higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE

WOODWORKERS' THEORY N1

(11022171)

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09:00–12:00

Nonprogrammable calculators may be used.

This question paper consists of 7 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

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. Sketches must be large, neat and fully labelled.
5. Write neatly and legibly.

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QUESTION 1: INTRODUCTION TO THE BUILDING INDUSTRY AND PRODUCTIVITY

1.1 Indicate whether the following statements are TRUE or FALSE. Choose the answer and write only 'True' or 'False' next to the question number (1.1.1–1.1.7) in the ANSWER BOOK.

1.1.1 A building inspector is employed by local authorities to inspect a building.

1.1.2 An architect designs the structural elements, for example foundations, beams, slabs and staircases.

1.1.3 The owner is the person/business who wants the building to be constructed.

1.1.4 Structural and civil engineers are appointed by a client to design a building and draw up plans.

1.1.5 A subcontractor does the actual construction of the building, according to the architectural design.

1.1.6 A quantity surveyor manages and controls building costs.

1.1.7 A building contractor specialises in specific work areas, for example brickwork.

(7 × 1) (7)

1.2 Name the FOUR main stages of building operation in the correct sequence. (4)

1.3 What is the main function of a tiler? (2)

1.4 Name TWO sources of income for a building company. (2)

[15]

QUESTION 2: SAFETY AND HOUSEKEEPING

2.1 Workers on a construction site are differentiated by the colour of the safety hard hats they wear while working.

Name TWO site personnel who wear the following safety hard hats:

2.2.1 White

2.2.2 Yellow

2.2.3 Blue

(3 × 2) (6)

2.2 Explain how unsafe acts normally occur in the workplace. (3)

2.3 Every employer must create a safe and risk-free working environment.

Name SIX general duties of employers to their employees regarding safety in the workplace. (6)
[15]

QUESTION 3: TIMBER, TIMBER PRODUCTS, METAL AND GLASS

3.1 Complete the following paragraph by filling in the missing word or words next to the question number (3.1.1–3.1.5) in the ANSWER BOOK.

There are many ways in which fibreglass may be used in the building industry. It is used for everything from roofing to boats and is known for its (3.1.1) … and (3.1.2) … in relation to its low mass. The potential for building with fibreglass is unlimited. Fibreglass is a versatile (3.1.3) ..., (3.1.4) … and robust material made of (3.1.5) ... and glass fibre. (5 × 1) (5)

3.2 List the SEVEN parts of a tree trunk. (7)

3.3 Name THREE types of shakes. (3)

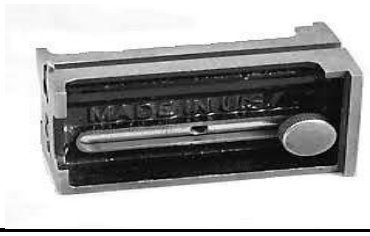
3.4 Give FIVE characteristics of copper. (5)
[20]

QUESTION 4: TOOLS AND MACHINES

4.1 Name TWO types of materials that can be cut by an angle grinder. (2)

4.2 Name THREE precautions to adhere to while using a chipping hammer. (3)

4.3 Identify the tools below by writing only the name of the tool next to the question number (4.3.1–4.3.10) in the ANSWER BOOK.

4.3.1 	4.3.2 
4.3.3 	4.3.4 
4.3.5 	4.3.6 
4.3.7 	4.3.8 
4.3.9 	4.3.10 

(10 × 1) (10)
[15]

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QUESTION 5: FIXATIVES, GLUES AND FITTINGS

5.1 Give THREE main advantages of a cut screw. (3)

5.2 Name FOUR types of metal plates used in the timber industry. (4)

5.3 What is a *clout nail*? (3)

5.4 Identify the tools below by writing only the name of the tool next to the question number (5.4.1–5.4.5) in the ANSWER BOOK.

(5 × 1) (5)

5.4.1



5.4.2



5.4.3



5.4.4



5.4.5



[15]

QUESTION 6: JOINTS

6.1 What is the main purpose of woodworking joints? (1)

6.2 Illustrate, by means of neat drawings, the difference between each of the following half-lap joints:

6.2.1 Corner half-lapped joint

6.2.2 Tee half-lapped joint

6.2.3 Straight half-lapped joint

(3 × 3) (9)

[10]

QUESTION 7: BUILDING-RELATED CALCULATIONS

You must build a mahogany cabinet.

7.1 The price of mahogany is R25,50 per m^2 and 5 m^2 is needed to build the cabinet.

Calculate the cost of the mahogany needed to build the cabinet. (2)

7.2 If the artisan earns R50,60 per hour and his labourer earns R15,10 per hour, calculate the labour cost if the cabinet takes EIGHT hours to complete. (4)

7.3 The artisan also had to buy fittings for the cabinet, which amounts to R80,00.

Calculate the final price of the cabinet if a profit of 25% is added to the final amount. (4)

[10]

TOTAL: 100

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