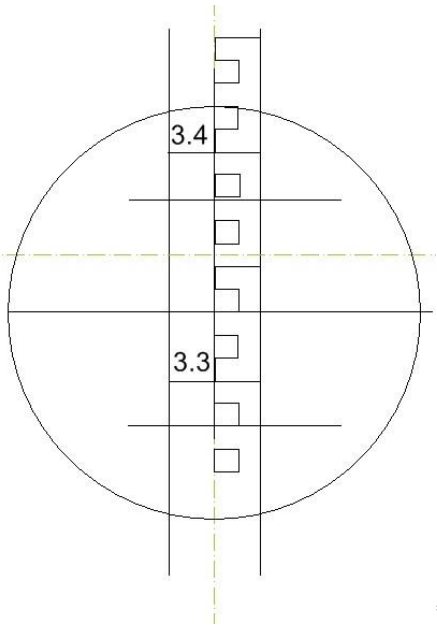
NATIONAL SENIOR CERTIFICATE EXAMINATION
NOVEMBER 2016

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	
TOTAL	**4**	

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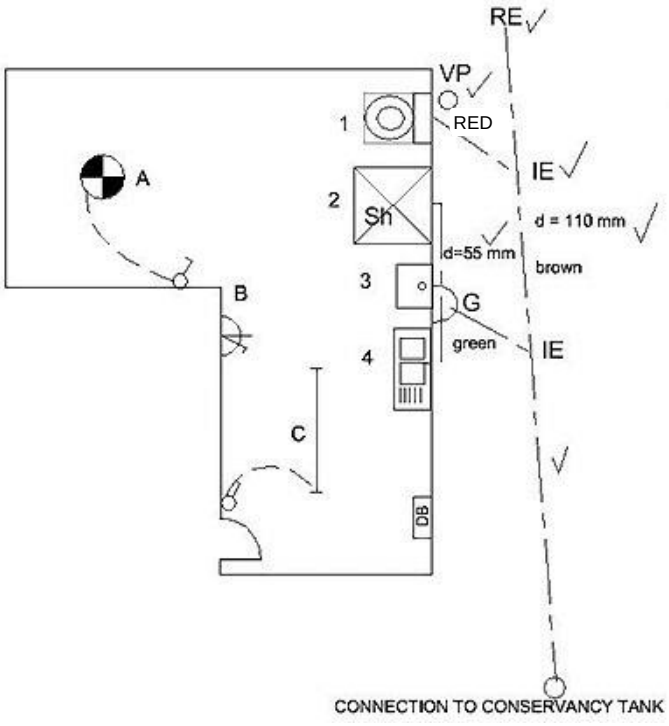
QUESTION 3.2



	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	
	TOTAL	**15**	

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QUESTION 4.4

Quantity Surveying

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

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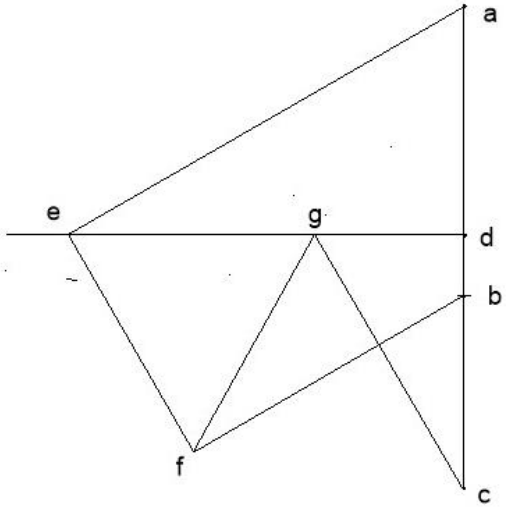
QUESTION 5.2.1 VECTOR DIAGRAM



N.T.S.

*Use a mask to mark vector diagram.

