higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

MASONRY
NQF LEVEL 3

(12020353)

10 March 2020 (X-paper)
09:00–12:00

This question paper consists of 4 pages.

397Q1S2010

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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 question on a new page.
5. Use only a black or blue pen.
6. 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 The foundation of a cavity wall is made of hollow blocks.

1.2 An intersection is where two walls cross through each other.

1.3 Cavity walls have a cavity or space between two single-leaf walls.

1.4 Lintels are built into a wall to support the foundation.

1.5 In situ means made on the building site, rather than being made in a factory and brought to the site.

1.6 Rank means deciding the order of things on a list based on quality.

1.7 A soffit is the underside or bottom of a strip foundation.

1.8 A wall tie connects leaves of masonry together for mutual support.

1.9 Brick-force reinforcement uses bricks.

1.10 A round rule will make a convex joint profile.

(10 × 1) **[10]**

QUESTION 2: CAVITY WALL CONSTRUCTION

2.1 Draw, to scale 1:10, the alternate plan courses of a corner in 380 mm cavity wall construction. Show the following details:

- First course
- Second course
- Wall ties
- One-brick walling internally (English bond)
- Half-brick walling outside (Stretcher bond)
- Cavity: 50 mm
- Queen closer: 220 mm × 55 mm
- Standard bricks: 220 mm × 110 mm × 75 mm (20)

2.2 What is the purpose of weep holes in a cavity wall? (2)

2.3 Why must mortar droppings and debris be prevented from falling into the cavity in a cavity wall? (2)

2.4 Give FOUR advantages of a cavity wall. (4)

2.5 What is the purpose of a ring beam? (2)

[30]

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QUESTION 3: BASIC MASONRY WALL CONSTRUCTION WITH HOLLOW UNITS

3.1 Explain why profiles must be marked at intervals of 200 mm. (2)

3.2 Give ONE use of each the following:

3.2.1 Lintel blocks

3.2.2 Waterproof sheeting

3.2.3 Z-bars

3.2.4 Wedges

(4 × 2) (8)

3.3 Explain why it is not common to reinforce hollow masonry work with conventional brick force or bed-joint reinforcing. (5)

3.4 List THREE types of bond-block lintels. (3)

3.5 Briefly explain how to keep masonry clean and how to remove stiffened mortar. (7)

3.6 List FIVE guidelines to follow when installing roof anchors in hollow masonry walls. (5)

[30]

QUESTION 4: ADVANCED MASONRY WALL CONSTRUCTION

4.1 Explain how to install a recessed electrical plug box and conduit into a hollow unit. (5)

4.2 Draw, to scale 1:10, the front view of a segmental arch and clearly show the following:

- Span: 1 200 mm
- Rise: 150 mm
- Voussoirs
- Extrados
- Intrados
- Depth of arch: 220 mm
- Standard bricks: 220 mm × 110 mm × 75 mm (20)

4.3 Why must masonry or brickwork be presoaked with clean water before using acid to clean the surface? (2)

4.4 Explain how arches are classified. (3)

[30]

TOTAL: 100

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