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higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T1790**(E)**(A5)T

# NATIONAL CERTIFICATE

# WOODWORKERS' THEORY N1

(11022171)

**5 April 2018 (X-Paper)**
**09:00–12:00**

**Calculators may be used.**

**This question paper consists of 6 pages.**

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# DEPARTMENT OF HIGHER EDUCATION AND TRAINING
# REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE
WOODWORKERS' THEORY N1
TIME: 3 HOURS
MARKS: 100

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**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. Drawings must be large, neat and in good proportion.
5. ALL drawings must be fully labelled.
6. Write neatly and legibly.

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## QUESTION 1: INTRODUCTION TO THE BUILDING INDUSTRY AND PRODUCTIVITY

1.1 Define the term *productivity*. (2)

1.2 State FOUR human factors that can have a negative impact on productivity. (4)

1.3 Give THREE functions of each of the following trades:

1.3.1 Glazier

1.3.2 Roofer

1.3.3 Plumber

(3 × 3) (9)

**[15]**

## QUESTION 2: SAFETY AND HOUSEKEEPING

2.1 List THREE phases of accident control. (3)

2.2 Explain the maintenance of personal protective equipment. (4)

2.3 State THREE safety precautions to be observed with regard to the safeguarding of floor openings. (3)

2.4 Give FIVE functions of a health and safety committee. (5)

**[15]**

## QUESTION 3: TIMBER, TIMBER PRODUCTS, METAL AND GLASS

3.1 Indicate whether the following statements are TRUE or FALSE. Choose the answer and write only 'true' or 'false' next to the question number (3.1.1–3.1.5) in the ANSWER BOOK.

3.1.1 South African pine is a type of softwood.

3.1.2 Oak is used for the telephone poles next to roads.

3.1.3 Tree growth occurs in a cambium layer.

3.1.4 Natural seasoning is better than artificial seasoning because the process is shorter.

3.1.5 Creosote is suitable for the preservation of ceiling boards.

(5 × 1) (5)

3.2 List THREE types of ordinary carbon steel. (3)

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3.3 Give FOUR advantages of marine ply. (4)

3.4 Name THREE places where wet rot can be found. (3)

3.5 List FIVE ways in which wet rot can be treated. (5)
**[20]**

## QUESTION 4: TOOLS AND MACHINES

4.1 Name THREE sharpening tools that woodworkers and carpenters can use to sharpen their tools. (3)

4.2 List FOUR safety measures to observe while working with a hand drill. (4)

4.3 Give TWO uses for each of the following saws:

4.3.1 Panel saw

4.3.2 Tenon saw

4.3.3 Coping saw

4.3.4 Hack saw

(4 × 2) (8)
**[15]**

## QUESTION 5: FIXATIVES, GLUES AND FITTINGS

5.1 Give FOUR advantages of polyvinyl acetate glue. (4)

5.2 Differentiate between the following types of nails:

5.2.1 Floor nails

5.2.2 Clout nails

(2 × 3) (6)

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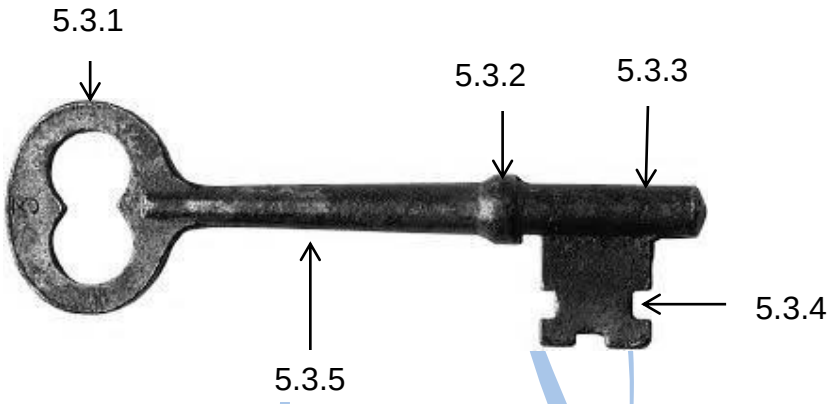
5.3 Identify the parts of the key shown below by writing the answer next to the question number (5.3.1–5.3.5) in the ANSWER BOOK.



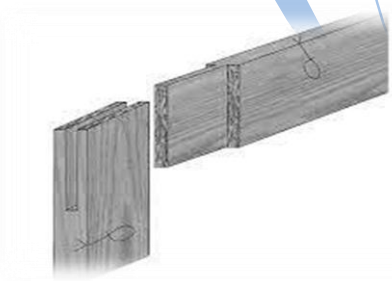

(5 × 1) (5)
**[15]**

## QUESTION 6: JOINTS

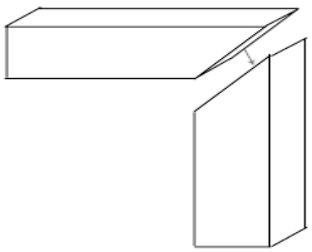
6.1 Identify each type of joint shown below by writing the answer next to the question number (6.1.1–6.1.5) in the ANSWER BOOK.

6.1.1

6.1.2



6.1.3





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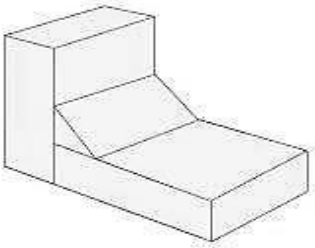
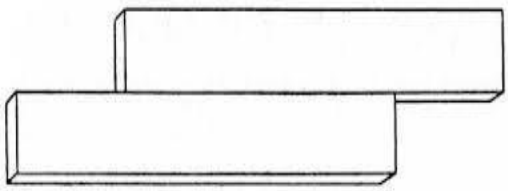
6.1.4



6.1.5



(5 × 1) (5)

6.2 Draw a neat isometric view of a hand-made finger joint. (5)
**[10]**

## QUESTION 7: BUILDING-RELATED CALCULATIONS

A carpenter must build a dressing table. The dressing table consists of TWO doors and TWO drawers.

Use the given information to calculate the following:

7.1 The price of the dressing table is R120,50 per $m^2$. The quantity of materials needed is 14 $m^2$.

Calculate the cost of a laminated board used to build the dressing table. (2)

7.2 An artisan earns R85,00 per hour and his labourer earns R12,00 per hour.

Calculate the labour cost if the dressing table takes 15 hours to complete. (4)

7.3 The carpenter also needs to buy handles, screws, hinges, etc. for the dressing table which amounts to R77,56.

Calculate the final price of the dressing table if profit of 25% is added to the final amount. (4)
**[10]**

**TOTAL: 100**

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