higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE

QUANTITY SURVEYING N5

(2050015)

16 April 2020 (X-paper)
09:00–13:00

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

Calculators and an unmarked copy of the Standard System of Measuring Building Work may be used.

This question paper consists of 6 pages and 2 addenda.

287Q1A2016

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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. Number the answers according to the numbering system used in this question paper.
4. Answer all questions in SECTION A on the appropriate paper.
5. Answer all questions in SECTION B in the ANSWER BOOK.
6. Use only a black or blue pen.
7. Write neatly and legibly.

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SECTION A

ADDENDUM A (attached) shows the plan and sectional views of a lean-to roof construction.

Specifications:

Earthworks:	Reduce ground level to 150 mm under the surface bed.
Concrete:	15 MPa
Brickwork:	Ordinary bricks built in stretcher bond from the foundation level 1:4 cement mortar
Plastering:	Cement mortar bagging internally Cement mortar plastered externally to two courses below ground level
Carpentry and joinery:	SSAP timbers
Roof covering:	Galvanised sheet iron
Painting:	PVA paint to internal and external walls
Plumbing and drainage:	PVC gutter and downpipe 1 m long half-round concrete water channel

QUESTION 1

1.1 Calculate the length and width of the trench. (1)

1.2 Measure the trench excavations. (2)

1.3 Measure the risk of collapse. (2)

1.4 Measure the concrete footing. (2)
[7]

QUESTION 2

Measure each of the following items:

2.1 220 mm thick brick wall

2.2 Backfilling

2.3 Internal cement mortar bagging

2.4 External plaster including the wall widths (to wall height)

(4 × 2) **[8]**

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QUESTION 3

Measure each of the following items:

3.1 75 × 150 mm timber wall plate

3.2 38 × 114 mm timber wall plate

3.3 Timber rafters

3.4 Timber fascia board

3.5 Roof coverings

(5 × 2) **[10]**

QUESTION 4

Measure each of the following items:

4.1 Gutter (2)

4.2 Stopped ends and outlet to the gutter (4)

4.3 Downpipe (2)

4.4 Swan neck and shoe to the downpipe (2)

4.5 Concrete water channel (2)

[12]

QUESTION 5

Measure each of the following items:

5.1 Reduction of the ground level

5.2 Placing of the ground fill

5.3 Damp-proofing under the concrete surface-bed

5.4 Concrete surface-bed

(4 × 2) **[8]**

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QUESTION 6

Draw up a bill for the plastering items only.

6.1 Rewrite QUESTION 2 and do the squaring exercise. (5)

6.2 Transfer only the plastering items to the abstract sheet. (7)

6.3 Draw up a bill for the plastering trade. (8)
[20]

TOTAL SECTION A: 65

SECTION B

QUESTION 7

7.1 State in which unit each of the following items should be measured:

7.1.1 Hips for plate-nailed timber roof trusses

7.1.2 Timber connectors such as toothed rings

7.1.3 Roof sheet on purlins (measured elsewhere)

7.1.4 Brickwork in piers

7.1.5 Hard-core fill

7.1.6 Steel roof trusses

7.1.7 Building hollow walls at jambs

7.1.8 Face-brick arches

7.1.9 Glass panes

7.1.10 Extra on downpipes for shoes

(10 × 1) (10)

7.2 Name TWO methods of tendering. (2)

7.3 Name THREE contract documents needed when a contractor tenders for a job. (3)
[15]

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QUESTION 8

Refer to the bill of quantities summary on ADDENDUM B (attached) and compile the second partial payment to the contractor based on the following information:

- The contract period is 10 months.
- All earthwork is complete.
- 10% of concrete work is complete.
- 5% of masonry is complete.
- A further amount of R7 000,00 for plumbing and drainage pipes is allowed.
- The value of the unfixed material on site is R15 000,00.
- Allow for a 10% deduction for the retention fund.
- Round off all calculated amounts to the nearest ten rand (R10).
- Payments received to date is R75 000. **[10]**

QUESTION 9

Choose ONE term from the list below for each of the following descriptions and write it next to the question number (9.1–9.10) in the ANSWER BOOK.

speculation; recommendation; reputation; ditto; purpose made; bill of quantity; arrangement; negotiation; tender; open tender; closed tender; negotiated tender; rotation; contingency; interim valuation; measured net; prime cost amount; provisional amount

9.1 Risking the firm's own money to build houses, flats or even factories for sale to an estimated demand

9.2 Done by a satisfied customer to an acquaintance

9.3 Method where a firm relies upon good service and quality built up over a long period of time

9.4 Standing agreement with chain stores, banks and other nationwide companies to erect all their new premises or with an organisation who sells a design and construction service for specialised plants or council houses

9.5 When the employer comes to an agreement with a builder who has worked for him/her before especially when considering an extension to the previous project

9.6 Competing with other builders by submitting a quote

9.7 Type of tender where all builders are welcome to compete

9.8 Selective tender type where only competent builders are invited to tender

9.9 Sum of money provided in the bill of quantities for materials and goods to be obtained from a supplier nominated by the architect

