higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T70**(E)**(A2)T

NATIONAL CERTIFICATE

BRICKLAYING AND PLASTERING THEORY N1

(11010091)

2 August 2019 (X-Paper)
09:00–12:00

This question paper consists of 5 pages.

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DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE
BRICKLAYING AND PLASTERING THEORY N1
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. Sketches must be large, neat and fully labelled.
5. Write neatly and legibly.

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QUESTION 1

1.1 Choose a term from COLUMN B that matches a description in COLUMN A. Write only the letter (A–L) next to the question number (1.1.1–1.1.10) in the ANSWER BOOK.

COLUMN A		COLUMN B	
1.1.1	Steps left in unfinished brickwork	A	jointing
1.1.2	Mixture of stone, sand, cement and water	B	horizontal joint
1.1.3	Black plastic used to prevent moisture	C	racking back
1.1.4	Mixture of sand, cement and water	D	bonded wall
1.1.5	Process of finishing off face-brick work	E	lime
1.1.6	Vertical joint between bricks	F	mortar
1.1.7	Wall containing courses of bricks that overlap each other	G	toothing
1.1.8	Wall to be continued at a later stage by leaving out 110 mm every alternate course	H	unbonded wall
1.1.9	Manufactured by burning graded limestone in coal-fired rotary kilns at very high temperatures	I	damp-proof membrane
1.1.10	Wall that does not have any bonds	J	concrete
		K	damp-proof course
		L	perpend joint

(10 × 1) (10)

1.2 List FIVE categories of tools used on a building site. (5)

1.3 State FIVE points to consider when choosing a spirit level. (5)

[20]

QUESTION 2

2.1 Define each of the following civil-engineering terms:

2.1.1 Concrete

2.1.2 Mortar

2.1.3 Cavity wall

(3 × 3) (9)

2.2 Briefly explain the steps in the cement-manufacturing process. (7)

2.3 Write the abbreviation OPC in full. (1)

2.4 List THREE types of cement. (3)

[20]

QUESTION 3

3.1 Briefly explain the procedure to make a 150 mm concrete test cube. (10)

3.2 A specific test is performed to ensure that the concrete mixture is consistent, workable and of the same required strength.

3.2.1 Name the test described in QUESTION 3.2. (2)

3.2.2 After conducting the test in QUESTION 3.2.1, one of three shapes can occur.

List the THREE shapes that can occur and the direction of the mould after the cone is removed. (3 × 2) (6)

3.3 Define the term *no-fines concrete*. (2)

[20]

QUESTION 4

Draw, to an approximate scale of 1:10, the alternate plan course of a one-brick cross junction in English bond. **[20]**

QUESTION 5

5.1 A single line of bricks is called a course. The way in which the bricks are laid will determine the type of course built.

List SIX types of courses that can be built. (6)

5.2 Name TWO methods that can be used to join new brickwork with existing brickwork. (2)

5.3 List FOUR types of bonds that can be used when building a wall. (4)

5.4 Name FOUR types of arches that can be built. (4)

5.5 Define each of the following arch-construction terms:

5.5.1 Intrados

5.5.2 Extrados

5.5.3 Span

5.5.4 Rise

(4 × 1) (4)
[20]

TOTAL: 100

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