higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

ARCHITECTURAL GRAPHICS AND TECHNOLOGY

(Second paper)

NQF LEVEL 2

(12050622)

24 November 2023 (Y-paper)
13:00–16:00

Calculators may be used.

This question paper consists of 4 pages.

279Q2N2324

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DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)
ARCHITECTURAL GRAPHICS AND TECHNOLOGY
NQF LEVEL 2
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. All drawing work must be done in pencil.
6. All drawing work must comply with the relevant SANS (SABS) recommended codes.
7. Brick sizes should be taken as 220 × 110 × 75 mm.
8. All abbreviations and symbols must comply with the latest National Building Regulations and all relevant SANS (SABS) codes.
9. Write neatly and legibly.

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QUESTION 1

1.1 Give the THREE categories for construction drawings according to their purpose or role. (3)

1.2 Which FOUR things do you have to understand about construction drawings to be able to work efficiently and accurately? (4)

1.3 List FIVE items that layout plans should include. (5)

1.4 Describe a *site plan.* (4)
[16]

QUESTION 2

2.1 Explain what is meant by *material efficiency*. (6)

2.2 Identify FIVE things to take into consideration when dealing with air quality, efficient temperature control and lighting quality indoors. (5)
[11]

QUESTION 3

3.1 List SEVEN instruments that can be used when setting out a building to determine angles and planes. (7)

3.2 List THREE types of measurements you can measure with a tape measure. (3)

3.3 Name FIVE advantages of using a stop block when cutting multiple lengths. (5)

3.4 Explain what a *spirit level* is. (4)
[19]

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QUESTION 4

4.1 Explain what a *pile foundation* is. (7)

4.2 Draw a double-wall strip foundation in good proportion and clearly show the following:

- Strip foundation 600 × 200
- Concrete slab 75 mm
- Screed 20 mm
- Hardcore filling 150 mm
- DPC
- Brick footings

Add a title beneath the drawing. (10)

4.3 Name THREE things on which the width of a strip foundation depends. (3)
[20]

QUESTION 5

5.1 Discuss brickmaking in the USA. (10)

5.2 Explain what a *bed joint* is. (6)

5.3 Explain what is meant by a *half-brick wall*. (5)

5.4 Describe a cavity wall. (5)

5.5 Describe the following terms:

5.5.1 Span

5.5.2 Voussoirs

5.5.3 Intrados

5.5.4 Extrados

(4 × 2) (8)
[34]

TOTAL: 100

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