basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

SENIOR CERTIFICATE EXAMINATIONS/
NATIONAL SENIOR CERTIFICATE EXAMINATIONS

CIVIL TECHNOLOGY: WOODWORKING

MAY/JUNE 2026

MARKS: 200

TIME: 3 hours

This question paper consists of 17 pages and 10 answer sheets.

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REQUIREMENTS

1. Drawing instruments
2. A non-programmable calculator
3. ANSWER BOOK

INSTRUCTIONS AND INFORMATION

1. This question paper consists of SIX questions.
2. Answer ALL the questions.
3. Read ALL the questions carefully.
4. Answer each question as a whole. Do NOT separate subsections of questions.
5. Number the answers correctly according to the numbering system used in this question paper.
6. Start the answer to EACH question on a NEW page.
7. Do NOT write in the margins of the ANSWER BOOK.
8. You may use sketches to illustrate your answers.
9. Write ALL calculations and answers in the ANSWER BOOK or on the attached ANSWER SHEETS.
10. Use the mark allocation as a guide to the length of your answers.
11. Make drawings and sketches in pencil, fully dimensioned and neatly finished off with descriptive titles and notes to conform to the *SANS/SABS Code of Practice for Building Drawings.*
12. For the purpose of this question paper, the size of a brick should be taken as 220 mm x 110 mm x 75 mm.
13. Use your own discretion where dimensions and/or details have been omitted.
14. Answer QUESTIONS 2, 3.1, 3.2, 3.3, 3.4, 4.6, 5.5, 5.6, 6.5 and 6.6 on the attached ANSWER SHEETS using drawing instruments, where necessary.
15. Write your CENTRE NUMBER and EXAMINATION NUMBER on every ANSWER SHEET and hand them in with your ANSWER BOOK, whether you have used them or not.
16. Drawings in the question paper are NOT to scale due to electronic transfer.
17. Google Images were used as the source of all photographs and pictures.
18. Write neatly and legibly.

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QUESTION 1: OHSA, MATERIALS, TOOLS, EQUIPMENT AND JOINING (GENERIC)

Start this question on a NEW page.

1.1 Choose the correct word(s) from those given in brackets. Write only the word(s) next to the question numbers (1.1.1 to 1.1.10) in the ANSWER BOOK, e.g. 1.1.11 Concrete.

1.1.1 Maintenance work on a building hoist should be carried out at least (once a year/twice a year). (1)

1.1.2 A trestle scaffold should not be used if it exceeds a height of (3 m/2 m). (1)

1.1.3 (Guard rails/Toe boards) must be installed at least 900 mm above the scaffold platform. (1)

1.1.4 A scaffold should be inspected (during bad weather/after bad weather) for it to be used. (1)

1.1.5 The working platform for suspended scaffolds should not exceed (1,6 m/1,8 m) in width. (1)

1.1.6 When working on elevated areas, waste material must be disposed of by (throwing it from a window/using a conveyor belt). (1)

1.1.7 Scaffold frameworks should be inspected at least (once a month/ once a week). (1)

1.1.8 A ladder must be fitted with (non-skid devices/hooks) at the bottom ends of the stiles. (1)

1.1.9 Doors and gates opening directly onto a stairway must have a platform that extends at least (510 mm/375 mm). (1)

1.1.10 The (head/crank) is NOT a part of a bolt. (1)

1.2 Which view below represents the top view of a hex flange?



A **B** **C** **D** (1)

1.3 Rawl bolts are purchased according to specifications. Name any TWO of these specifications. (2)

1.4 As a contractor, you are busy with the final finishes to a bathroom. You have to paint the ceiling.

1.4.1 Name TWO categories of paint. (2)

1.4.2 Explain TWO reasons for painting the ceiling. (2)

1.5 Predict the consequence if the laser level is NOT correctly set up on its tripod. (1)

1.6 Describe what must be done after a laser level was accidently dropped to ensure its accuracy. (1)

1.7 Describe how you will take care of the telescope after using the dumpy level. (1)
[20]

QUESTION 2: GRAPHICS AS MEANS OF COMMUNICATION (GENERIC)

Start this question on a NEW page.

FIGURE A and FIGURE B on the next page show drawings that appear on a building plan. Analyse the drawings and complete the table on ANSWER SHEET 2.

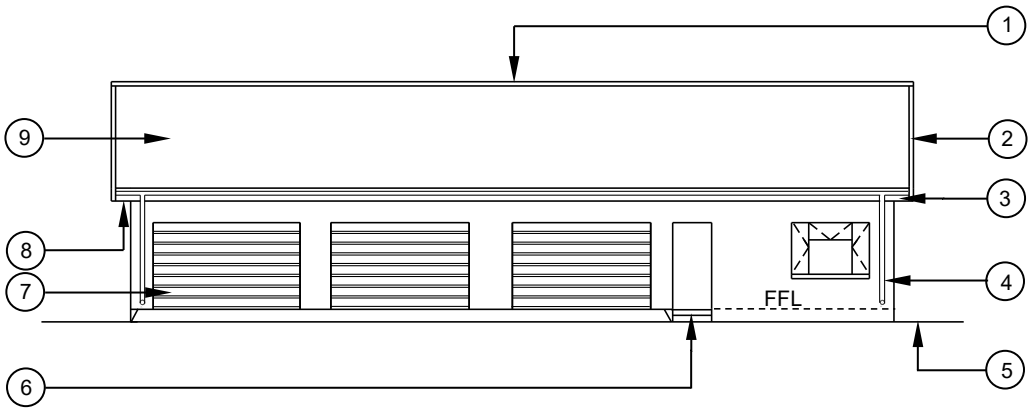


FIGURE A

NOTES:
Contractors must verify all dimensions and levels on site before commencing work.

Architects to be notified of any discrepancies immediately.

Aluminium gutters and downpipes must be fitted to the dwelling.

Roof: Gable roof

Fibre cement window sills must be installed below every window.

Architect's signature …….

Client's signature ……..

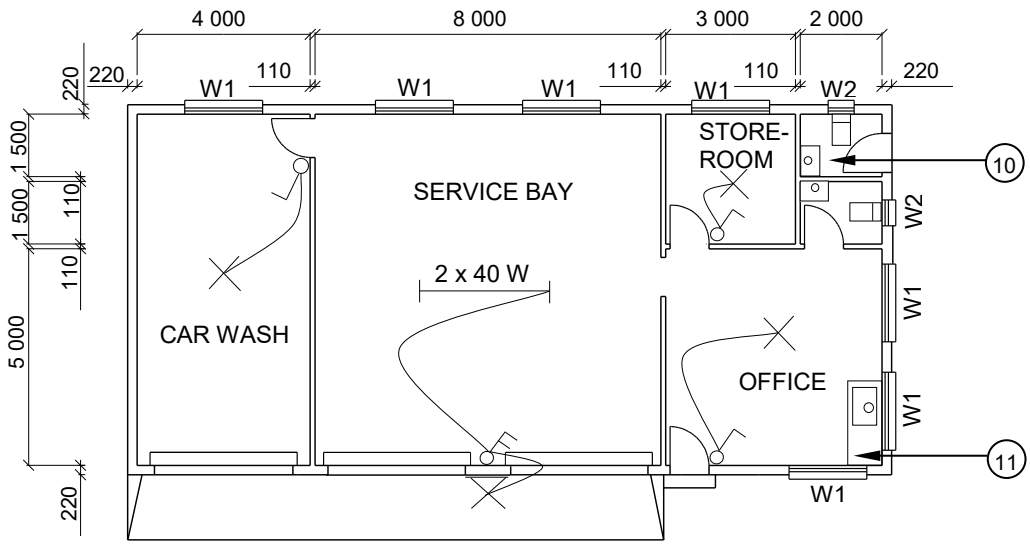
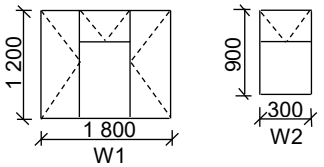


FIGURE B

REVISION 1	DATE: 14/04/2026	DRAWING OF ELECTRICAL WALL PLUGS
PRINTED BY: AFRIQ PRINTERS	DATE OF PRINT: 20/04/2026	
DRAWING TITLE: ELEVATION AND FLOOR PLAN		
PROJECT: PROPOSED DWELLING OF MS DALI ON PLOT 27, MALVA STREET, UMLASI		
PROJECT NO.: GR 288-444	DRAWING NO.: 886P2	
DATE: 12/04/2026	DRAWN: DP FOX	CHECKED: G PHIRI
ELEVATION	SCALE 1 : 100	
FLOOR PLAN	SCALE 1 : 100	
REFERENCE CODE: QP 6 – 2026		

WINDOW SCHEDULE



[40]

QUESTION 3: CUPBOARDS, CASEMENTS, WALL-PANELLING AND QUANTITIES (SPECIFIC)

Start this question on a NEW page.

