higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

MASONRY
NQF LEVEL 2

(12020152)

28 November 2023 (Y-paper)
13:00–16:00

This question paper consists of 6 pages.

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DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)
MASONRY
NQF LEVEL 2
TIME: 3 HOURS
MARKS: 100

INSTRUCTIONS AND INFORMATION

1. Answer all the questions.
2. Read all the questions carefully.
3. Number the answers according to the numbering system used in this question paper.
4. Start each section on a new page.
5. Use only a black or blue pen.
6. Write neatly and legibly.

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QUESTION 1: GENERAL

1.1 Indicate whether the following statements are TRUE or FALSE. Choose the answer and write only 'true' or 'false' next to the question number (1.1.1–1.1.5) in the ANSWER BOOK.

1.1.1 A cross-section indicates the height of a wall.

1.1.2 A foundation is the part of a structure that is in contact with the ground.

1.1.3 A bricklayer's trowel is used to scrape flaking paint off walls.

1.1.4 The CMA finds concave joints poor.

1.1.5 A horizontal DPC is always required in free-standing walls.

(5 × 1) (5)

1.2 Complete the following sentences by filling in the missing word or words below. Write only the word or words next to the question number (1.2.1–1.2.5) in the ANSWER BOOK.

control joint; mortar; brick force; wall tie; lintels; springer; sill blocks

1.2.1 … have grooves into which a window frame fits.

1.2.2 A … is the first brick in an arch.

1.2.3 A mixture of sand, cement and water is called … .

1.2.4 According to national standards, … should be left propped for a minimum period of seven days.

1.2.5 … provides a horizontal reinforcement in masonry work to avoid cracking.

(5 × 1) (5)

[10]

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QUESTION 2: INTRODUCTION AND BACKGROUND

2.1 What is the size of a standard brick? (1)

2.2 Define the term *cavity wall*. (1)

2.3 List any THREE types of bonds. (3)

2.4 Draw simple sketches of the following:

2.4.1 Crimp wire

2.4.2 Wall tie

(2 × 2) (4)

[9]

QUESTION 3: SETTING OUT MASONRY WALLS

3.1 Distinguish between a *floor plan* and a *site plan*. (3)

3.2 Bricklayer tools can be divided into four main groups.

3.2.1 List all FOUR of them. (4)

3.2.2 Give at least THREE tools in each of the groups you have mentioned in QUESTION 3.2.1. (4 × 3) (12)

3.3 By means of a neat sketch, illustrate how you will mark a gauge rod if the units have a height of 73 mm and the mortar joints are to be 10 mm thick. (3)

[22]

QUESTION 4: BASIC CONSTRUCTION OF MASONRY WALLS

4.1 Draw alternate plan courses of a one-brick corner built in English bond. Show the courses as A and B below one another. (12)

4.2 What is the difference between *DPC* and *DPM*? (4)

4.3 Explain the guidelines to follow when installing a DPC. (6)

4.4 State two reasons why different types of units should not be randomly mixed. (2)

4.5 Briefly explain the difference between a *single-leaf* and a *double-leaf* wall in a building. (2)

4.6 What is the difference between to *lap* and to *lay*? (2)

[28]

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QUESTION 5: ADVANCED CONSTRUCTION OF MASONRY WALLS

5.1 Choose a description in COLUMN B that matches a word or item in COLUMN A. Write only the letter (A–J) next to the question number (5.1.1–5.1.10) in the ANSWER BOOK.

