higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

CONSTRUCTION PLANNING
NQF LEVEL 4

(12010464)

21 November 2023 (X-paper)
09:00–12:00

Calculators may be used.

This question paper consists of 7 pages and 1 addendum.

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DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)
CONSTRUCTION PLANNING
NQF LEVEL 4
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. Use only a black or blue pen.
5. Write neatly and legibly.

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QUESTION 1: INTRODUCTION TO CONSTRUCTION CONTRACTS

1.1 Choose a description from COLUMN B that matches a term in COLUMN A. Write only the letter (A–F) next to the question number (1.1.1–1.1.6) in the ANSWER BOOK.

COLUMN A		COLUMN B	
1.1.1	Contract value	A	negotiated amount of money inclusive of tax
1.1.2	Variations	B	regular payment intervals
1.1.3	Breach of contract	C	amount of money equal to the contract sum
1.1.4	Contract sum	D	failure by one of the parties to adhere to the contract agreement
1.1.5	Caveat subscriptor	E	changes made to the original scope of a project
1.1.6	Interim payments	F	Latin term used as a warning to ensure responsible signatures

(6 × 1) (6)

1.2 State FIVE essential elements of a valid construction contract. (5)

1.3 Name FOUR consultants who will form part of the professional team assembled to complete a project. (4)

[15]

QUESTION 2: BASIC COMMON AND COMMERCIAL LAW

2.1 Define each of the following terms:

2.1.1 Builder's lien

2.1.2 Lateral support

(2 × 3) (6)

2.2 Explain FOUR rights of the landowner if a structure is erected on the wrong land. (4)

[10]

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QUESTION 3: STANDARD CONSTRUCTION CONTRACTS

3.1 Indicate whether the following statements are TRUE or FALSE by writing only 'True' or 'False' next to the question number (3.1.1–3.1.6) in the ANSWER BOOK.

3.1.1 The main contractor is selected by the client.

3.1.2 CIDB documents form part of standard building contracts.

3.1.3 A contractor has no right to be compensated for variations made to the original scope of works by the employer.

3.1.4 There are two types of subcontractors.

3.1.5 A contractor can be granted extension of time due to unexpected problems that might occur.

3.1.6 There is only one way a contractor can participate in a contract.

(6 × 1) (6)

3.2 Give FOUR benefits of recording the progress of work. (4)

[10]

QUESTION 4: TENDERS AND QUOTES

4.1 List FIVE types of tenders. (5)

4.2 Give TWO reasons why it is important for a contractor to specify whether the tender is VAT inclusive or VAT exclusive. (2 × 1) (2)

4.3 Give FIVE reasons why there is a risk of submitting a tender price that is too low. (5)

4.4 Explain the document called *bill of quantities*. (3)

[15]

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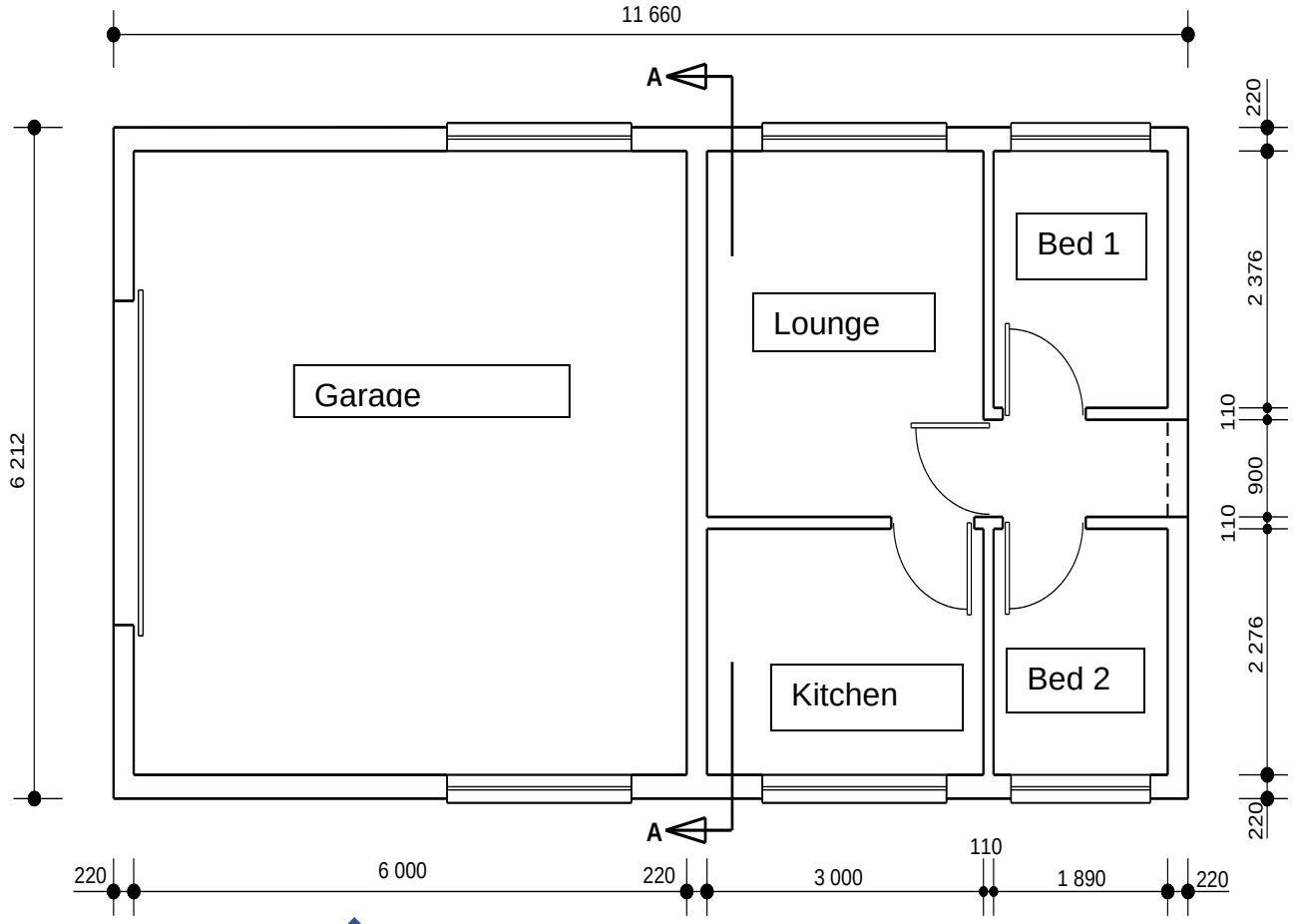
QUESTION 5: QUANTITIES AND COSTING