3.1 FIGURE 3.1 below shows the front elevation of a free-standing cupboard with a door, a drawer and open shelves. The backing of the cupboard is made of 16 mm melamine board that is nailed onto the back of the cupboard.

Use ANSWER SHEET 3.1 to project and draw from the given view a sectional view on cutting plane **D-D**.

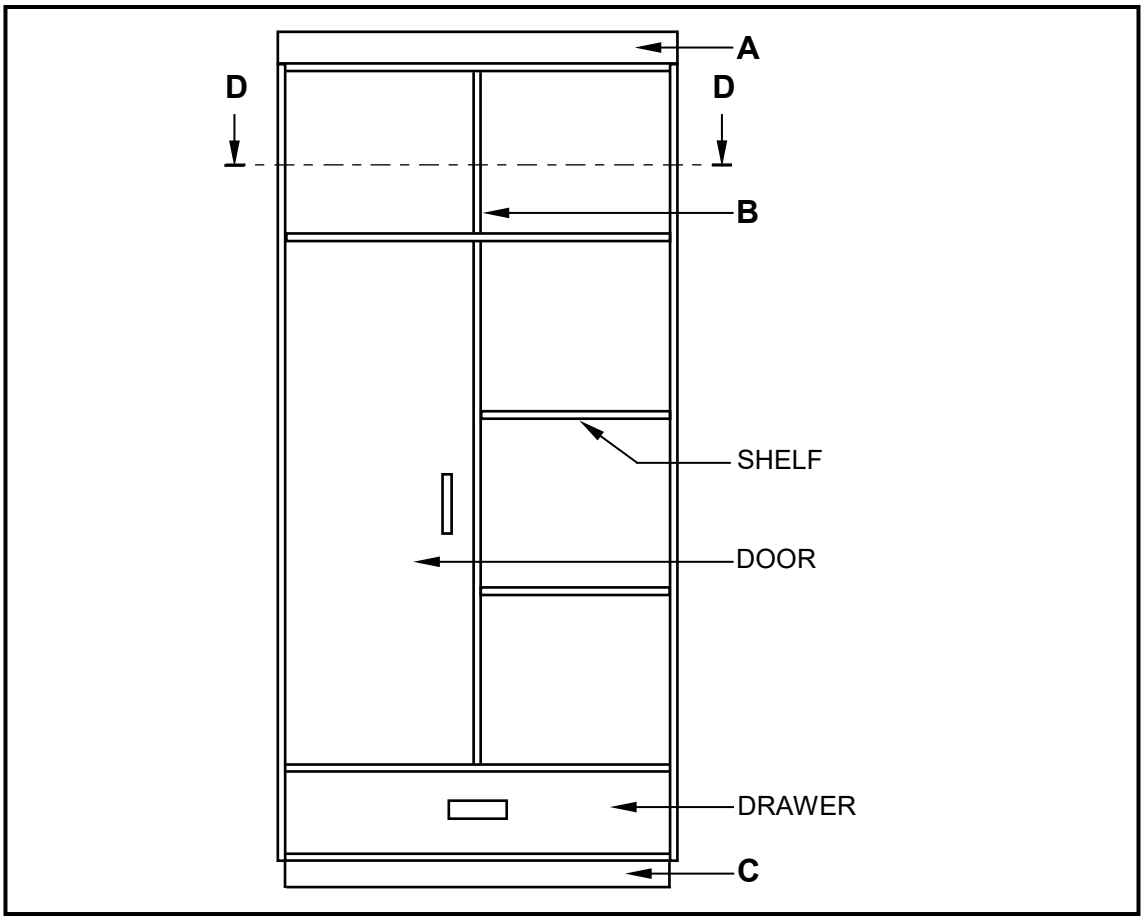


FIGURE 3.1 (6)

3.2 ANSWER SHEET 3.2 shows the bottom part of the vertical sectional view of a transom for a double casement window with a fanlight.

Use the given information on ANSWER SHEET 3.2 and draw ONLY the top rail of the casement showing a lip and the rail that is partially rebated into the transom. (7)

3.3 FIGURE 3.3 below shows the floor plan of a storeroom with a gable roof.

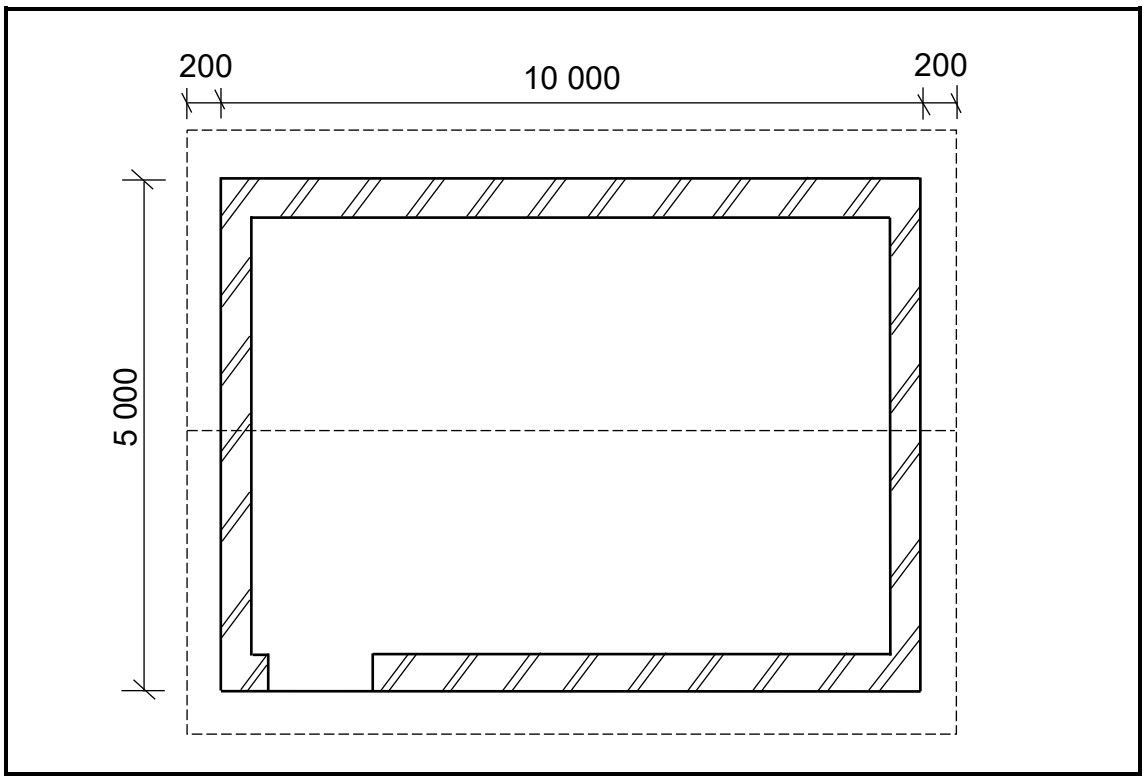


FIGURE 3.3

Use the following specifications:

- The overhang at the gable ends are 200 mm.
- The length of one ridge capping is 1 500 mm.
- The length of one corrugated iron sheet is 3 600 mm.

Use ANSWER SHEET 3.3 and calculate the following. Round off your final answer to TWO decimal places.