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	
TOTAL		**2**	

***Tolerance of 1 N on either side**

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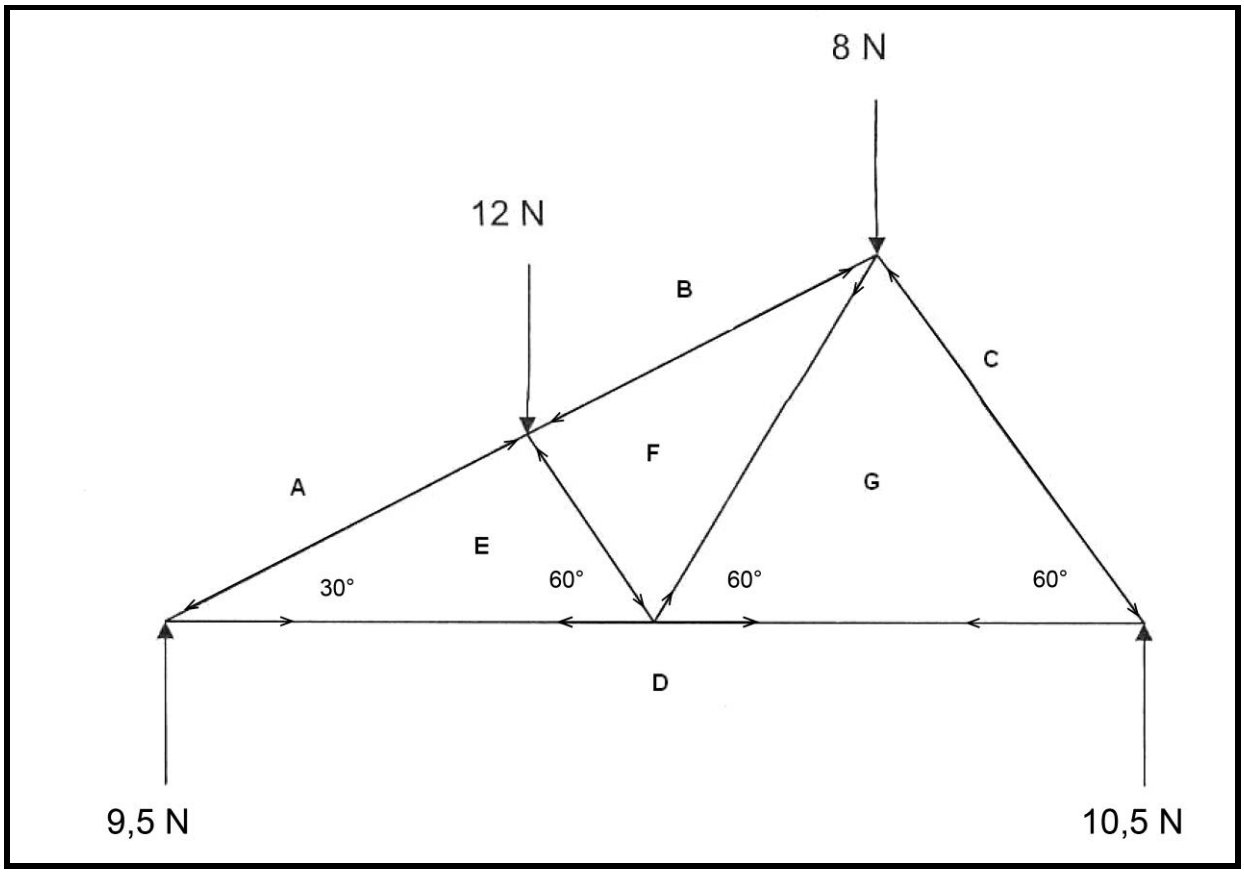
QUESTION 5.2.3

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



QUESTION 6.1

	Question	Answer	Marks	Mark obtained
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 **Any ONE answer**	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	
	TOTAL		**15**	