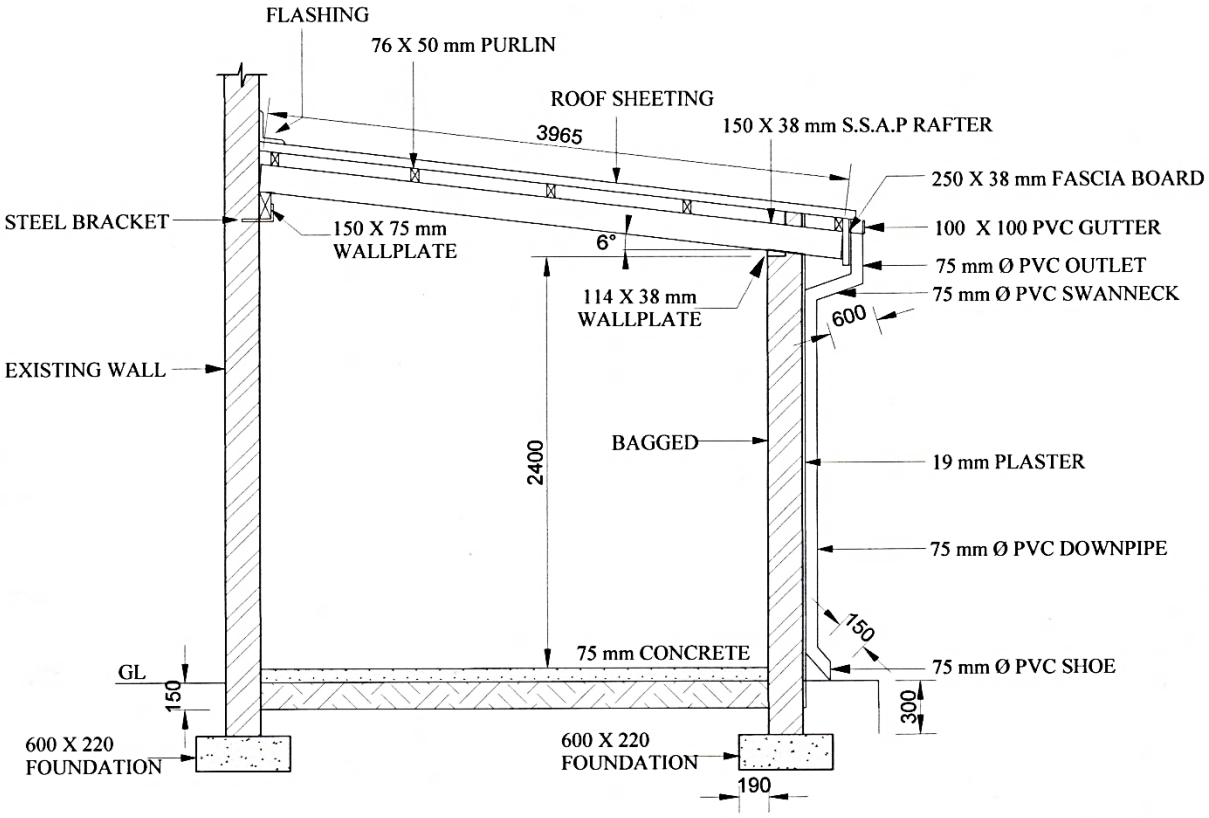
9.10 Amount allowed in the bill of quantities to provide for specialist work to be carried out by a specialist subcontractor selected by the architect

(10 × 1) **[10]**

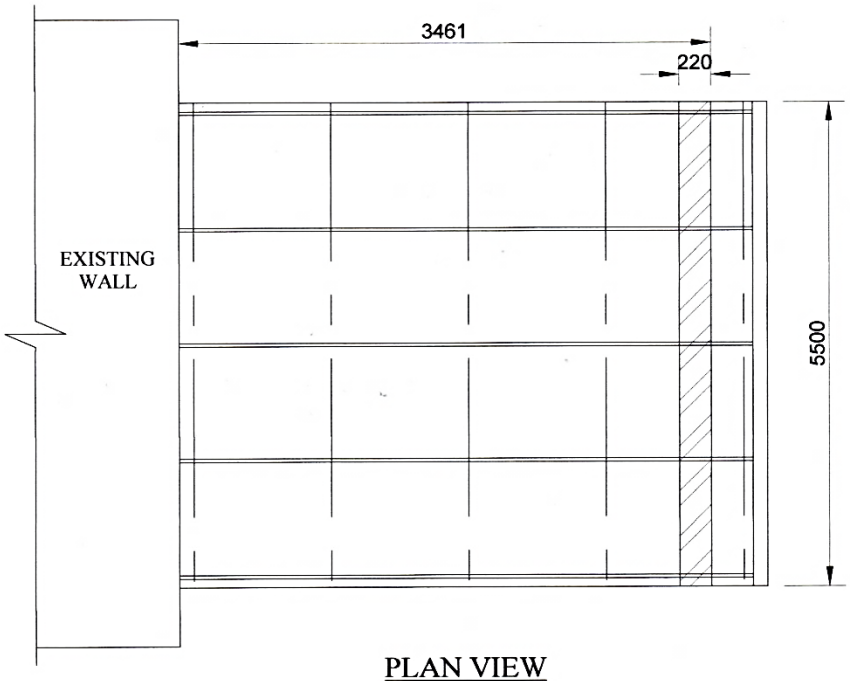
TOTAL SECTION B: 35
GRAND TOTAL: 100

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ADDENDUM A



SECTION THROUGH CARPORT



PLAN VIEW

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ADDENDUM B

BILL OF QUANTITIES SUMMARY		
1.	Preliminaries	R150 000,00
2.	Earthworks	R85 300,00
3.	Concrete, formwork and reinforcement	R550 220,00
4.	Masonry	R220 500,00
5.	Waterproofing	R20 310,00
6.	Roof covering	R150 220,00
7.	Carpentry and joinery	R65 300,00
8.	Ceilings	R25 300,00
9.	Floor coverings	R41 500,00
10.	Ironmongery	R8 520,00
11.	Metalwork	R25 000,00
12.	Plastering	R25 350,00
13.	Plumbing and drainage	R55 350,00
14.	Glazing	R24 300,00
15.	Painting	R55 300,00
16.	External works	R62 155,00
		R1 539 275,00

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