3.3.1 The total number of ridge cappings needed (4)

3.3.2 The total area of roof covering needed (4)

NOTE: A mark will be awarded for the correct use of the dimension paper. (1)

3.4 ANSWER SHEET 3.4 shows an incomplete front view of the bottom part of wall panelling and a sectional view of a brick wall and concrete floor.

Use ANSWER SHEET 3.4 to project and draw the sectional view on **A-A**. (8)
[30]

QUESTION 4: ROOFS, CEILINGS, TOOLS, EQUIPMENT AND MATERIALS (SPECIFIC)

Start this question on a NEW page.

4.1 Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question numbers (4.1.1 to 4.1.6) in the ANSWER BOOK, e.g. 4.1.7 D.

4.1.1 … has the disadvantage of being vulnerable to fire.

A Corrugated iron sheeting
B Concrete roof tiles
C Thatch roofs
D All of the above-mentioned (1)

4.1.2 Which material is used as an underlay for tiled roofs?

A Aluminium foil
B Polypropylene membrane
C Damp-proof course
D Metal waterproofing (1)

4.1.3 Birds are prevented from nesting in the roof space by means of …

A open eaves.
B jack rafters.
C closed eaves.
D None of the above-mentioned (1)

4.1.4 … roofs have no posts, struts or ridge beams and consist only of rafters.

A King post
B Collar-tie
C Lean-to
D Close-coupled (1)

4.1.5 A … roof slopes downward in two parts at an angle from the ridge.

A hipped
B flat
C valley
D gable (1)

4.1.6 Purlins are fixed to roof trusses by …

A hurricane clips.
B storm clips.
C gang nails.
D truss hangers. (1)

4.2 FIGURE 4.2 below shows different woodworking machines.

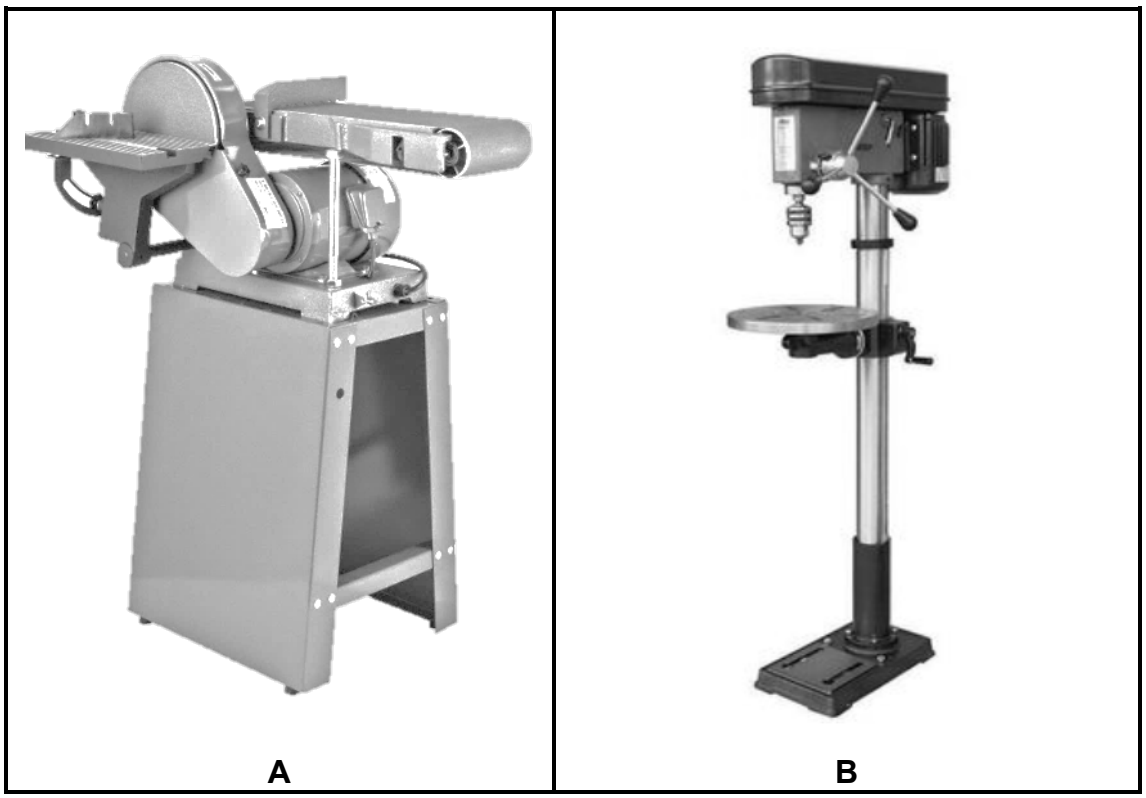


FIGURE 4.2

4.2.1 Identify machines **A** and **B**. (2)

4.2.2 Describe why it is advisable to mount machine **B** to the floor. (2)

4.2.3 Describe the consequence of forcing the wood against the abrasive material when using machine **A**. (2)

4.2.4 Explain why you should wear safety goggles when operating machine **A**. (1)

4.3 FIGURE 4.3 below shows a piece of graded timber that will be used for skirtings.

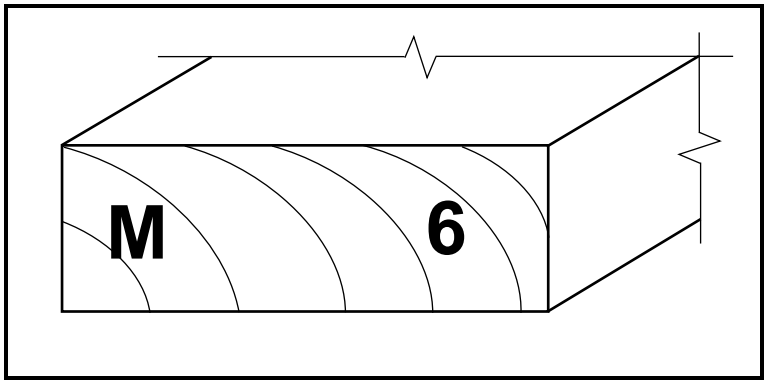


FIGURE 4.3

4.3.1 Name the method of grading that is used. (1)

4.3.2 Discuss TWO advantages of this grading method. (2)

4.3.3 State TWO factors that should be considered when selecting timber for skirtings. (2)

4.3.4 Explain why you would prefer *lacquer* rather than *varnish* to preserve timber. (1)

4.4 FIGURE 4.4 below shows an incomplete sectional elevation of the foot of a roof construction with open eaves.

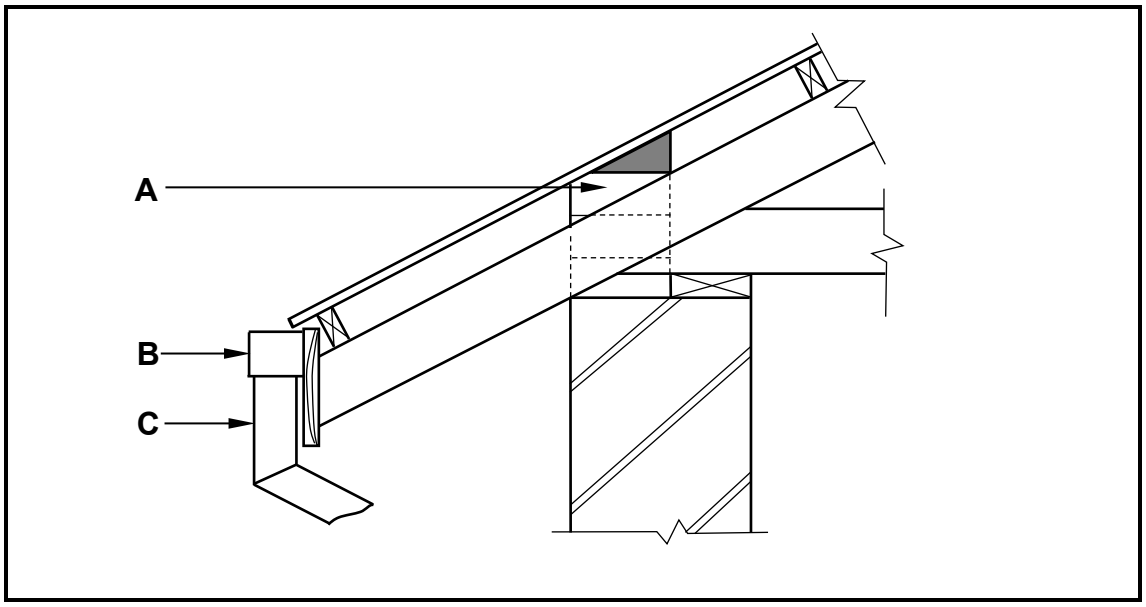


FIGURE 4.4

4.4.1 Identify parts **A**, **B** and **C**. (3)

4.4.2 State TWO disadvantages of open eaves. (2)

4.5 Complete the following sentences by filling in the missing word(s). Write only the word(s) next to the question numbers (4.5.1 to 4.5.5) in the ANSWER BOOK.

