higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T1790**(E)**(A2)T

NATIONAL CERTIFICATE

WOODWORKERS' THEORY N1

(11022171)

2 August 2019 (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 the questions carefully.
3. Number the answers according to the numbering system used in this question paper.
4. Sketches must be large and neat.
5. Write neatly and legibly.

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QUESTION 1: INTRODUCTION TO THE BUILDING INDUSTRY AND PRODUCTIVITY

1.1 Name THREE typical examples of single-storey buildings. (3)

1.2 Give FOUR functions performed by each of the following trades:

1.2.1 Plasterer

1.2.2 Painter

(4 × 2) (8)

1.3 Explain the difference between the following types of bridges:

1.3.1 Suspension bridge

1.3.2 Arch bridge

1.3.3 Cable-stayed bridge

1.3.4 Drawbridge or swing bridge

(4 × 1) (4)
[15]

QUESTION 2: SAFETY AND HOUSEKEEPING

2.1 Indicate whether the following statements are TRUE or FALSE. Choose the answer and write only 'True' or 'False' next to the question number (2.1.1–2.1.6) in the ANSWER BOOK.

2.1.1 Mobile scaffolding is much safer to use than independent scaffolding.

2.1.2 Scaffold boards must be inspected every week to save time.

2.1.3 Scaffolding inspection reports must be submitted after inspections.

2.1.4 Scaffolding can be inspected by anyone around the site.

2.1.5 Scaffolding should remain in one position even if it is not used anymore.

2.1.6 The workspace must be kept clean and planks tightened and in a level position.

(6 × 1) (6)

2.2 Explain the best possible way to prevent an accident in the workplace. (1)

2.3 Write the following abbreviations in full:

2.3.1 OHSA Act (2)

2.3.2 PPE (1)

2.4 State FIVE procedures to be followed after an accident happened especially if a worker was injured, in order to stabilise the situation. (5)
[15]

QUESTION 3: TIMBER, TIMBER PRODUCTS, METAL AND GLASS

3.1 What causes the dry rot in timber? (1)

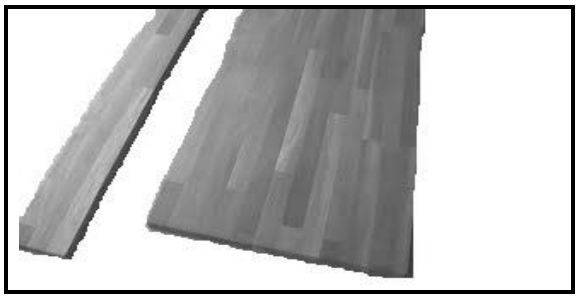
3.2 State FIVE ways of treating dry rot. (5)

3.3 Name TWO main groups of metals and give ONE example of each group. (2 × 2) (4)

3.4 Name FOUR applications of plastics in the building industry. (4)

3.5 Name the difference types of boards below by writing only the answer next to the question number (3.5.1–3.5.6) in the ANSWER BOOK.

3.5.1



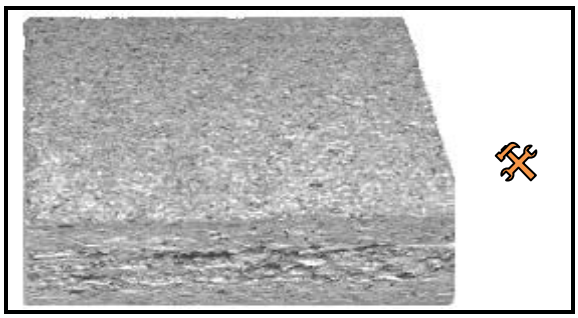
3.5.2



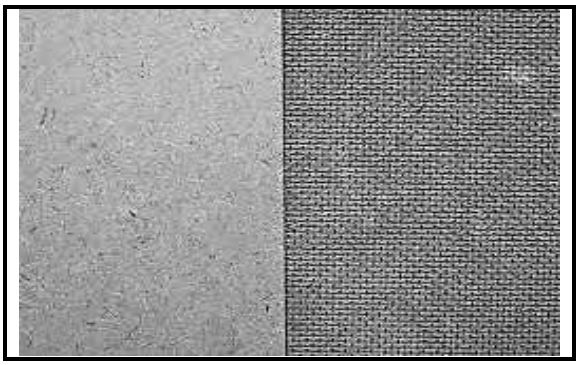
3.5.3



3.5.4



3.5.5



3.5.6



(6 × 1) (6)

[20]

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QUESTION 4: TOOLS AND MACHINES

4.1 An air compressor compresses air in a tank and when the air is needed it is released. Air compressors are powered by gas or electricity.

Name FOUR typical hand tools that use compressor air. (4)

4.2 Name TWO uses of each of the following planes in the building industry:

4.2.1 Rebate plane

4.2.2 Plough plane

4.2.3 Smoothing plane

(3 × 2) (6)

4.3 State FIVE safety measures to be observed when using a pneumatic stapler. (5)

[15]

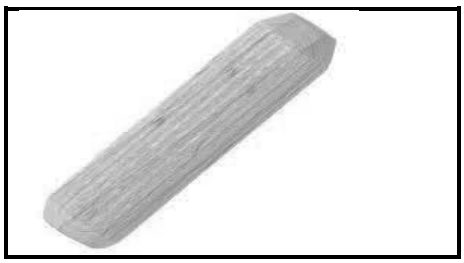
QUESTION 5: FIXATIVES, GLUES AND FITTINGS

5.1 Name THREE typical surfaces where wall plugs can be used. (3)

5.2 Name FOUR different types of glues that are commonly used in the woodworking industry. (4)

5.3 Name the different fixatives below by writing the name and use of each fixative next to the question number (5.3.1–5.3.4) in the ANSWER BOOK.

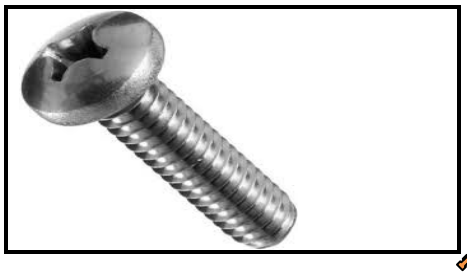
5.3.1



5.3.2



5.3.3



5.3.4



(4 × 2) (8)
[15]

QUESTION 6: JOINTS

6.1 Name ONE use of the feather and groove joint. (1)

6.2 Make a neat single-line drawing of each of the following joints:

6.2.1 Triangular glue block joint

,

6.2.2 Square glue block joint

6.2.3 Right-angle mitre joint

(3 × 3) (9)
[10]

QUESTION 7: BUILDING-RELATED CALCULATIONS

7.1 A timber has a mass of 550 g. After constant drying, the mass was reduced to 490 g.

Calculate the percentage moisture content of the timber. (3)

7.2 The campus manager asked you to create a billboard for advertising the campus and paid you R8 430,00 for the job. The labour cost was 15% and the cost of the materials was 35% of the amount you received.

What was the amount you paid for the labour cost and the material and what was the profit of this job? (7)
[10]

TOTAL: 100

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