



higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T2130(E)(N18)T
NOVEMBER 2010

NATIONAL CERTIFICATE

QUANTITY SURVEYING N5

(2050015)

18 November (X-Paper)
09:00 – 13:00

REQUIREMENTS: Dimension paper (BOE 8/12)
Abstract paper (BOE 8/10)
Billing paper (BOE 8/11)

Calculators may be used.

Candidates will require own unmarked 'standard system of measuring building work'.

This question paper consists of 6 pages and 2 addenda.

DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA
NATIONAL CERTIFICATE
QUANTITY SURVEYING N5
TIME: 4 HOURS
MARKS: 100

INSTRUCTIONS AND INFORMATION

1. Answer ALL the questions.
 2. Read ALL the questions carefully.
 3. ALL the work in SECTION A must be done on the appropriate paper.
 4. ALL the work in SECTION B must be done in the ANSWER BOOK.
 5. Number the answers correctly according to the numbering system used in this question paper.
 6. Red ink is NOT allowed.
 7. Full marks = 100%.
 8. Write neatly and legibly.
-

PTO

SECTION A

Use dimension, abstract and billing papers to answer the questions in SECTION A.

ANNEXURE A (attached) shows the plan and sectional view of a reinforced concrete basement.

SPECIFICATIONS:

- | | |
|---------------|--|
| Earthworks | - The site is to be cleared to an area 2 metres from the basement wall. |
| | - Excavation is in ordinary earth and is to be partly filled in and rammed. |
| | - Excess material is to be carted away to a dumping site, 2 kilometres from the building site. |
| Concrete | - 25 MPa |
| Reinforcement | - Allow a provisional amount of R 15 000,00 |
| Brickwork | - Local stock bricks |
| | - 1:4 cement mortar |

QUESTION 1

Calculate the following:

- | | | |
|-----|--|-------------|
| 1.1 | The length and width of the hole to be excavated for the proposed basement | (3) |
| 1.2 | The perimeter of the basement hole | (2) |
| 1.3 | The required depth to be excavated | (2) |
| 1.4 | The centre line of the basement trench | (3) |
| 1.5 | The perimeter of the basement wall | (2) |
| 1.6 | The centre line of the 110 mm thick brick wall | (2) |
| 1.7 | The centre line of the 440 mm thick concrete wall | (3) |
| 1.8 | The perimeter of the internal risk of collapse | (3) |
| | | [20] |

PTO

QUESTION 2

Use the dimensions calculated in QUESTION 1 to measure the following work to build this basement:

- | | | |
|-----|---|-------------|
| 2.1 | Site clearance; bulk excavation; basement trench | (10) |
| 2.2 | All the items for the concrete work (do not measure the formwork) | (10) |
| 2.3 | Reinforcement | (5) |
| | | [25] |

QUESTION 3

You are required to present the bill for reinforcement only. Do the working up as follows:

- | | | |
|-----|--|-------------|
| 3.1 | Square only the reinforcement | (4) |
| 3.2 | Abstract only the reinforcement | (5) |
| 3.3 | Draw up the bill for the reinforcement | (6) |
| | | [15] |

TOTAL SECTION A: 60

SECTION B

Use the ANSWER BOOK to answer the questions in SECTION B.

QUESTION 4

Explain the following terms:

- | | | |
|-----|--------------|-------------|
| 4.1 | Abstracting | (2) |
| 4.2 | Reducing | (2) |
| 4.3 | Timesing | (2) |
| 4.4 | Sign posting | (2) |
| 4.5 | Dotting on | (2) |
| | | [10] |

PTO

QUESTION 5: FINAL ACCOUNT

Prepare the final account for the shopping centre and calculate the final payment due to the contractor based on the relevant items in the summary of the Bills of Quantities as set out on ANNEXURE B (attached). The following adjustments need to be made:

- 5.1 Prime Cost and Provisional Sums must be adjusted to R122 500,00
- 5.2 Net extra on Variation Orders to be R27 678,00
- 5.3 Remeasurement of excavations is R96 678,89
- 5.4 Remeasurement of Plumbing & Drainage is R102 567,99
- 5.5 Remeasurement of Site Works is R129 456,96
- 5.6 Increased cost amount to R95 785,45
- 5.7 Payments previously received amount to R1 006 345,56 [10]

QUESTION 6

Indicate whether the following statements are TRUE or FALSE. Choose the answer and write only 'true' or 'false' next to the question number (6.1 – 6.10) in the ANSWER BOOK.

- 6.1 Omissions are variation orders.
- 6.2 The architect must sign variation orders.
- 6.3 Day works are work done on a day-to-day bases.
- 6.4 The term used to save repeating long descriptions in writing which is similar to the previous description is 'ditto'.
- 6.5 The interim certificate is issued by the architect indicating the amount due and payable by the client to the contractor.
- 6.6 The term used to specify that the measurement for any item excludes extras, waste and laps is called *measured nett*.
- 6.7 The client pays the main contractor for attendance.
- 6.8 A brief specification on workmanship and quality of materials under each trade is called *preambles to trades*.
- 6.9 Specifications are the standard building regulations.
- 6.10 Provisional amount is an amount allowed in the bills of quantities to provide for specialist work to be carried out by a specialist sub-contractor selected by the architect. [10]