4.5.1 … frames for trapdoors are lightweight and provide a more aesthetic finish. (1)

4.5.2 Conventional trapdoors open to the … of the roof. (1)

4.5.3 … is used to support a fixed ceiling and is secured directly to the underside of the tie beam. (1)

4.5.4 … can be used as an alternative for timber cover strips. (1)

4.5.5 The … of a trapdoor can be made from gypsum ceiling board, block board, fibre cement or metal. (1)

4.6 Use ANSWER SHEET 4.6 and draw, to scale 1 **:** 20, a close-coupled roof truss on the two external walls and wall plates provided.

Use the following specifications:

- The roof truss should fit onto the two walls and wall plates provided on the answer sheet.
- The overhang is 300 mm.
- The pitch of the roof is 30°.
- The timber used for the truss is 114 x 38 mm and 228 x 28 mm. (11)

[40]

QUESTION 5: CENTERING, FORMWORK, SHORING AND GRAPHICS AS MEANS OF COMMUNICATION (SPECIFIC)

Start this question on a NEW page.

5.1 FIGURE 5.1 below shows a part of a dead shore.

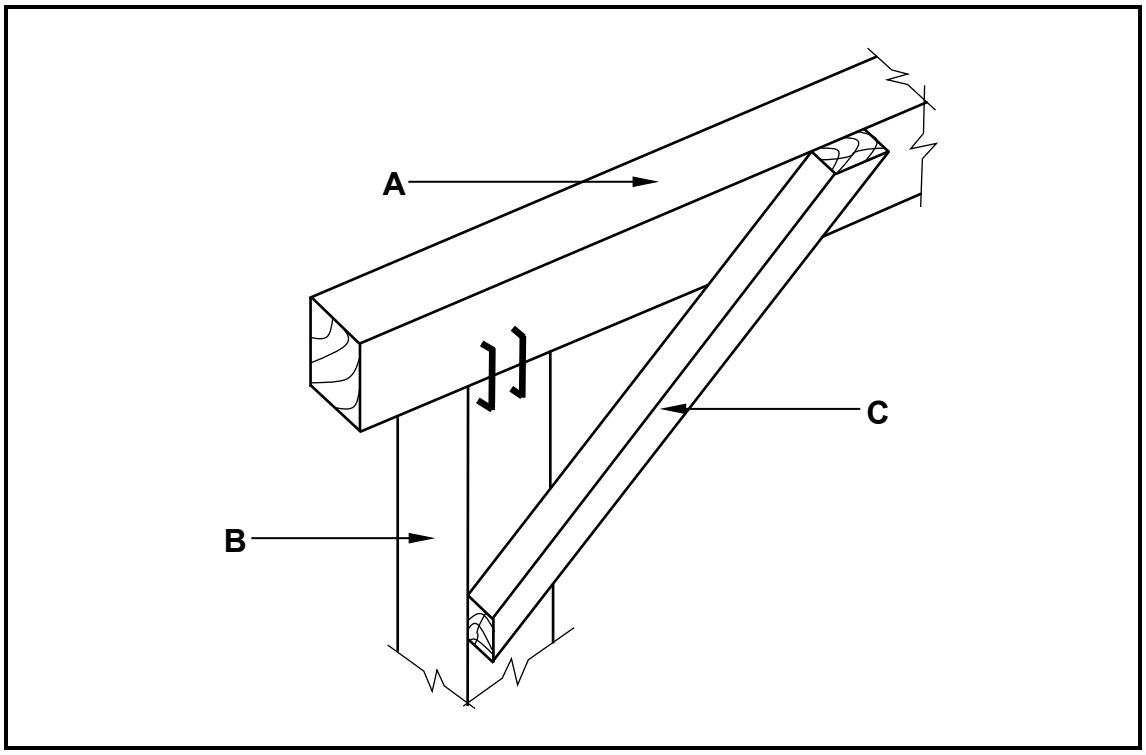


FIGURE 5.1

5.1.1 Identify parts **B** and **C**. (2)

5.1.2 Explain the function of part **A**. (1)

5.1.3 What is the joining fixture called that is used to secure the joint between **A** and **B**? (1)

5.2 FIGURE 5.2 below shows the line diagram of a roof truss.

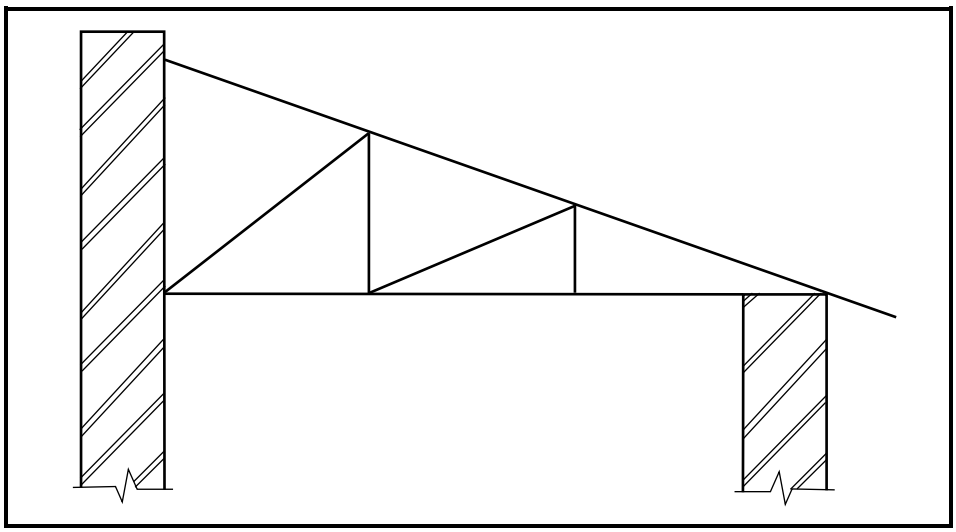


FIGURE 5.2

5.2.1 Identify the roof truss. (1)

5.2.2 What is the maximum span of this type of roof truss? (1)

5.3 FIGURE 5.3 below shows a braced square column.

Explain why the distance between the yokes will decrease towards the bottom of the formwork for the square column.

