higher education & training

Department:
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REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

MASONRY
NQF LEVEL 2

(12020152)

22 November 2024 (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. Write neatly and legibly.

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QUESTION 1: GENERAL

Indicate whether the following statements are TRUE or FALSE by writing only 'True' or 'False' next to the question number (1.1–1.10) in the ANSWER BOOK.

1.1 DPM is a type of dark, grey stone that splits easily into flat layers.

1.2 A bolster chisel is used to cut bricks.

1.3 We use a sponge to neaten the mortar joints between two masonry units.

1.4 When return corners are reinforced with steel rods, they must be bent at an angle of 90°.

1.5 The foundation is a part of the structure that is in direct contact with the ground.

1.6 Sill blocks have grooves into which the window frame fits.

1.7 The key brick is the first brick in an arch.

1.8 A mixture of sand, cement and water is called weak concrete.

1.9 According to national standards, lintels should be left propped for a minimum period of 24 hours.

1.10 Brickforce provides a horizontal reinforcement in masonry work to control cracking.

(10 × 1) **[10]**

QUESTION 2: INTRODUCTION AND BACKGROUND

2.1 Draw, in good proportion, TWO masonry units to show the difference between *solid units* and *hollow units*. (2 × 2) (4)

2.2 Define a *collar-jointed wall*. (1)

2.3 List THREE types of bonds. (3)

[8]

QUESTION 3: SETTING OUT MASONRY WALLS

3.1 Name the tools that a mason uses to cut bricks. (4)

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3.2 Setting out is an important part of the construction process.

3.2.1 What steps should be completed before setting out can be done or carried out on site? (2)

3.2.2 For setting out to be done properly, a builder needs working drawings.

List the drawings and details that the builder requires from the working drawings to do the setting out. (5)

3.3 Distinguish between a *corner profile* and a *setting-out profile*. (6)

3.4 How would you check if a foundation footing is truly horizontal? (5)

[22]

QUESTION 4: BASIC CONSTRUCTION OF MASONRY WALLS

4.1 FIGURE 1 below shows an isometric view of a wall built in English bond. Label the different parts by writing only the word/term next to the question number (4.1.1–4.1.5) in the ANSWER BOOK.

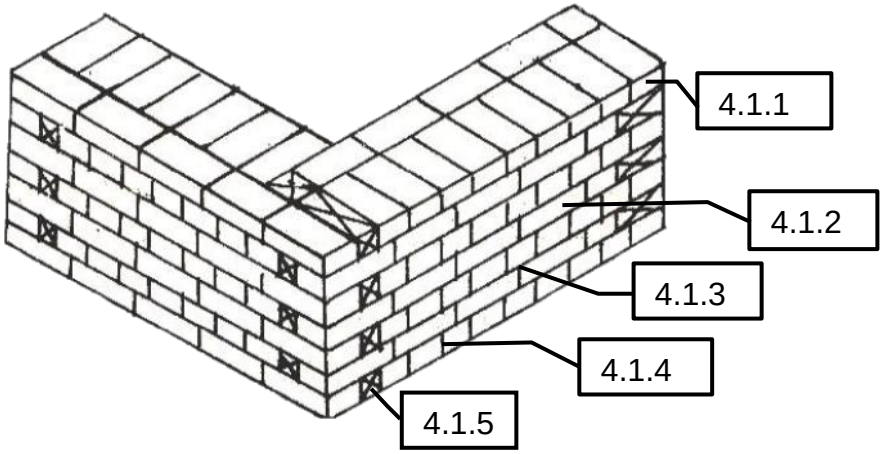

FIGURE 1

(5 × 2) (10)

4.2 Name the FOUR types of materials that can be used for damp proofing. (4)

4.3 The installation of D.P.C in lintels in a cavity wall is important.

What steps should be followed to make sure that it is properly installed? (3)

4.4 Mention FOUR exclusive circumstances under which clay and concrete units may be used in the same wall. (4)

4.5 List SIX types of bed joints. (6)

[27]

QUESTION 5: ADVANCED CONSTRUCTION OF MASONRY WALLS

5.1 Choose a description from COLUMN B that matches a term/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	Lintel	A	Carrying out of stepped-like courses towards an intersection or corner
5.1.2	Weep holes	B	A piece of wood or stone over a door or window that forms part of the frame
5.1.3	Control joint	C	A gap between two walls used to control movements
5.1.4	Raking back	D	Checking the vertical axis of a wall using a spirit level, plumb bob or and other instrument
5.1.5	Jamb	E	The external face of the arch
5.1.6	Easing	F	The process of lowering the support a very small way once the keystone has been laid
5.1.7	Cross wall	G	The horizontal mortar
5.1.8	Curing	H	The vertical post of the door or window frame
5.1.9	Bed joint	I	Are designed to drain away moisture
5.1.10	Plumbing	J	The process during which concrete is allowed to gain strength

(10 × 1) (10)

5.2 Name THREE types of lintels. (3)

5.3 Define each the following terms:

5.3.1 Lath

5.3.2 Cross wall

5.3.3 Stile

5.3.4 Jamb

5.3.5 Rebate

(5 × 1) (5)

5.4 Roof anchors are essential in ensuring that a roof will not be blown away by strong winds. Answers the following questions as per CMA guidelines.

5.4.1 Briefly explain why it is necessary to have roof plans. (2)

5.4.2 List THREE kinds of roof ties. (3)

5.5 Draw a fully labelled sketch of a segmental arch. (10)
[33]

TOTAL: 100

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