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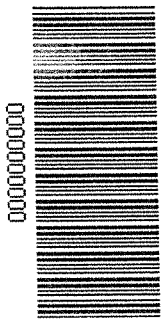

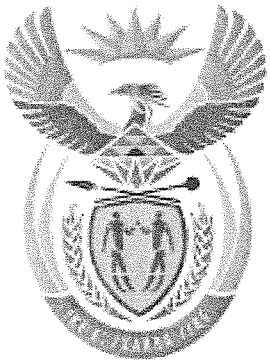

higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T1650(E)(A16)T
APRIL EXAMINATION

NATIONAL CERTIFICATE

WOODWORKERS' THEORY N1

(11022171)

16 April 2015 (Y-Paper)
13:00–16:00

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

ENGINEERING

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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. Drawings must be large, neat and in good proportion.
5. All the 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 On a construction site various tradesmen are required to perform a specific task in order to complete a building.

State ONE task performed by each of the following tradesmen:

1.1.1 Bricklayer

1.1.2 Plasterer

1.1.3 Tiler

1.1.4 Carpenter

1.1.5 Plumber

(5 × 1) (5)

1.2 Describe the difference between a single-storey building and a multi-storey building in the building industry. (4)

1.3 Name THREE sources of income and THREE sources of expenditure for a building company. (6)

[15]

QUESTION 2: SAFETY AND HOUSEKEEPING

2.1 Define an incident. (3)

2.2 List THREE causes of accidents with regard to unsafe acts and THREE causes of accidents with regard to unsafe conditions. (6)

2.3 Name FOUR safety measures to follow when ladders are being used. (4)

2.4 State TWO safety precautions to be observed with regard to the safeguarding of floor openings. (2)

[15]

QUESTION 3: TIMBER, TIMBER PRODUCTS, METAL AND GLASS

3.1 Name THREE methods of preservation. (3)

3.2 Give FIVE reasons why timber must be seasoned. (5)

3.3 Name the TWO categories in which hardboard is divided. (2)

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3.4 Give ONE use of each of the following metals in a house:

3.4.1 Steel

3.4.2 Cast iron

3.4.3 Aluminium

3.4.4 Copper

(4 × 1) (4)

3.5 Describe dry rot under the following headings:

3.5.1 Characteristics

3.5.2 Causes

3.5.3 Procurement

(3 × 2) (6)
[20]

QUESTION 4: TOOLS AND MACHINES

4.1 DIAGRAM SHEET 1, FIGURE 1 (attached) shows a picture of a marking gauge. Identify the parts by writing the name of the part next to the applicable question number (4.1.1 – 4.1.4) in the ANSWER BOOK. (4)

4.2 Indicate whether the following statements are TRUE or FALSE. Only write 'true' or 'false' next to the question number 4.2.1–4.2.5 in your ANSWER BOOK.

4.2.1 Hand saws are divided into two groups.

4.2.2 The sliding bevel is used for testing squareness.

4.2.3 The firmer chisel is used for general chiseling.

4.2.4 The pinchers is used for removing long screws.

4.2.5 A jigsaw is used to cut circles and curves in a piece of timber.

(5 × 1) (5)

4.3 Identify the electric tools on DIAGRAM SHEET 1, FIGURE 2 (attached) and write the name and ONE use of each electric tool next to the question number (4.3.1–4.3.3) in the ANSWER BOOK. (6)
[15]

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QUESTION 5: FIXATIVES, GLUE AND FITTINGS

5.1 When a person goes to a local hardware to buy screws to complete a specific job, certain specifications needs to be considered when buying screws.

Name FOUR specifications that need to be considered when buying screws at a local hardware shop. (4)

5.2 Give FOUR advantages of PVA glue. (4)

5.3 DIAGRAM SHEET 2, FIGURE 3 (attached) shows items often used by woodworkers. Identify these objects by writing down the name next to the question number (5.3.1–5.3.7) in the ANSWER BOOK. (7)
[15]

QUESTION 6: JOINTS

6.1 Name ONE use of each of the following joints:

6.1.1 Corner half-lap joint

6.1.2 Haunched mortice and tenon joint

6.1.3 Dovetail joint

6.1.4 Mitre joint

6.1.5 Feather and groove joint

(5 × 1) (5)

6.2 Illustrate by means of a neat drawing, what is meant by a corner half-lap joint. (5)
[10]

QUESTION 7: BUILDING – RELATED CALCULATIONS

A client wants you to build and install a melamine kitchen cupboard. The cupboard consists of two doors and four drawers.

Calculate what the final price will be to build the kitchen cupboard by using the following information:

7.1 The price of melamine is R65,00 per m^2 and $10m^2$ is needed to build the kitchen cupboard.

Calculate what the cost of the melamine board is to build the kitchen cupboard. (2)

7.2 If the artisan earns R25,00 per hour and his labourer earns R9,50 per hour, calculate what will the labour cost be if the cupboard takes 12 hours to complete. (4)

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7.3 The artisan also needed to buy hinges and fittings for the kitchen cupboard which amounts to R55,00.