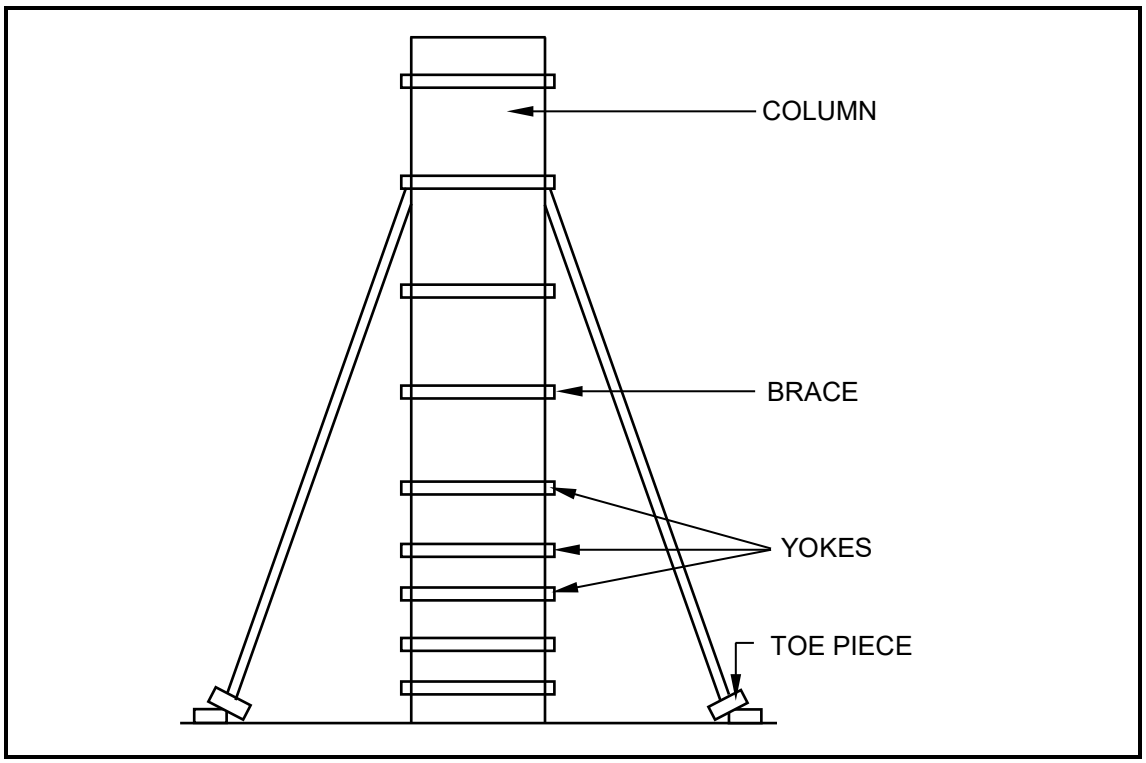


FIGURE 5.3 (2)

5.4 Give ONE word/term for each of the following descriptions by choosing a word/term provided in the list below. Write only the word/term next to the question numbers (5.4.1 to 5.4.5) in the ANSWER BOOK, e.g. 5.4.6 Landing.

formwork; cleat; folding wedges; wall string; sole plate; intermediate support; riser; releasing oil; support piece; fish plate

5.4.1 Applied to the inside of formwork panels to ease the striking of the formwork (1)

5.4.2 Provides a level, solid and firm surface to prevent a prop from sagging (1)

5.4.3 Makes provision for raising and lowering the formwork to the required height (1)

5.4.4 A temporary mould into which wet concrete is cast and compacted to achieve a required shape (1)

5.4.5 Used to fix the head of a prop to a bearer (1)

5.5 ANSWER SHEET 5.5 shows an incomplete sectional top view of half of the formwork for a square column. The concrete column and the shuttering board sides are shown.

Use ANSWER SHEET 5.5 to complete the bottom half of the formwork in good proportion. Show ALL the omitted parts. (10)

5.6 ANSWER SHEET 5.6 shows half of an incomplete front elevation of the centering for a semicircular arch that must be fitted with open laggings.

Use ANSWER SHEET 5.6 to complete the drawing of the centering for the semicircular arch. Show ALL the omitted parts. (7)
[30]

QUESTION 6: SUSPENDED FLOORS, STAIRCASES, IRONMONGERY, DOORS AND JOINING (SPECIFIC)

Start this question on a NEW page.

6.1 Choose a description from COLUMN B that matches the item in COLUMN A. Write only the letter (A–H) next to the question numbers (6.1.1 to 6.1.6) in the ANSWER BOOK, e.g. 6.1.7 J.

COLUMN A		COLUMN B	
6.1.1	Screws	A	used on roof tiles for the replacement of broken tiles
6.1.2	Roof tiles	B	secured onto the wall by means of bolts that are embedded in the wall
6.1.3	Gang-nails	C	used to join components of a truss
6.1.4	Wall plate	D	must be fastened with nails after every third row
6.1.5	Roof hooks	E	used to join purlins to rafters
6.1.6	Hurricane clips	F	a roof covering that is cool in summer and moderate in winter
		G	used to secure a hinge to a door and a frame
		H	used to join members of a roof truss at 45° and 90° angles

(6 x 1) (6)

6.2 FIGURE 6.2 below Illustrates two different types of locks.

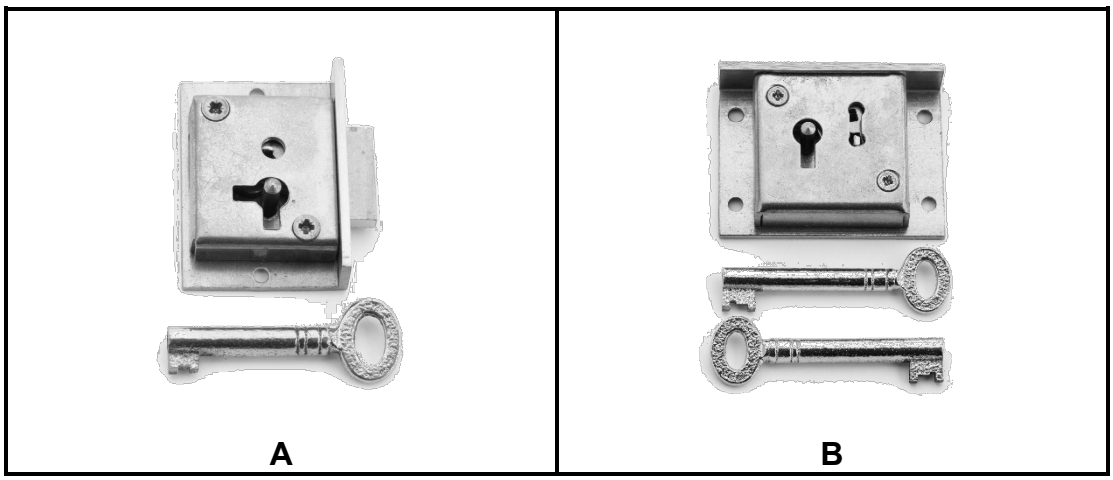


FIGURE 6.2

6.2.1 Identify locks **A** and **B**. (2)

6.2.2 Distinguish between lock **A** and lock **B** in terms of their use. (2)

6.2.3 Differentiate between a *rimlock* and a *mortise lock* in terms of the use of the lock. (2)

6.3 FIGURE 6.3 below shows a portion of the sectional view of a brick wall with a jamb lining.

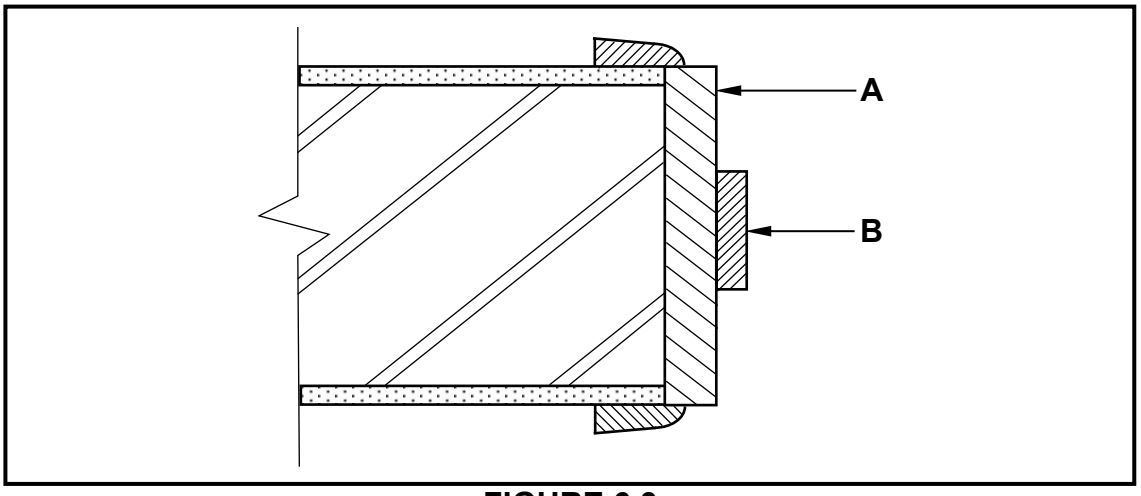


FIGURE 6.3

Identify parts **A** and **B**. (2)

6.4 Differentiate between a *straight flight of stairs with a landing in the middle* and a *stairwell with a half-landing* by means of TWO sketches of the top view of these stairs in your ANSWER BOOK.