PTO

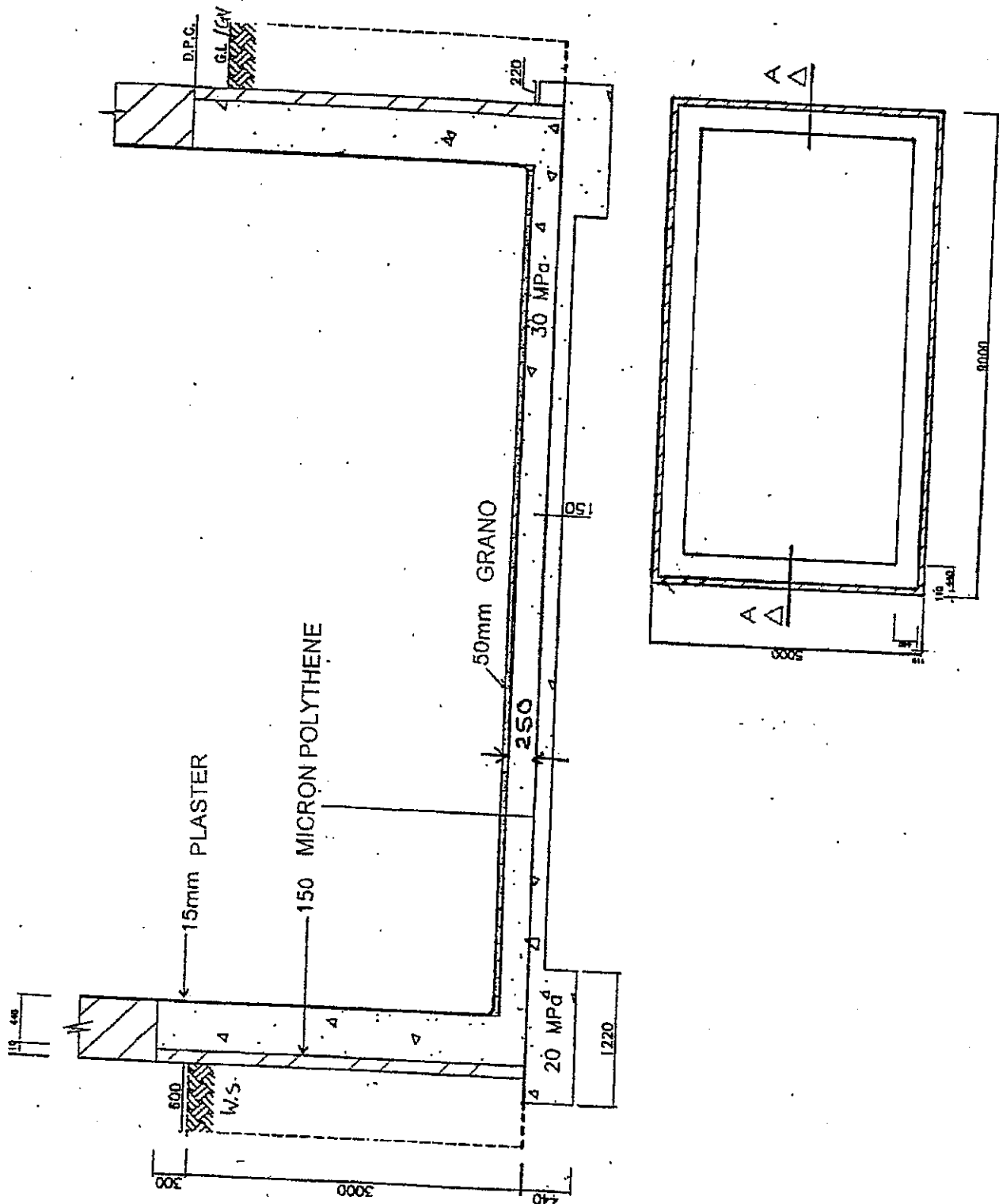
QUESTION 7

Draw up a typical measuring list a 'Taker Off' will use when measuring a solid timber door and frame to be built into a 220 mm thick wall, faced externally and plastered and painted internally.

[10]

TOTAL SECTION B:	40
GRAND TOTAL:	100

ANNEXURE A



ANNEXURE B

SHOPPING CENTRE
BILLS OF QUANTITIES
SUMMARY

Bill no.	Description	Page	Amount
1.	Preliminary & general	80	R 70 575,00
2.	Foundations	96	R 101 241,33
3.	Concrete, Formwork & Reinforcement	100	R 90 500,25
4.	Masonry	112	R 126 667,84
5.	Waterproofing	115	R 10 345,99
6.	Carpentry & Joinery	123	R 67 546,00
7.	Floor Coverings	154	R 49 699,98
8.	Ironmongery	168	R 6 700,00
9.	Metalwork	168	R 72 678,78
10.	Plastering	175	R 35 765,00
11.	Tiling	185	R 4 587,00
12.	Plumbing & Drainage	190	R 89 692,99
13.	Glazing	198	R 45 034,99
14.	Painting	203	R 23 435,87
15.	Site Works	213	R 132 435,96
16.	Prime Cost and Provisional Sums	220	R 125 259,45
17.	Contingency Sum		<u>R 35 567,00</u>
	FINAL TENDER PRICE		<u>R 998 040,44</u>