Calculate what the final price will be of the melamine kitchen cupboard, if a profit of 14% is added to the final amount. (4)
[10]

TOTAL : 100

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DIAGRAM SHEET1

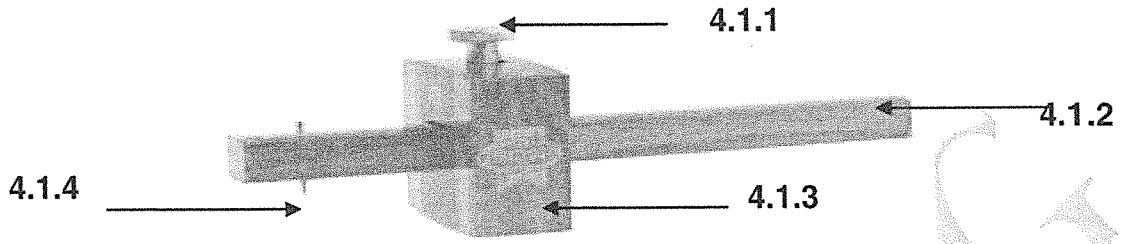
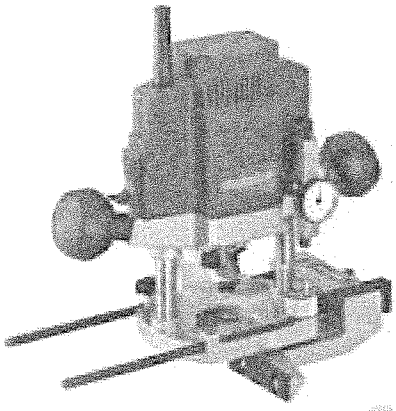
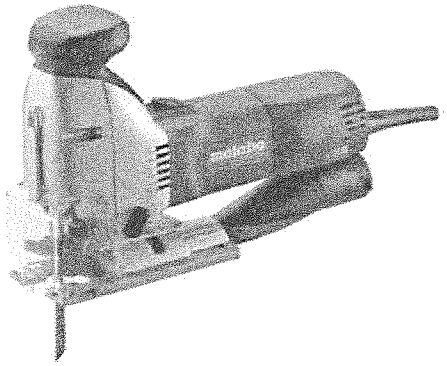


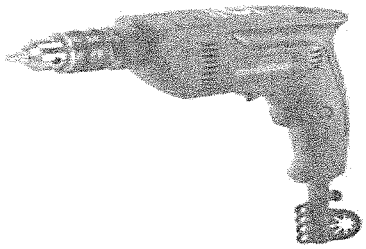
FIGURE 1



4.3.1



4.3.2



4.3.3

FIGURE 2

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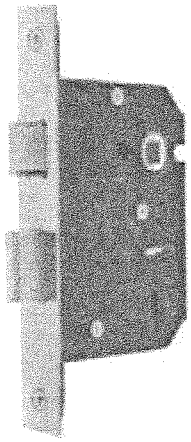
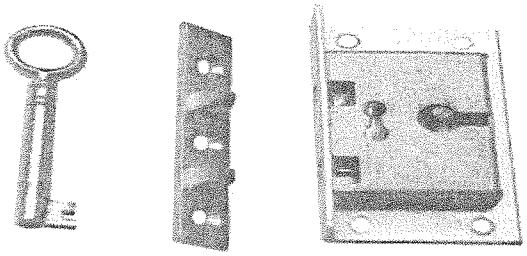
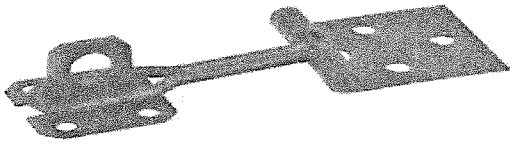
DIAGRAM SHEET 2



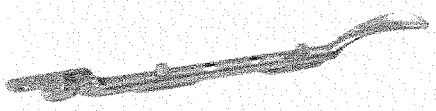
5.3.1



5.3.4

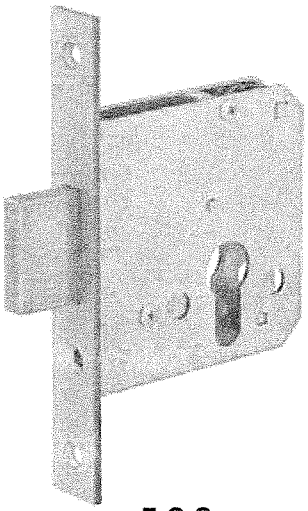


5.3.2

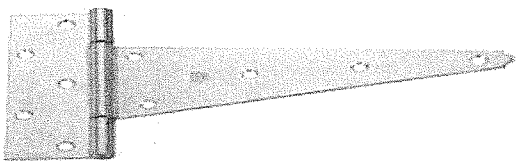


5.3.5

5.3.6



5.3.3



5.3.7

FIGURE 3

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