Use the following specifications:

- Show THREE steps before and THREE steps after the landing in EACH drawing.
- Print the title below EACH drawing. (8)

6.5 FIGURE 6.5 below shows part of the top view of a ground level suspended timber floor with section line **A-A**.

Use ANSWER SHEET 6.5 and complete the drawing of the vertical section on **A-A**. Show ALL omitted members, excluding the skirting and quarter rounds.

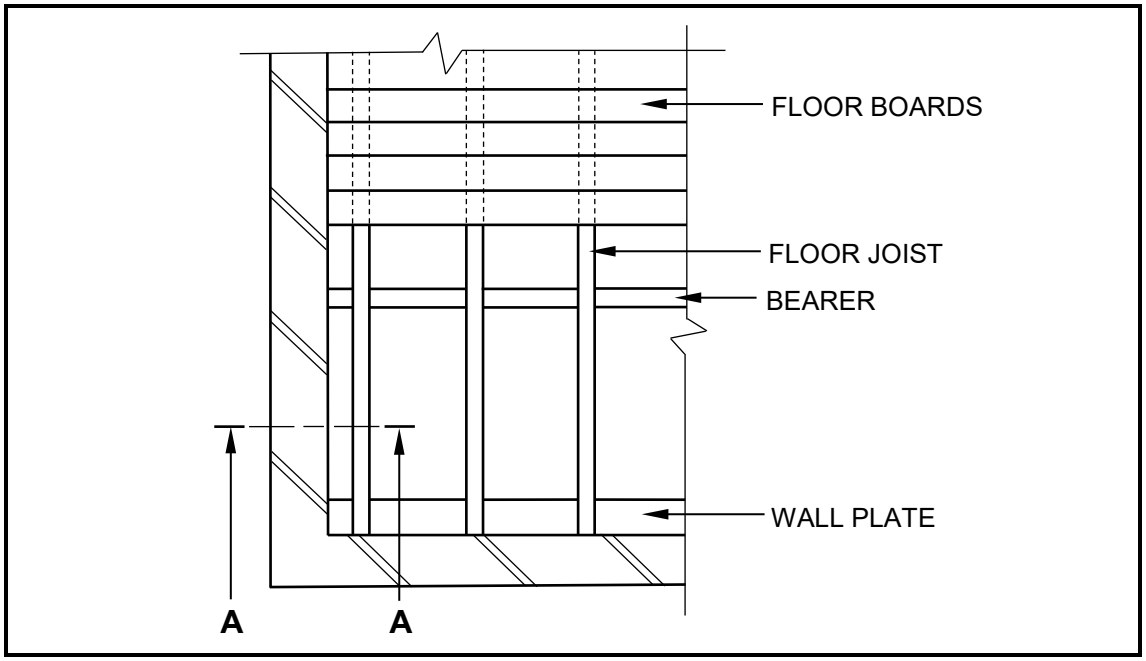


FIGURE 6.5 (8)

6.6 FIGURE 6.6 on ANSWER SHEET 6.6 shows the exploded isometric view of a rail with a haunched tenon and the incomplete stile.

Use ANSWER SHEET 6.6 to project and draw the hidden detail of the mortice in the stile. Use the tenon as reference. (10)
[40]

TOTAL: 200

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ANSWER SHEET 2

NO.	QUESTIONS	ANSWERS	MARKS
1.	What elevation is indicated in FIGURE **A**?		1
2.	Identify number **1**.		1
3.	Identify number **2**.		1
4.	Identify number **3**.		1
5.	What does the abbreviation FFL in FIGURE **A** represent?		1
6.	Write down the abbreviation for number **5**.		1
7.	Identify number **6**.		1
8.	Identify number **7** and indicate the total number of this fixture that is installed in the building.		2
9.	What is the distance between the wall and the end of the roof as indicated by number **8** called?		1
10.	Explain the purpose of number **9**.		1
11.	How many one-way double-pole switches are in the dwelling?		1
12.	How many water closets are installed in the building?		1
13.	Name TWO electrical installations that are omitted at number **10**.		2
14.	Identify number **11**.		1
15.	Deduce, from the notes column, the type of roof illustrated in FIGURE **A**.		1

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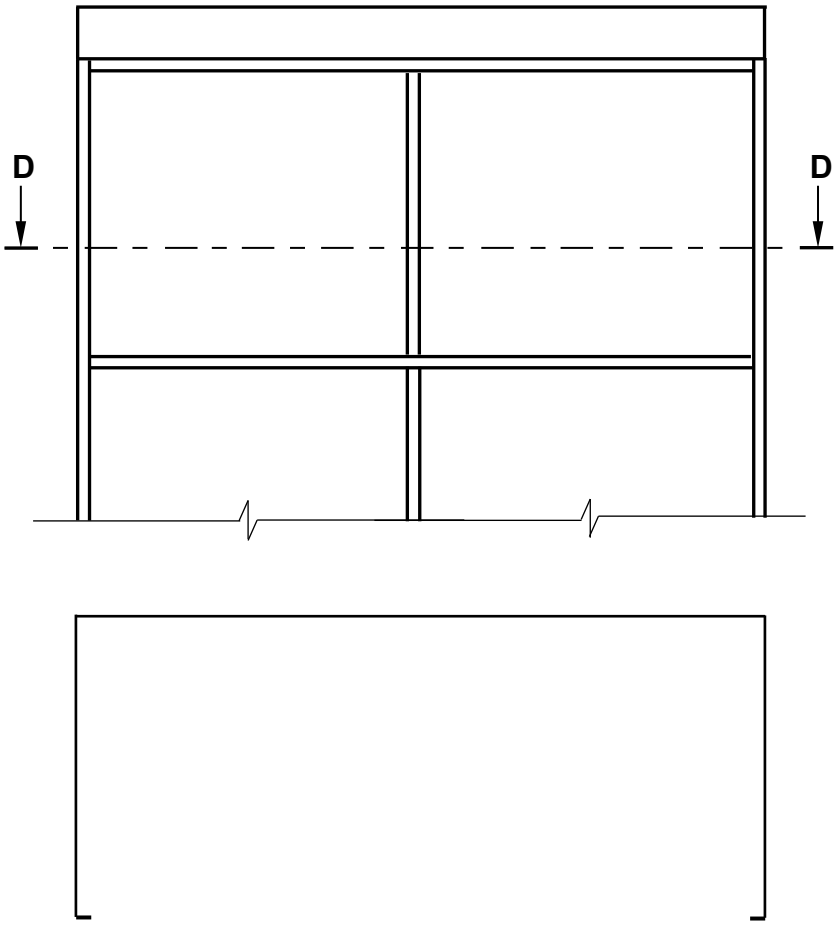
16.	Deduce, from the notes column, what must be installed below each window.		1
17.	From what type of material should number **4** be manufactured?		1
18.	Deduce, from the notes column, the dimensions of window **1**.		2
19.	On which plot will the new dwelling be erected?		1
20.	Draw the symbol for plaster.		2
21.	Draw the symbol for earth fill.		3
22.	Calculate the floor area of the bathrooms that needs to be tiled. Give your answer in square metres and show ALL calculations.		5
23.	Calculate the total length of the wall on the western side of the building. Give your answer in metres and show ALL calculations.		8
		TOTAL:	**40**

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ANSWER SHEET 3.1



CUTTING PLANE D-D

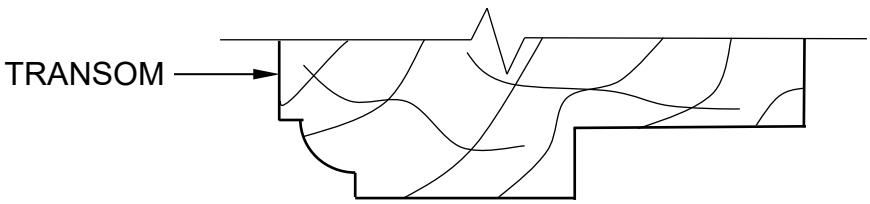
ASSESSMENT CRITERIA		
NO.	**MARK**	**CANDIDATE'S MARK**
1	1	
2	1	
3	1	
4	2	
5	1	
TOTAL:	**6**	

