higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T200**(E)**(A1)T

NATIONAL CERTIFICATE

BUILDING DRAWING N1

(8090001)

1 August 2019 (X-Paper)
09:00–13:00

REQUIREMENTS: ONE A2 drawing sheet

Drawing instruments may be used.

This question paper consists of 5 pages.

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. Do ALL drawings to the required scale.
5. Do ALL drawings, as well as candidate information, in pencil.
6. Drawings must be neat, reasonably large, in proportion and fully labelled in capital letters.
7. ALL drawings must comply with the relevant SANS (SABS) recommended codes.
8. Use your discretion where dimensions are NOT given.
9. A balanced layout is very important and candidates will be penalised for poor planning.
10. Work neatly.

QUESTION 1

Choose a line type from COLUMN B that matches a description in COLUMN A. Write only the letter (A–L) next to the question number (1.1–1.10) in the ANSWER BOOK.

COLUMN A		COLUMN B	
1.1	Make an object stand out and be seen clearly	A	leader lines
1.2	Dimension an object	B	construction lines
1.3	Indicate the part of the drawing to which a note refers	C	centre lines
1.4	Short breaks indicating a part-sectional view	D	cutting-plane lines
1.5	Indicate all visible outlines and edges of an object	E	sectional lines
1.6	Show centres of holes and symmetrical features	F	dimension lines
1.7	Indicate the surface in the sectional view that you imagine has been cut along the cutting-plane line	G	break lines
1.8	Show the position of the imaginary cutting plane	H	visible lines
1.9	All lines that do not form part of the final drawing or construction	I	projector lines
1.10	Project from one view to another and determine points in interpenetrations	J	hidden lines
		K	vertical lines
		L	horizontal lines

(10 × 1) **[10]**

QUESTION 2

Draw, to scale 1:10, an isometric view of a one-brick corner built in English bond.

Specifications:

- The wall is 660 mm to the left-hand side and 1 100 mm to the right-hand side.
- There are stopped ends at both ends of the wall.
- Brick size is 220 mm × 110 mm × 75 mm.
- Label the queen closer and stopped end only in ONE view.
- Include the title and scale for the views. **[20]**

QUESTION 3

Draw, to scale 1:2, a vertical section through the bottom section of a steel-casement window set in a one-brick wall plastered on both sides. The window consists of a quarry-tile sill and terrazzo window board.

Use the following specifications:

- Brick wall: 220 mm
- Plaster: 19 mm
- Quarry-tile sill: 120 mm × 25 mm
- Terrazzo window board: 160 mm × 25 mm
- Bottom rail: Steel
- Frame: Steel
- Glass: 3 mm
- DPC: 375 micron polyethylene sheeting
- Putty: at the exterior **[20]**

QUESTION 4

Draw, to scale 1:2, a horizontal section through a glazing bead and a glazing bar. Show the position of the glass. The glazing bar is 30 mm × 44 mm and the glass is 3 mm thick. **[10]**

QUESTION 5

A house must be built with an internal one-brick wall. The house consists of a wooden bedroom floor and concrete toilet floor. The floor joist rests on a wall plate. The wall plate is supported by a sleeper wall. The sleeper wall is supported by oversite concrete.

Draw, to scale 1:10, a vertical section through the foundation, foundation wall, external wall and sleeper wall showing the bedroom floor on the left-hand side and the toilet floor on the right-hand side.

Show the following specifications:

Concrete foundation:	600 mm × 300 mm
Foundation wall:	220 mm
Internal wall:	220 mm
Natural ground level:	320 mm
Hard core:	300 mm
Concrete floor:	75 mm
Screed:	25 mm
Oversite concrete:	100 mm cast on top of concrete foundation
Sleeper wall:	110 mm six courses high
Wall plate:	114 mm × 38 mm
Floor joist:	114 mm × 38 mm
Floor boards:	100 mm × 22 mm tongue and groove
Skirting:	75 mm × 22 mm on both floors
Plaster:	19 mm on both sides of the wall
Damp-proof course:	230 micron

[20]

QUESTION 6

A solid internal door is 2 040 mm high, 820 mm wide and 44 mm thick with a middle lock rail. The door is finished off with battens and braces.

Draw, to scale 1:10, a front elevation of a framed, ledged, braced and battened door.

The door consists of the following parts:

Top rail:	110 mm
Bottom rail:	220 mm
Lock rail:	220 mm
Stiles:	110 mm
Brace:	100 mm
Battens:	100 mm

[20]

TOTAL: 100