higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

MASONRY
NQF LEVEL 2

(12020152)

12 March 2018 (X-Paper)
09:00-12:00

Drawing instruments may be used.

This question paper consists of 6 pages.

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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. Rule off across the page after each completed question.
5. Write neatly and legibly.

NCEM

QUESTION 1: GENERAL

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

1.1.1 Steel tapes are used to check and make accurate levels.

1.1.2 Toothing is one of the methods that are used to join old brickwork to new brickwork forming steps.

1.1.3 A builder's steel square is used to check if corners are square.

1.1.4 A one brick wall is 220 mm in width.

1.1.5 Mortar is a mixture of fine aggregates and course aggregates.

(5 × 1) (5)

1.2 Various options are given as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question number (1.2.1–1.2.5) in the ANSWER BOOK.

1.2.1 Which ONE of the following tools are not used for setting out of a building?

A Building square
B Gauge rod
C Steel tape
D Steel pegs

1.2.2 Concrete is a mixture of …

A sand, cement, stone and water.
B cement, stone and sand.
C cement and sand.
D lime and water.

1.2.3 The material that is usually used to manufacture DPC is …

A steel.
B iron.
C plastic.
D glass.

1.2.4 The thickness of a half-brick wall is …

A 140 mm.
B 220 mm.
C 110 mm.
D 270 mm.

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1.2.5 A weep hole is found in a …

A English bond wall.
B stretcher bond wall.
C header bond wall.
D cavity wall.

(5 × 1) (5)

1.3 Choose ONE term from the given list for each of the following descriptions. Write only the term next to the question number (1.3.1–1.3.5) in the ANSWER BOOK.

crown; masonry unit; frog; cross wall; English bond

1.3.1 A small hollow underneath a brick which stops the brick from moving on wet mortar

1.3.2 A wall that intersects another wall

1.3.3 The highest point of an arch

1.3.4 A unit that is intended for use in the construction of bonded masonry walling

1.3.5 Bricks laid in alternating courses of stretchers and headers

(5 × 1) (5)
[15]

QUESTION 2: INTRODUCTION AND BACKGROUND

2.1 A four pound hammer breaks up small rocks, break down old structures or drive in masonry nails or stakes.

Briefly explain the safety precautions when using this. (5)

2.2 Define the following terminology as used in masonry level 2.

2.2.1 Bed-joint

2.2.2 Control-joint

2.2.3 Perpend-joint

(3 × 1) (3)
[8]

QUESTION 3: SETTING OUT MASONRY WALLS

3.1 The 3 : 4 : 5 method is one of the methods used to check if the corners of the internal and external walls are square.

Explain by means of a simple sketch how this method is used. (6)

3.2 Explain the difference between a *gauge rod* and a *corner profile*. (2 × 2) (4)

3.3 In order to do any job correctly it is very important to choose the correct tools for that specific job.

Give ONE function of the following tools listed below.

3.3.1 Builders square

3.3.2 Spirit level

3.3.3 Joint rulers

3.3.4 Bolster chisel

3.3.5 Bricklayers trowel

(5 × 1) (5)

3.4 Construction can only begin once the drawings have been approved. These drawings are then given to the main contractor to construct the building that's designed on the drawing.

Explain the importance of the information that is found on the drawings. (5)

[20]

QUESTION 4: BASIC CONSTRUCTION OF MASONRY WALLS

4.1 According to current building standards, new buildings must include D.P.C when being build.

What is the purpose of using D.P.C. (2)

4.2 List FIVE types of materials that can be used as damp proofing materials. (5)

4.3 Draw a neat labeled sketch of the setting of the first two courses of a masonry wall, built with concrete blocks.

The drawing must indicate the following:

- Two corner profiles
- First course
- Set out marks for the second course
- Gauge marks
- Building line (12)

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4.4 A gauge rod is a rod that is made by a bricklayer which consists of the height of a brick or block measurements including mortar that's transferred on to the set up profiles.

List the steps to prepare a gauge rod. (5)

4.5 Walls that require no plastering are usually built with face bricks. Upon completion of the wall the finishing of the mortar joints are imported to be jointed so that it will be neat and attractive. There are different ways in which mortar joints can be finished.

List any THREE joint profiles that can be done by jointing of the wall. (3)

[27]

QUESTION 5: ADVANCED CONSTRUCTION OF MASONRY WALLS

5.1 Define the following terms that is used in masonry.

5.1.1 Structural wall.

5.1.2 Composite beam.

5.1.3 Roof anchor

5.1.4 Weep holes

5.1.5 Control joints

5.1.6 Lintel

(6 × 1) (6)

5.2 Show by means of simple sketches the difference between *racking* and *toothing*.

Stopped ends must be shown on the left hand side of your sketch. (12)

5.3 Explain the procedure to be followed when inserting brick force in a corner (5)

5.4 Give ONE function of brick force? (1)

5.5 Explain the importance of using a roof plan when building roof anchors? (3)

5.6 List THREE types of roof anchors? (3)

[30]

TOTAL 100

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