higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE

BUILDING DRAWING N1

(8090001)

21 November 2022 (X-paper)
09:00–13:00

REQUIREMENTS: ONE A2 drawing sheet

Drawing instruments may be used.

This question paper consists of 5 pages.

098Q1E2221

DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE
BUILDING DRAWING N1
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 drawings as well as candidate information must be done in pencil.
5. The drawings must be neat, reasonably large, in proportion and fully labelled.
6. A balanced layout is important, and candidates will be penalised for poor planning.
7. All drawings must comply with the relevant SANS (SABS) codes.
8. Use your discretion where dimensions are not given.
9. Work neatly.

QUESTION 1

Draw a full-size circle with a diameter of 100 mm, and indicate the following on your drawing:

- Arc
- Sector
- Radius
- Centre line (Diameter)
- Centre point
- Chord
- Segment
- Tangent **[10]**

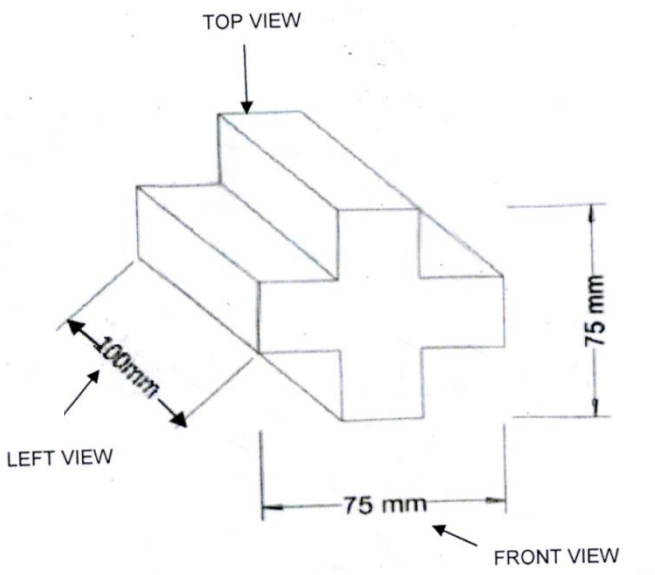
QUESTION 2

Draw, to scale 1:2, an isometric view of a bevelled closer.

NOTE:
- Show your preferred view.
- Show hidden details.
- Insert FOUR measurements. **[14]**

QUESTION 3

Draw, to scale 1:1, the orthographic views of the pictorial view of the FIGURE shown below.



[14]

QUESTION 4

Draw, to scale 1:10, the isometric views of alternate plan courses of a T-junction between TWO half-brick walls.

NOTE: Label the three-quarter bat. **[12]**

QUESTION 5

Show, with the aid of neat sketches, the difference between each of the following paving patterns:

5.1 Basket

5.2 Herring bone

5.3 Hardwood floor block

(3 × 4) **[12]**

QUESTION 6

Draw, to scale 1:10, a vertical cross section through the strip foundation of a one-and-a-half-brick foundation wall and one-brick external wall of a dwelling. The foundation wall is reduced FOUR courses above the concrete foundation.

Show the following details:

- 600 mm × 200 mm concrete foundation
- A one-and-a-half-brick foundation wall
- A one-brick external wall
- Damp-proof course
- 75 mm thick concrete floor
- 10 mm internal plaster
- 20 mm thick screed
- Hardcore filling of 150 mm
- PVC skirting
- PVC floor tiles **[20]**

QUESTION 7

Draw, to scale 1:2, a horizontal cross section through a steel-casement window. Show the following details:

- A portion of the one-brick wall
- Internal and external plaster
- 150 mm × 22 mm internal wooden sill
- 150 mm × 20 mm external clay sill
- Window frame
- Sealing compound (putty)
- Bottom rail
- DPC

NOTE: Show only ONE side of the opening. **[18]**

TOTAL: 100