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ANSWER SHEET 3.2



ASSESSMENT CRITERIA		
NO.	**MARK**	**CANDIDATE'S MARK**
1	2	
2	1	
3	1	
4	1	
5	1	
6	1	
TOTAL:	**7**	

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EXAMINATION NUMBER:													

ANSWER SHEET 3.3

DIMENSION PAPER

3.3.1

A	**B**	**C**	**D**
			Number of ridge cappings needed:

(4)

3.3.2

A	**B**	**C**	**D**
			Area of roof covering needed:
			Correct use of dimension paper

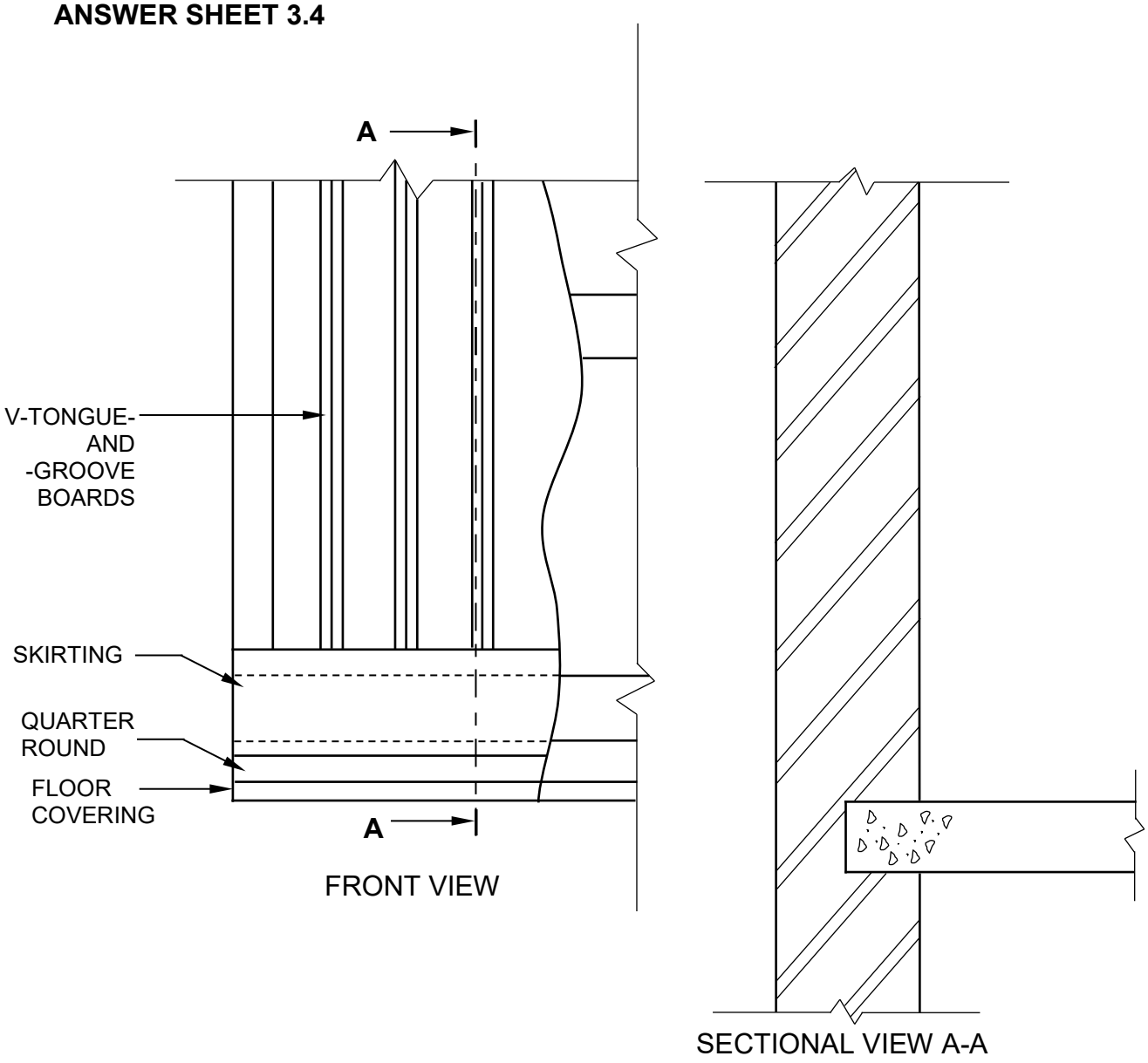
(4)
(1)

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ANSWER SHEET 3.4



ASSESSMENT CRITERIA		
NO.	**MARK**	**CANDIDATE'S MARK**
1	1	
2	1	
3	2	
4	1	
5	1	
6	1	
7	1	
TOTAL:	**8**	

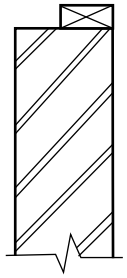
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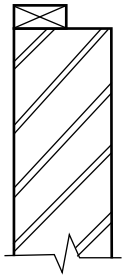
CENTRE NUMBER:							

EXAMINATION NUMBER:													

ANSWER SHEET 4.6

ASSESSMENT CRITERIA		
NO.	**MARK**	**CANDIDATE'S MARK**
1	1	
2	4	
3	1	
4	2	
5	1	
6	2	
TOTAL:	**11**	



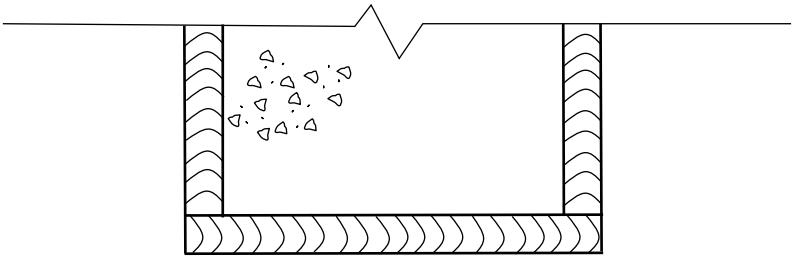


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EXAMINATION NUMBER:													

ANSWER SHEET 5.5



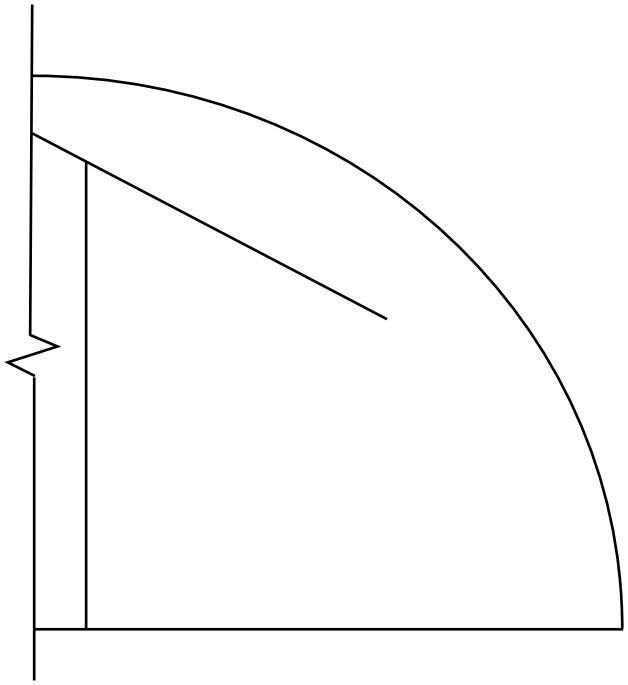
ASSESSMENT CRITERIA		
NO.	**MARK**	**CANDIDATE'S MARK**
1	1	
2	2	
3	3	
4	2	
5	2	
TOTAL:	**10**	

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EXAMINATION NUMBER:													

