higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

DRAWING OFFICE PROCEDURES AND TECHNIQUES

(Second paper)

NQF LEVEL 4

(12050724)

2 December 2020 (X-paper)
09:00–13:00

Calculators and computer software may be used.

This question paper consists of 4 pages and 7 diagram sheets.

193Q2N2002

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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. All drawing work, including candidate information, must be done on a computer.
5. All drawing work must comply with the relevant SANS (SABS) recommended codes.
6. All the abbreviations and symbols must comply with the latest National Building Regulations and all relevant SANS (SABS) codes.
7. Drawing must be done in a manner that is evenly spread on the drawing SHEET.
8. All drawings should be done on a computer.
9. Work neatly.

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QUESTION 1

DIAGRAM SHEET 1, FIGURE 1 (attached) shows multi views of a crosshead and in third angle orthographic projection.

DIAGRAM SHEET 2, FIGURE 2 (attached) shows items in a 3-dimensional view of a crosshead in a third angle orthographic projection.

Use the dimensions on DIAGRAM SHEET 1, FIGURE 1 to draw the crosshead to scale 1:2 in 3-dimension (3D) as seen on DIAGRAM SHEET 2, FIGURE 2.

1.1	Each item in 3D	(30)
1.2	Position the item as shown	(3)
1.3	Print the scale of 1:2	(2)
	Do not insert dimensions and hidden details	
		[35]

QUESTION 2

DIAGRAM SHEET 3, FIGURE 3 (attached) shows the floor plan of a house drawn to scale 1:100.

Use the dimensions on FIGURE 3 to draw the house as seen on DIAGRAM SHEET 4, FIGURE 4 (attached) to a scale of 1:100. Use the following information:

Brick sizes should be taken as 220 × 110 × 75 mm. The height of the wall from ground to roof to be taken as 2 900 mm. The pitch angle to be taken as 22º. Use a hip roof.

2.1	Drawing in 3D	(18)
2.2	Windows according to the given schedule	(5)
2.3	Hip roof	(5)
2.4	Doors according to the given schedule	(5)
2.5	Scale of 1:100	(2)
	Do not insert dimensions and hidden details	
		[35]

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QUESTION 3

DIAGRAM SHEET 5, FIGURE 5 (attached) shows the views of the model in first angle orthographic projection.

Use scale 1:1 and use the 3D method to draw the model.

3.1 Model in 3D (13)

3.2 Scale of 1:1 (2)
[15]

QUESTION 4

DIAGRAM SHEET 6, FIGURE 6 (attached) shows the views of the model in third angle orthographic projection.

Use scale 1:1 and use the 3D method to draw the model.

4.1 Model in 3D (13)

4.2 Scale of 1:1 (2)
[15]

TOTAL: 100

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