S.

\*Use a mask to mark vector diagram.

(6)

**QUESTION 5.2.2**

Determine the magnitude of the following members.

Member	Magnitude	Marks	Mark obtained
AE	19 N (18 N – 20 N)	1	
FG	10,5 N (9,5 N – 11,5 N)	1	
<b>TOTAL</b>		<b>2</b>	

(2)

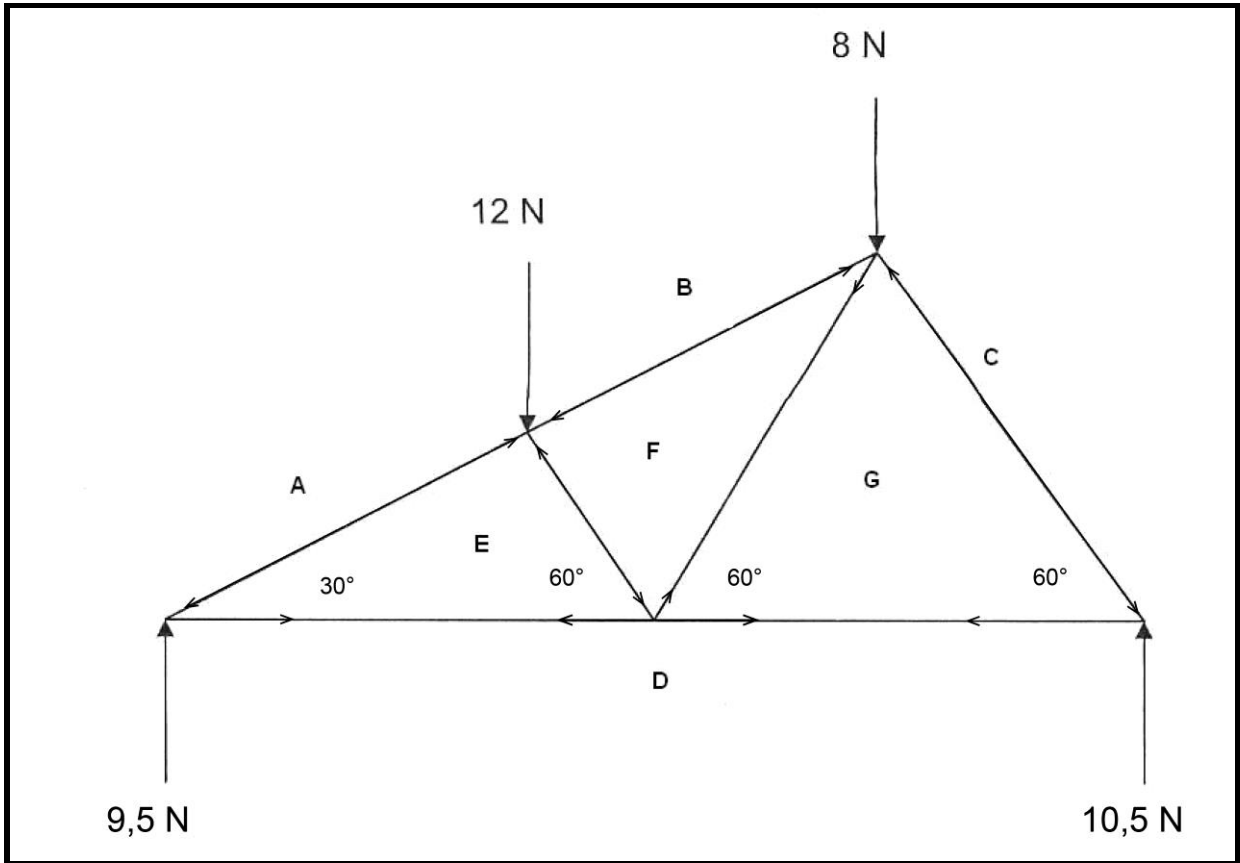
\*Tolerance of 1 N on either side

**QUESTION 5.2.3**

Indicate nature of six different members on the space diagram by means of arrows.


\*\*\*\* Members AE, BF, CG, FG, FE and ED correctly indicated 1 mark each.

ANY SIX



(6)

**QUESTION 6.1**

	<b>Question</b>	<b>Answer</b>	<b>Marks</b>	<b>Mark obtained</b>
6.1.1	Name the type of eave shown at A.	Closed eave	1	
6.1.2	Identify the missing wooden part at B between the roof covering and the rafter.	Purlin	1	
6.1.3	Identify part C.	Roof ridge	1	
6.1.4	Identify part D.	Barge board/ Verge board	1	
6.1.5	Identify part E.	Fascia board	1	
6.1.6	Identify part F.	Door frame	1	
6.1.7	Identify part G.	Hard-core fill	1	
6.1.8	What will be the minimum measurement at H on the load-bearing wall foundation?	600 mm	1	
6.1.9.	What will be the minimum measurement at J on the load-bearing foundation?	200 mm	1	
6.1.10	Explain the meaning of the abbreviation NGL.	Natural Ground Level	1	
6.1.11	Explain the meaning of the abbreviation FFL.	Finished Floor Level	1	
6.1.12	The scale of the Sectional view AA is 1:50. Name one other acceptable scale that can be used.	1 : 25 / 1 : 100 / 1 : 200 <b>Any ONE answer</b>	1	
6.1.13	Describe the meaning of the dashed lines on the windows.	Direction window closes/opens	1	
6.1.14	What will be placed between part G and the slab to prevent penetration of moisture?	Damp proof course	1	
6.1.15	Draw the symbol used to indicate the use of stock brick on the sectioned wall.		1	
	<b>TOTAL</b>		<b>15</b>	

**QUESTION 6.2**

Assessment criteria	Marks	Marks obtained
Correct elevation	2	
Door	1	
Step	1	
Roof height	2	
Window 1	2	
Window 2	2	
Gable roof with valley	2	
Verge	1	
Eave overhang	1	
Roof ridge	1	
Rainwater pipe	1	
Fascia board	1	
Height of FFL	1	
Height to wall plate	1	
Any FOUR labels	4	
Neatness	2	
<b>TOTAL</b>	<b>25</b>	

**SOUTH ELEVATION**  
SCALE 1:50