



**higher education
& training**

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T300(E)(A8)T

NATIONAL CERTIFICATE

CARPENTRY AND ROOFING THEORY N2

(11022192)

**8 April 2019 (X-Paper)
09:00–12:00**

This question paper consists of 6 pages and 2 diagram sheets.

DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA
NATIONAL CERTIFICATE
CARPENTRY AND ROOFING THEORY N2
TIME: 3 HOURS
MARKS: 100

INSTRUCTIONS AND INFORMATION

1. This question paper must be answered as follows:
 - 1.1 ALL candidates must answer QUESTION 1 to QUESTION 6.
 - 1.2 Only CARPENTRY candidates must answer QUESTION 7.
 - 1.3 Only ROOFING candidates must answer QUESTION 8.
 - 1.4 Do NOT answer both QUESTION 7 and QUESTION 8.
 2. Read ALL the questions carefully.
 3. Number the answers according to the numbering system used in this question paper.
 4. Keep subsections of questions together.
 5. Sketches must be neat, clear and done in pencil.
 6. Label ALL drawings.
 7. Rule off across the page on completion of each question.
 8. Start each question on a NEW page.
 9. Write neatly and legibly.
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QUESTION 1: SETTING OUT OF BUILDINGS

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

COLUMN A		COLUMN B	
1.1	Main documents prepared by the architect	A	plumb bob
1.2	Representation of a project	B	boundary line
1.3	Preliminary drawings	C	trench
1.4	Set by local authorities	D	3:4:5 method
1.5	Temporary benchmarks	E	builder's profile
1.6	Temporary structure erected around a structure to be built	F	working drawings
1.7	Set corners of a building square	G	datum pegs
1.8	Type of excavation	H	design drawings
1.9	Represents the outline of an erf	I	benchmark
1.10	Determine if structures are vertically level	J	sketches
		K	water level

(10 × 1)

[10]**QUESTION 2: ROOF CONSTRUCTION**

- 2.1 FIGURE 1, DIAGRAM SHEET 1 (attached), shows the plan view of a rectangular roof on a building with hip ends.

Identify the parts by writing the name of each part next to the question number (2.1.1–2.1.10) in the ANSWER BOOK.

(10 × 1)

(10)

- 2.2 FIGURE 2, DIAGRAM SHEET 1 (attached), shows TWO types of finishes to a roof structure.

Identify the TWO types and give a brief description of each.

(2 × 3)

(6)

- 2.3 Define each of the following roof-work terms:

2.3.1 Truss

2.3.2 Gable end

(2 × 2)

(4)

[20]

QUESTION 3: ROOF COVERING

- 3.1 Discuss the difference in physical properties and typical applications of each of the following roof materials:
- 3.1.1 Natural slates
- 3.1.2 Fibre-cement slates (2 × 4) (8)
- 3.2 Discuss waterproofing material (liquid coatings) under each of the following headings:
- 3.2.1 Characteristics
- 3.2.2 Properties
- 3.2.3 Application
- 3.2.4 Fixing (4 × 1) (4)
- 3.3 List THREE waterproofing materials used on roofs to seal off joints, openings and cracks. (3)
- [15]**

QUESTION 4: CEILINGS

- 4.1 Illustrate, with the aid of a large, neat and fully labelled sketch, the vertical cross-sectional view of a board ceiling. The ceiling is fixed to the brandering and finished off with gypsum plaster boards.
- Clearly indicate the following on the sketch:
- The beam
 - Brandering
 - Gypsum ceiling board
 - H-bar or cover strip
- (7)
- 4.2 Briefly explain another method to finish off the joint between two gypsum boards. (1)
- [8]**

QUESTION 5: DORMER-ROOF CONSTRUCTION

A bay window always contributes to the decorativeness of a house or building. Bay windows come in various designs and shapes to match the design of the main building.

Draw neat sketches to show the plan views of each of the following:

5.1 Square bay

5.2 Splay or cant bay

5.3 Circular bay

(3 × 5) [15]

QUESTION 6: ROOF-LIGHT CONSTRUCTION

FIGURE 3, DIAGRAM SHEET 2 (attached), shows TWO views of a longitudinal/rectangular roof-light construction.

Identify the parts by writing the name of each part next to the question number (6.1.1–6.1.12) in the ANSWER BOOK.

(12 × 1) [12]

QUESTION 7: CARPENTRY CANDIDATES ONLY

7.1 There are various types of panelling that create a decorative finish within the internal walls of a room area.

Distinguish, with the aid of neat vertical cross-sectional drawings, each of the following types of wall panelling:

7.1.1 Framed panelling with raised and fielded panels

7.1.2 Processed board flush panelling

(2 × 7) (14)

NB: Draw only the bottom section to indicate the fixing and finishing of the wall panelling. Label ALL parts in the drawings.