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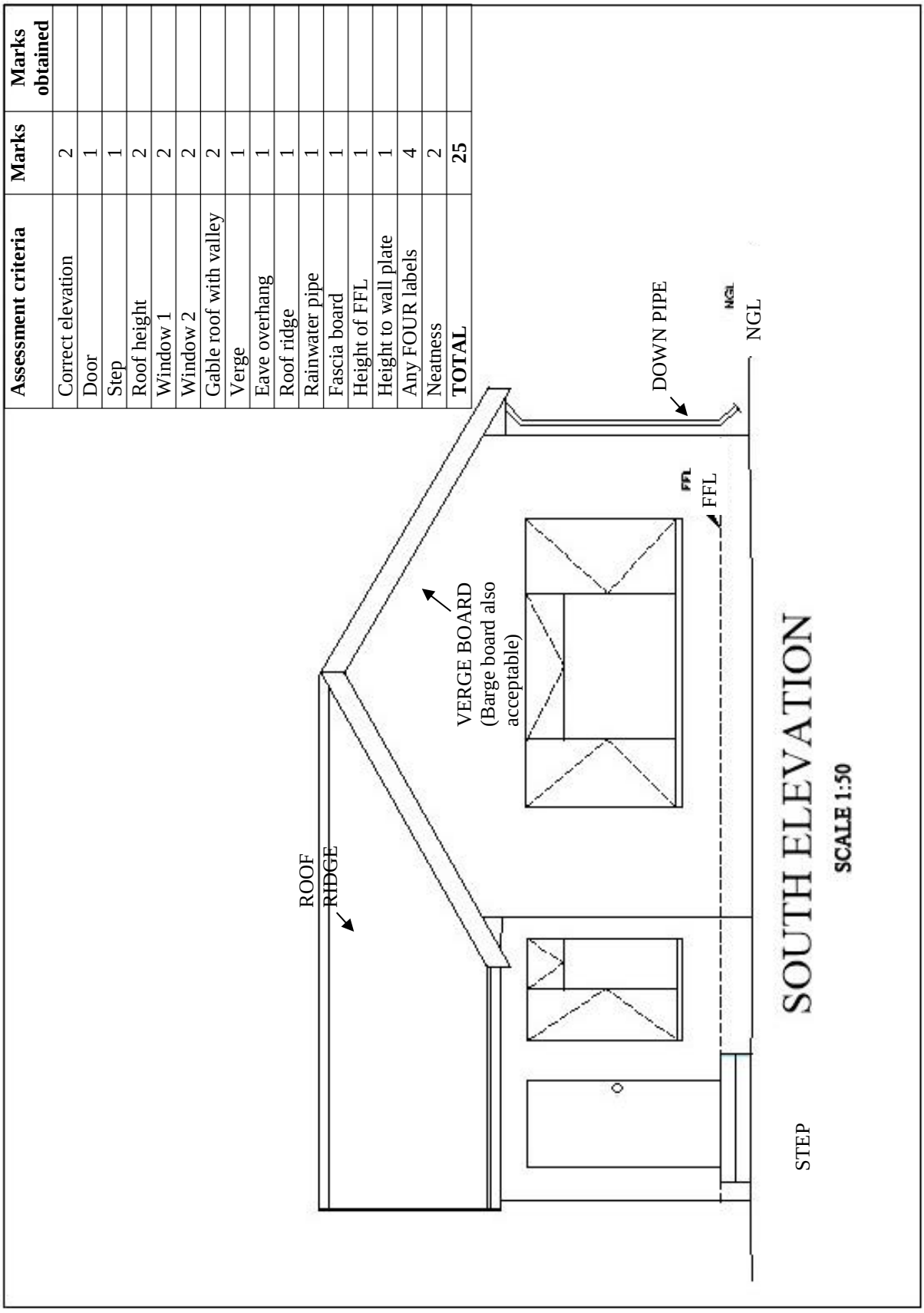
QUESTION 6.2

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	
TOTAL	**25**	



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