higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T1790(**E**)(J31)T

NATIONAL CERTIFICATE

WOODWORKERS' THEORY N1

(11022171)

31 July 2018 (X-Paper)
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 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 Indicate whether the following statements are TRUE or FALSE. Choose the answer and write only 'True' or 'False' next to the question number (1.1.1–1.1.5) in the ANSWER BOOK.

1.1.1 The aim of the National Building Regulations is to ensure that the minimum standards for the site are put in place.

1.1.2 The main aim of the National Home Builders Registration Council (NHBRC) is to protect the interest of the home owner and to protect the builder from unreasonable clients.

1.1.3 The abbreviation ECSA stands for Engineering Council of South Africa.

1.1.4 The main aim of the Master Builders Association (MBA) is to uphold its members' reputation and to ensure that members maintain high standards.

1.1.5 The Construction Industry Development Board (CIDB) was set up to register contractors and construction projects.

(5 × 1) (5)

1.2 List SIX different trades within the building industry. (6)

1.3 Defining the term *building industry*. (4)

[15]

QUESTION 2: SAFETY AND HOUSEKEEPING

2.1 Give ONE function of each of the following safety equipment:

2.1.1 Full respirator

2.1.2 Plugs or muffs

2.1.3 Safety boots

2.1.4 Goggles

2.1.5 Aprons

(5 × 1) (5)

2.2 List FIVE activities to be carried out when a worker has been injured in an accident on site. (5)

2.3 Name FIVE general duties of workers during construction regarding health and safety. (5)

[15]

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QUESTION 3: TIMBER, TIMBER PRODUCTS, METAL AND GLASS

3.1 Name TWO methods that can be used to season timber. (2)

3.2 Give TWO advantages of an organically soluble preservation. (2)

3.3 Name THREE methods of preserving timber. (3)

3.4 Name FOUR advantages of hardwood. (4)

3.5 Draw cross-sectional views of each of the following defects in wood:

3.5.1 Star shake

3.5.2 Cup or ring shake

3.5.3 Heart shake

(3 × 3) (9)

[20]

QUESTION 4: TOOLS AND MACHINES

4.1 State ONE use for each of the following tools:

4.1.1 Try square

4.1.2 Folding ruler

4.1.3 Marking knife

(3 × 1) (3)

4.2 Name FIVE safety measures to observe when working with a screwdriver. (5)

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4.3 FIGURE 1 below shows a hand drill/wheel brace used in the industry.

Identify the numbered parts by writing down the answer next to the question number (4.3.1–4.3.7) in the ANSWER BOOK. (7 × 1) (7)

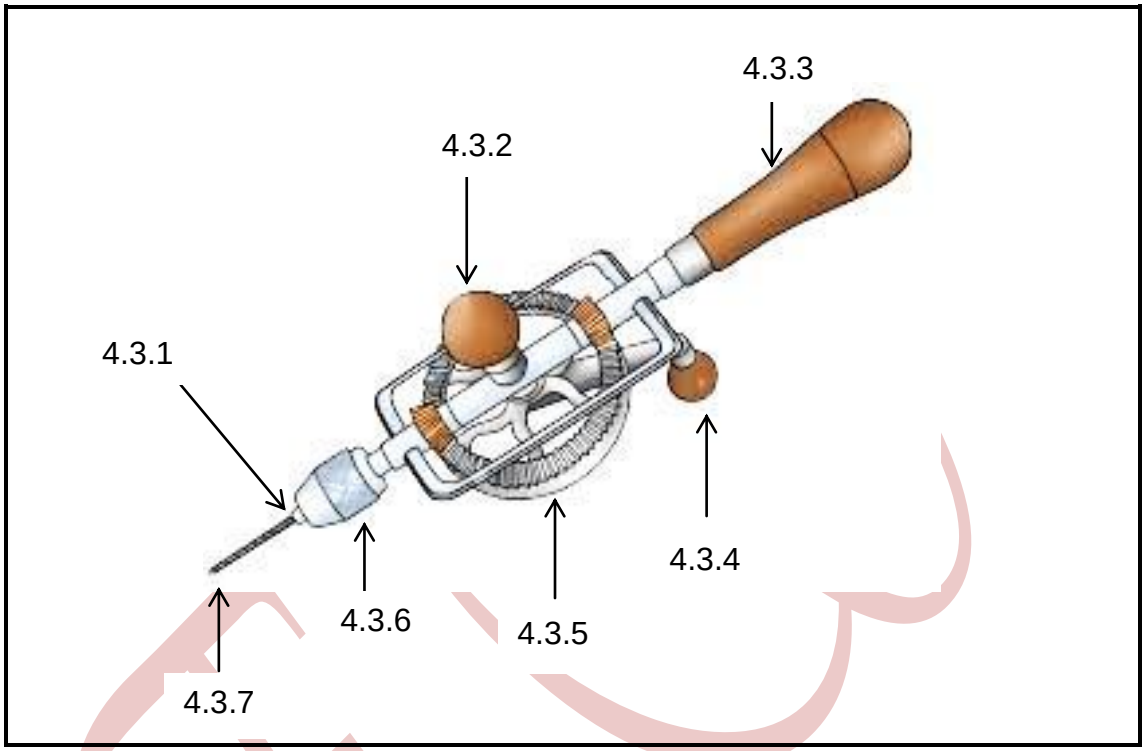


FIGURE 1

[15]

QUESTION 5: FIXATIVES, GLUES AND FITTINGS

5.1 Name ONE disadvantage of polyvinyl acetate glue. (1)

5.2 State ONE use for each of the following glues:

5.2.1 Vegetable glue

5.2.2 Resin cements

5.2.3 Latex cements

(3 × 1) (3)

5.3 Explain the difference between the following screws:

5.3.1 Countersunk/flat head screws

5.3.2 Raised head screw

5.3.3 Mirror screws

(3 × 1) (3)

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5.4 FIGURE 2 below shows various items used by woodworkers.

Identify the items by writing down the answer next to the question number (5.4.1–5.4.8) in the ANSWER BOOK. (8 × 1) (8)

 5.4.1	 5.4.2
 5.4.3	 5.4.4
 5.4.5	 5.4.6
 5.4.7	 5.4.8

FIGURE 2

[15]

QUESTION 6: JOINTS

6.1 Name ONE advantage of dowelled joint. (1)

6.2 Where are mitre joints mostly used? (2 × 1) (2)

6.3 Name FOUR types of half-lap joints. (4)

6.4 Briefly explain what is meant by a *housing joint*. (3)

[10]

QUESTION 7: BUILDING-RELATED CALCULATIONS

7.1 The table below indicates tasks performed by different artisans.

Calculate each artisan's cost and total cost for the work done and write the amount next to the question number (7.1–7.10) in the ANSWER BOOK.

ARTISANS	TOTAL HOURS	RATE PER HOUR	ARTISAN COST	MATERIAL COST	TOTAL COST
Tile	5 hrs	R70,20	7.1	R 529,30	7.6
Bricklayer	50 hrs	R25,66	7.2	R1200,60	7.7
Plasterer	10 hrs	R82,10	7.3	R 699,80	7.8
Roofer	36 hrs	R33,80	7.4	R 937,25	7.9
Painter	3 hrs	R90,30	7.5	R 436,78	7.10

[10]

TOTAL: 100

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