ANSWER SHEET 5.6



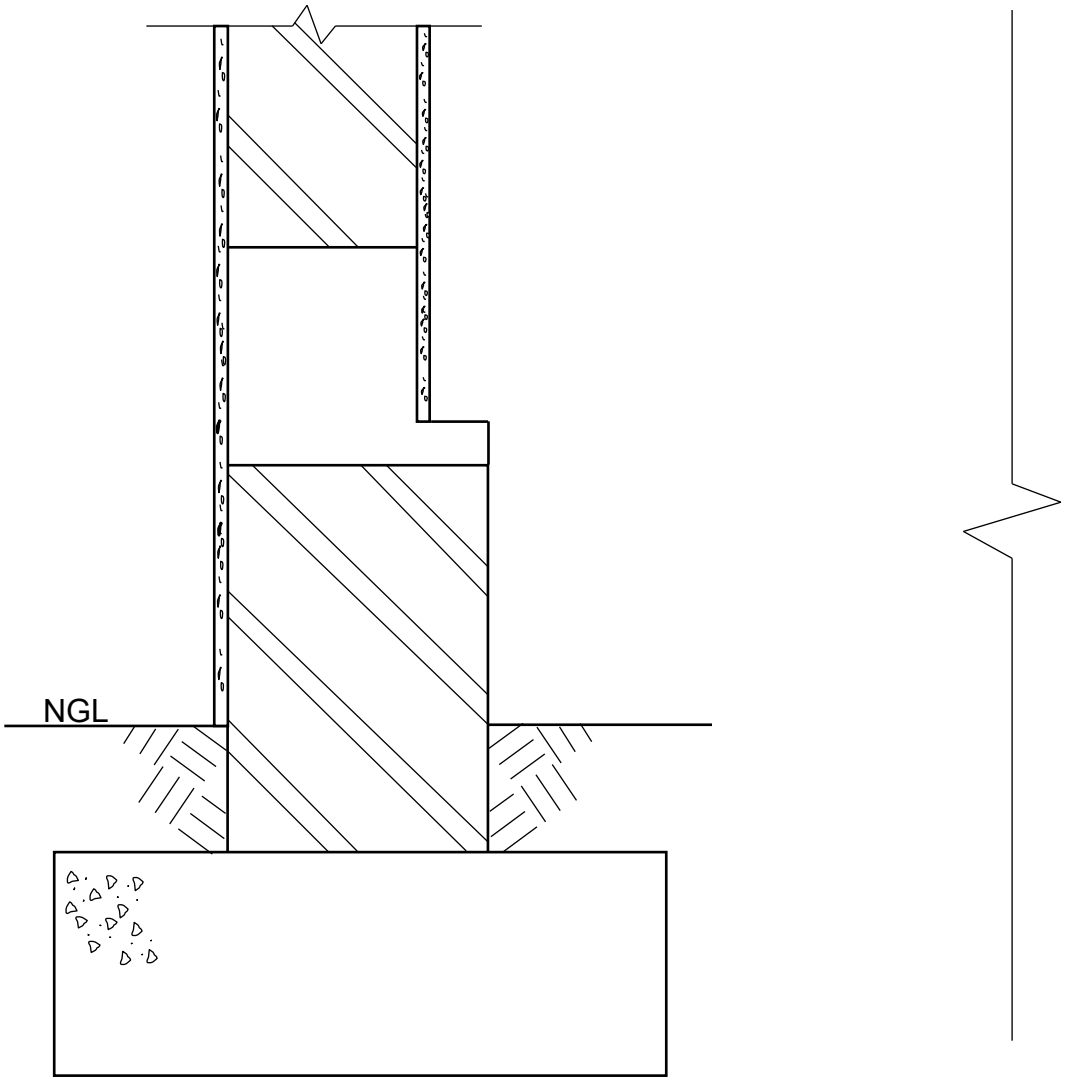
ASSESSMENT CRITERIA		
NO.	**MARK**	**CANDIDATE'S MARK**
1	1	
2	1	
3	1	
4	2	
5	2	
TOTAL:	**7**	

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EXAMINATION NUMBER:													

ANSWER SHEET 6.5



ASSESSMENT CRITERIA		
NO.	**MARK**	**CANDIDATE'S MARK**
1	1	
2	1	
3	1	
4	1	
5	1	
6	1	
7	1	
8	1	
TOTAL:	**8**	

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EXAMINATION NUMBER:													

ANSWER SHEET 6.6

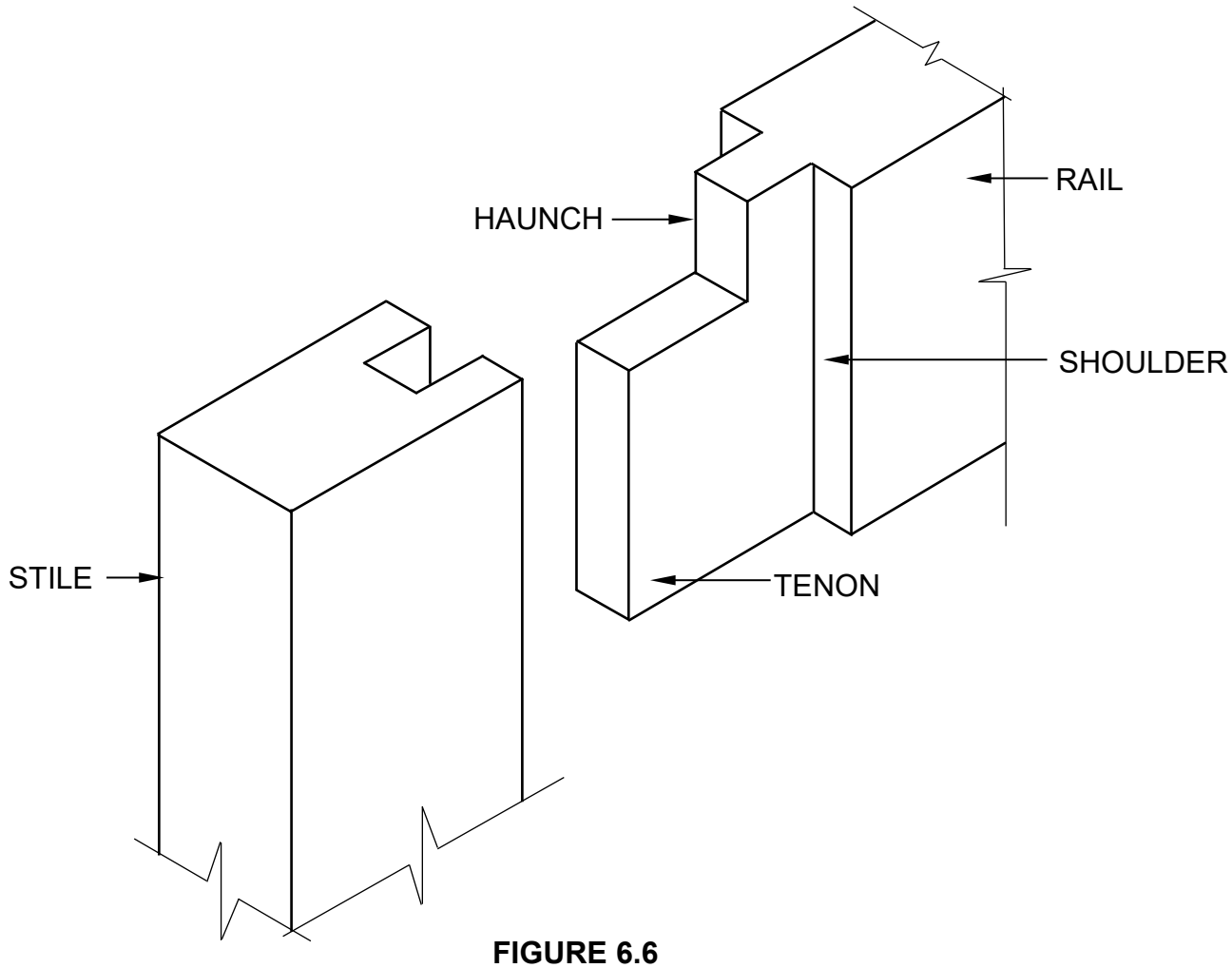


FIGURE 6.6

ASSESSMENT CRITERIA		
NO.	**MARK**	**CANDIDATE'S MARK**
1	1	
2	4	
3	3	
4	2	
TOTAL:	**10**	

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