



higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T170(E)(M28)T
APRIL 2011

NATIONAL CERTIFICATE

BUILDING DRAWING N2

(8090012)

28 March (X-Paper)
09:00 – 13:00

This question paper consists of 5 pages.

DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA
NATIONAL CERTIFICATE
BUILDING DRAWING N2
TIME: 4 HOURS
MARKS: 100

INSTRUCTIONS AND INFORMATION

1. Answer ALL the questions.
 2. Read ALL the questions carefully.
 3. Use BOTH sides of the DRAWING PAPER.
 4. Drawings are to be fully dimensioned and neatly finished with descriptive titles and notes to conform with the SABS Recommendation Practice for Building Drawings.
 5. Marks are allocated for neatness, dimensioning, printing and layout.
 6. Number the answers correctly according to the numbering system used in this question paper.
 7. Write neatly and legibly.
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QUESTION 1

A room has one-brick external walls and one-and-a-half-brick foundation walls resting on a 650 mm x 220 mm concrete foundation. The wall is plastered internally only.

The room has a suspended timber floor, with the underside of the floor joist six courses above the natural ground level, while the top of the foundation concrete is three courses below the natural ground level. Draw to scale 1:10, a vertical section through the external wall and clearly show the following:

- Part of the one-brick external wall
- One-and-half-brick foundation wall
- Concrete foundation
- 114 x 38 mm floor joist
- 100 x 22 mm flooring boards
- 76 x 22 mm skirting
- 114 x 38 mm wall plate
- 150 x 75 mm barrier
- 220 x 220 mm brick pier
- 450 x 220 mm brick pier foundation
- DPC (Damp-proof course)
- 150 x 220 mm air brick
- Ground level
- Plaster

[20]

QUESTION 2

A one-brick garden boundary wall is 1 485 mm long x 1 200 mm high. The wall rests on a 450 mm x 220 mm concrete foundation. The wall is built in Flemish bond with stopped ends at both ends and is built with face bricks. The wall is on the concrete foundation which is TWO courses below ground level. The top of the wall is finished off with a brick-on-edge-coping.

Draw to scale 1:10:

- | | | |
|-----|---|------|
| 2.1 | The front view of the wall | (10) |
| 2.2 | A vertical section through the brick-on-edge coping, the wall and the concrete foundation | (15) |

NOTE: The drawing must include ALL the important labelling and dimensions [25]

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QUESTION 3

Draw to scale 1:2, a horizontal section through a door opening with a 148 mm x 38 mm single-rebated timber casing built into a half-brick wall plastered on both sides.

The drawing must include the following:

- 148 x 38 mm casing
- 19 mm plaster
- Part of the wall
- 75 x 19 mm architrave
- 76 x 19 mm splayed ground
- Part of the door

Show only ONE half of the opening and a part of the door.

[10]

QUESTION 4

Draw to scale 1:10, a vertical section through a 660 mm x 660 mm chimney stack having a flue 220 mm x 220 mm. The chimney stack projects through a 30 degree cement tile roof.

Clearly show the construction details surrounding the chimney.

[10]

QUESTION 5

Show, with the aid of neat sketches, the difference between the following window terms:

- | | | |
|-----|----------------------------------|------|
| 5.1 | A glazing bar and a glazing bead | (4) |
| 5.2 | A mullion and a transome | (4) |
| 5.3 | The head and top rail | (4) |
| 5.4 | A window sill and window board | (4) |
| | | [16] |

QUESTION 6

Draw, to scale, 1:10, the front elevation of a soldier-brick arch three courses deep over a span of 950 mm. Show also the surrounding brickwork built in stretcher bond. NO stopped ends are required.

[10]

QUESTION 7

Draw to scale 1:10, the isometric drawings of the following brickwork:

7.1 Brick-on-edge coping

7.2 Soldier bricks

NOTE: The drawings must include dimensions and be SIX bricks long (75 x 6).

[9]

TOTAL: 100