7.2 Discuss the prerequisites for formwork of a high standard with reference to each of the following:

7.2.1 Reuse and finishing

7.2.2 Storage

7.2.3 Leakage

(3 × 2) (6)
[20]

QUESTION 8: ROOFING CANDIDATES ONLY

8.1 Describe the characteristics and uses of each of the following roofing materials:

8.1.1  Galvanised iron

8.1.2 Brass

(2 × 4) (8)

8.2 Give TWO advantages and TWO disadvantages of each of the following common materials used when manufacturing gutters:


 8.2.1 uPVC

8.2.2 Fibre cement

(2 × 4) (8)

8.3 Indicate whether the following statements are TRUE or FALSE. Choose the answer and write only 'True' or 'False' next to the question number (8.3.1–8.3.4) in the ANSWER BOOK.

8.3.1 A handsaw is used to cut curves on tiles.

8.3.2 A Bentley slate cutter is used to cut tiles to a specific size. 

8.3.3 A slater's hammer is used to nail tiles to battens.

8.3.4 A scribe is used to drill holes in tiles.

(4 × 1) (4)

[20]

TOTAL: 100

DIAGRAM SHEET 1

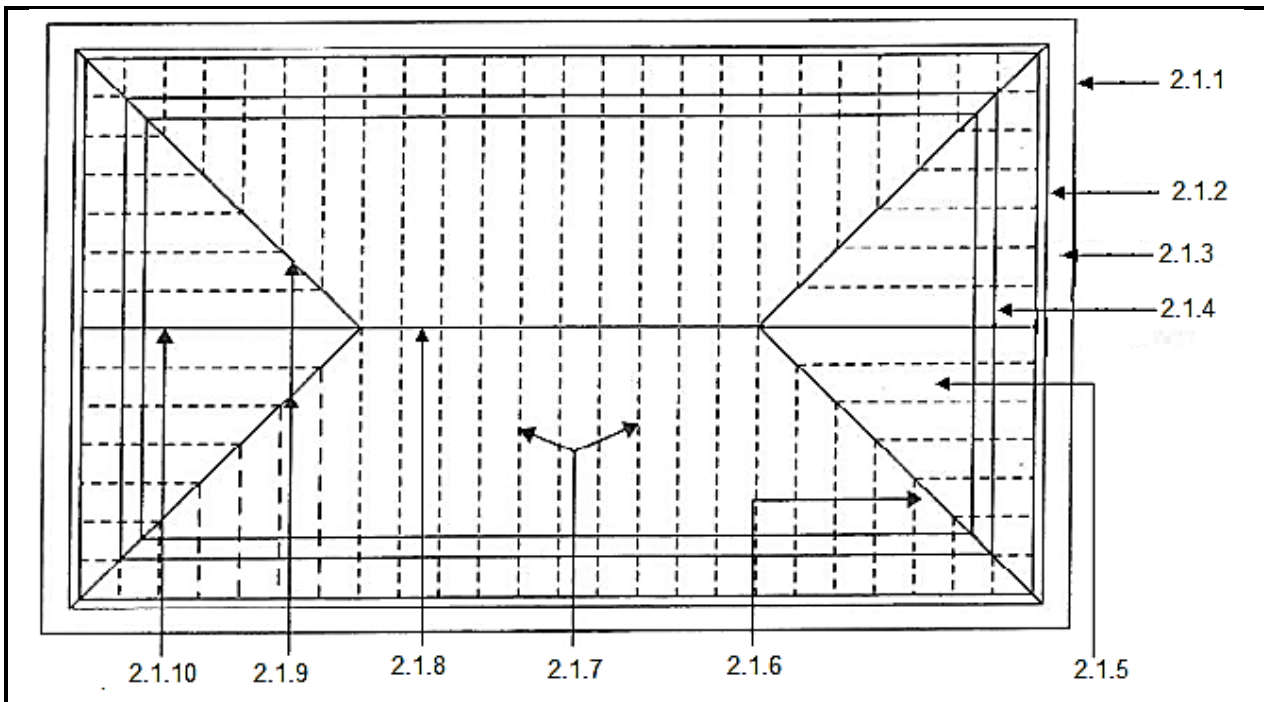


FIGURE 1

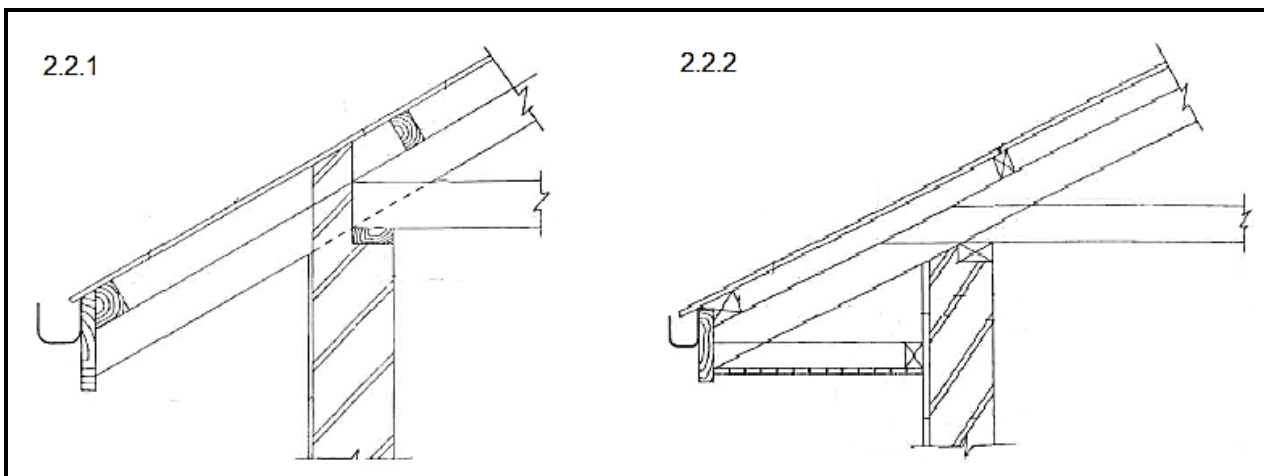
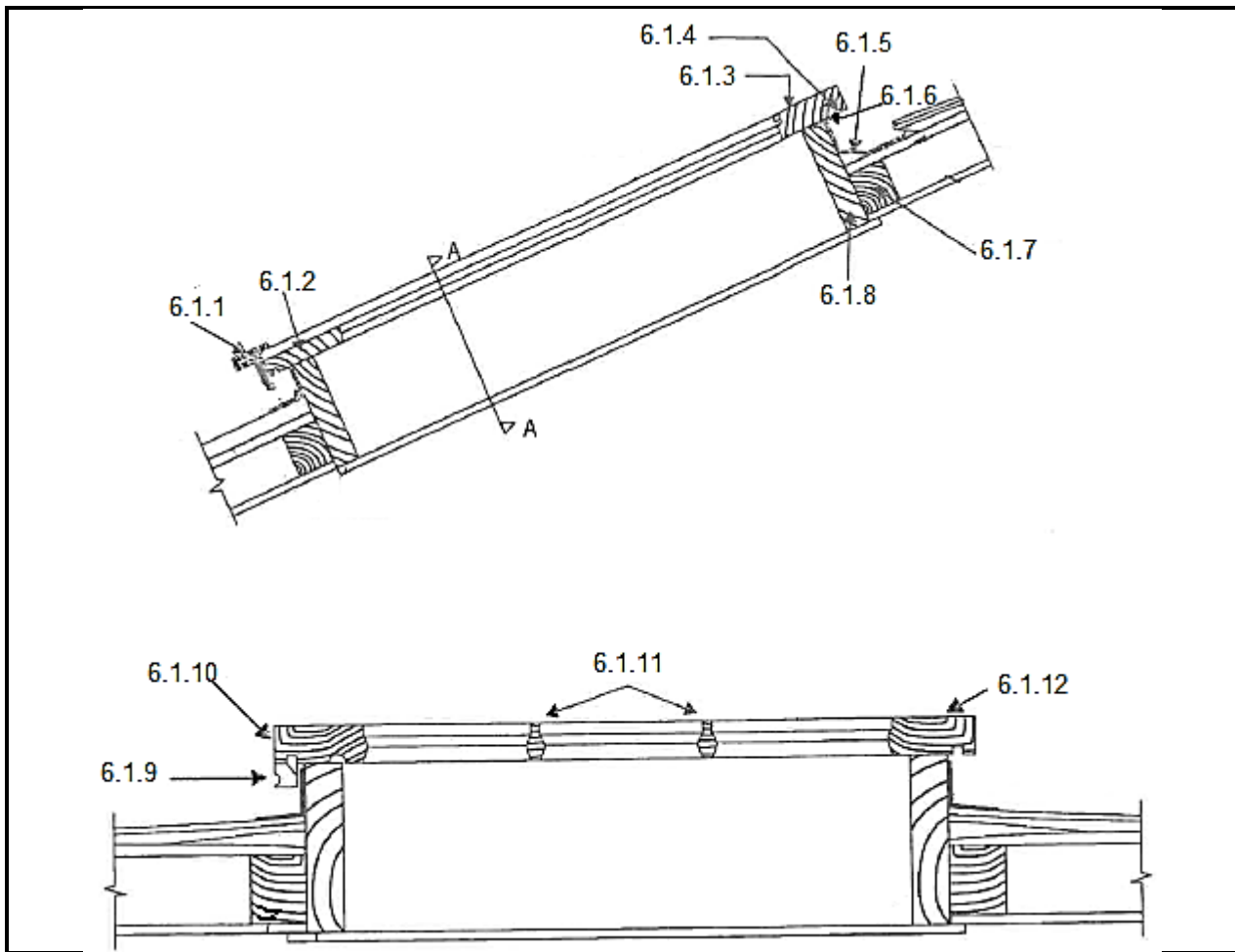


FIGURE 2



DIAGRAM SHEET 2**FIGURE 3**