The following diagram is a drawing for House Jacobs.



House Jacobs

5.1 List at least THREE typical overhead expenses to be incurred by a contractor in the building of a small dwelling. (3)

5.2 Calculate the costs to cover the kitchen floor area which is 3 000 mm x 2 276 mm with ceramic floor tiles. The price of the floor tiles is R250,00 per square meter. Allow a 2% waste on the tiles. (4)

5.3 The two bedrooms of House Jacobs will be covered with carpet. Calculate the total area of carpets required for both the bedrooms. (3)

5.4 The double leaf (220 mm) internal wall has a total length of 5,772 m. The height of the wall is 2,4 m. Assume 104 bricks are required in 1 m².

5.4.1 Calculate the number of bricks required for the wall. (3)

5.4.2 Calculate the total costs of the bricks in QUESTION 5.4.1 if a single brick costs R2,20. (2)

5.5 List any FIVE construction activities the electrician must perform in the completion of House Jacobs. (5)

[20]

QUESTION 6: PLANNING AND ORGANISING CONSTRUCTION ACTIVITIES

6.1 6.1.1 Give TWO reasons why you would state that a building activity is a critical activity. (2)

6.1.2 Give TWO reasons why you would state that a building activity is a non-critical activity. (2)

6.2 Indicate whether each of the following activities are critical activities or non-critical activities:

6.2.1 Foundation brickwork

6.2.2 Painting of walls

6.2.3 Plastering of walls

6.2.4 Casting of foundations

6.2.5 Excavate the foundations

(5 × 1) (5)

6.3 Rearrange the following activities in a logical and progressive sequence for the FIRST eight activities for a building dwelling.

- Building foundation walls
- Removing all trees
- Pouring concrete into trenches
- Casting concrete slab
- Building superstructure walls
- Marking and setting out of building
- Establishing the site
- Excavating foundation trenches (8)

6.4 Explain why it is important to arrange and plan building activities in a logical sequence. (3)

[20]

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QUESTION 7: PROJECTIONS AND CASH FLOW

A new construction company must prepare a projection programme bar chart for a new classroom to be completed over seven weeks. The table below shows the schedule of building activities and related duration in days.

ACTIVITY	DURATION [DAYS]
Site clearance	5
Setting out of building Starts on day three of site clearance	2
Excavation of trenches Starts on day five of site clearance	4
Casting of concrete foundations and slab Starts on the last day of excavation	3
Superstructure brickwork Starts on the second day of week three	9
Erection of roof Starts on the day after superstructure brickwork ends	4
Installation of doors and windows Starts on the day after the erection of the roof ends	5
Plastering of internal walls and floor screeds Starts on the same day as the start of the windows/doors installation	4
Plastering of external walls Starts on the fourth day of installation of windows and doors	6
Painting of walls Starts on the day after external plastering ends	2

Use the given table to complete the projection programme bar chart provided on the ADDENDUM (attached).

NOTE: The first row has been completed. **[10]**

TOTAL: 100

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ADDENDUM

EXAMINATION NUMBER:

Detach and submit the ADDENDUM with the ANSWER BOOK.

QUESTION 7: PROJECTIONS AND CASH FLOW

		Week 1					Week 2					Week 3					Week 4					Week 5					Week 6					Week 7				
Activity	Days	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Site clearance	5																																			
Setting out of building																																				
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