COLUMN A		COLUMN B	
5.1.1	extrados	A	Carrying out stepped courses towards an intersection or corner
5.1.2	bracing	B	Wall that intersects another wall
5.1.3	control joint	C	Gap between two walls to control movement
5.1.4	raking back	D	Small opening in a wall that allows water to drain out
5.1.5	jamb	E	External face of an arch
5.1.6	easing	F	Lowering a support a little bit once a keystone has been laid
5.1.7	cross wall	G	Horizontal mortar
5.1.8	curing	H	Vertical post of a door or window frame
5.1.9	bed joint	I	Process during which concrete is allowed to gain strength
5.1.10	weep hole	J	Temporal support to keep door or window frames plumb and braced during construction

(10 × 1) (10)

5.2 FIGURE 1 below shows the front view of a partially opened door hinged into a door frame that is built into a wall. Label the parts by writing only the name next to the number (5.2.1–5.2.6) in the ANSWER BOOK.

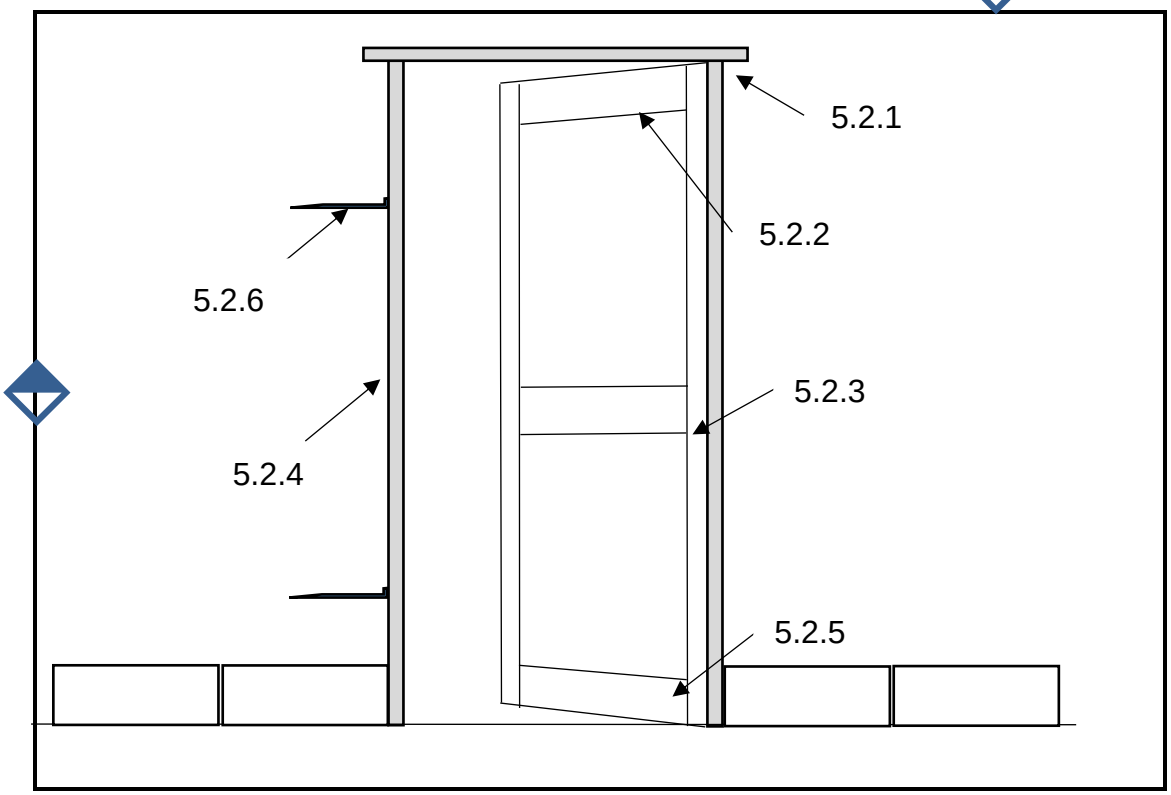

FIGURE 1

(6 × 1) (6)

5.3 Explain the guidelines that SANS 10400 lays down regarding the use of brick force when a building is erected. (6)

5.4 Briefly explain why roof plans are necessary. (2)

5.5 Show by means of a sketch how you would support an arch. (5)

5.6 Name TWO kinds of lintels. (2)

[31]

TOTAL: 100

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