higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T300**(E)**(A6)T

NATIONAL CERTIFICATE

CARPENTRY AND ROOFING THEORY N2

(11022192)

6 August 2019 (X-Paper)
09:00–12:00

This question paper consists of 6 pages.

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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 the 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 and clear and done in PENCIL.

6. ALL drawings must be labelled.

7. Rule off across the page on completion of each question.

8. Start each question on a NEW page.

9. Work neatly.

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QUESTION 1: SETTING OUT OF BUILDINGS

Briefly describe, in point form, the sequence in which a single-storey building is set out. **[10]**

QUESTION 2: ROOF CONSTRUCTION

2.1 The roofing steel square is marked with rafter tables required to obtain angles of cuts and lengths of roof members.

Illustrate, by means of a drawing, how to use the roofing square to determine the length of a rafter. (12)

2.2 Define each of the following terms used in the construction of roof work:

2.2.1 Beam filling

2.2.2 Dihedral angle

2.2.3 Truss span

2.2.4 Valley

(4 × 2) (8)
[20]

QUESTION 3: ROOF COVERING

3.1 Make a large, neat, labelled, drawing of the cross-sectional view through the apex of a roof consisting of trusses covered and finished off with asphalt shingles. (12)

3.2 List THREE advantages of using wood shingles as a roof covering material. (3)
[15]

QUESTION 4: CEILINGS

Illustrate, by means of a large, neat, labelled drawing, the fixing method of a new timber ceiling. The ceiling is fixed directly to the beam with v-joint tongue and groove boards. Show at least TWO joints in the drawing. **[8]**

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QUESTION 5: DORMER ROOF CONSTRUCTIONS

5.1 Illustrate, by means of neat, vertical cross-sectional sketches the difference between the following:

5.1.1 Dormer roof construction with a pitched roof

5.1.2 Dormer roof construction with a flat roof

(2 × 7) (14)

Clearly show ALL the construction work. NO labelling is required, but write the name of the dormer underneath the drawing.

5.2 Name any other type of dormer roof construction. (1)

[15]

QUESTION 6: ROOF LIGHT CONSTRUCTION

Make neat sketches of the joining parts of a roof light construction between the following:

6.1 Top rail and the curb (Indicate the hinge.)

6.2 Bottom rail and the curb. Show the complete opening gear system.

(2 × 6) **[12]**

QUESTION 7: THIS QUESTION IS FOR CARPENTRY CANDIDATES ONLY

7.1 FIGURE 1 shows a door that will be used for the front entrance of a hall.

Identify all the parts of the door by writing the answer next to the question numbers (7.1.1–7.1.8) in the ANSWER BOOK.

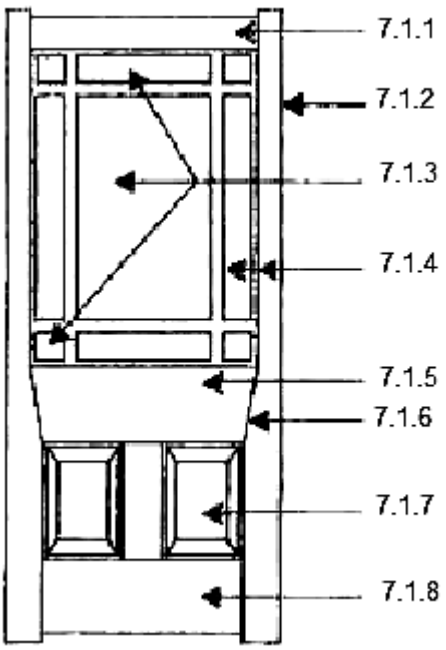


FIGURE 1 (8)

7.2 Make a neat, labelled sketch of a typical standard doorframe to be built into a wall opening. (6)

7.3 FIGURE 2 shows a horizontal cross-section through a wooden frame for formwork.

Name the type of formwork and identify parts by writing the answers next to the question number (7.3.1–7.3.5) in the ANSWER BOOK.

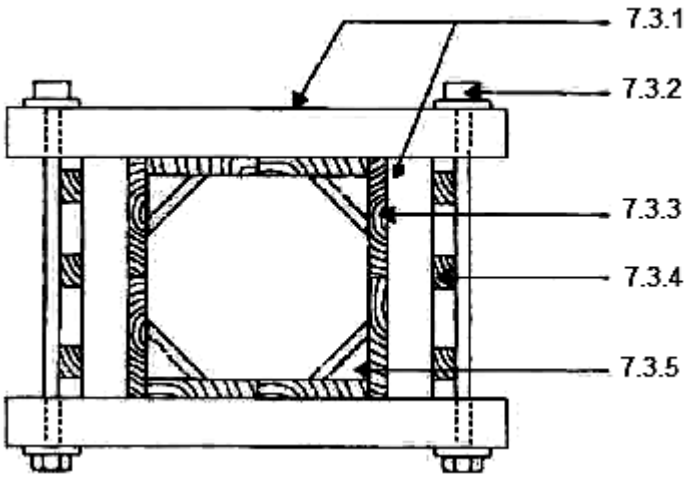


FIGURE 2 (1 + 5) (6)
[20]

OR

QUESTION 8: ROOFING CANDIDATES ONLY

8.1 State FOUR metal materials applicable to roof work, other than brass and galvanised iron, and describe the characteristics of each. (4 × 2) (8)

8.2 Describe the function of each of the following sundry fittings or accessories usually fitted with a gutter system:

8.2.1 Gutter

8.2.2 Outlet

8.2.3 Offset or elbow (swan's neck)

8.2.4 Holderbat

8.2.5 Shoe

(5 × 1) (5)

8.3 Explain the concept *weather proofing.* (3)

8.4 Choose a word from COLUMN B that matches the description in COLUMN A. Write only the letter (A–D) next to the question number (8.4.1–8.4.4) in the ANSWER BOOK.

COLUMN A		COLUMN B	
8.4.1	To hook out nails when tiles have to be replaced	A	scriber
8.4.2	To mark dimensions on tiles	B	disc cutter
8.4.3	To lift big sections of the roof	C	slate ripper
8.4.4	To cut thick tiles and to trim lengths	D	crowbar

(4 × 1) (4)

[20]

TOTAL: 100

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