higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T1570**(E)**(A3)T

NATIONAL CERTIFICATE

RIGGING THEORY N1

(11041841)

3 August 2018 (X-Paper)
09:00–12:00

This question paper consists of 5 pages.

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DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE
RIGGING 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. Keep ALL the subsections of questions together.
5. Draw neatly where necessary.
6. Write neatly and legibly.

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QUESTION 1

1.1 State FIVE safety precautions that must be taken before working with electric tools. (5)

1.2 Explain why chisels are grounded concave. (2)

1.3 State FOUR safety precautions with regard to the use of safety belts. (4)

1.4 Define the term *horseplay.* (2)

1.5 State the purpose of wearing safety goggles. (2)

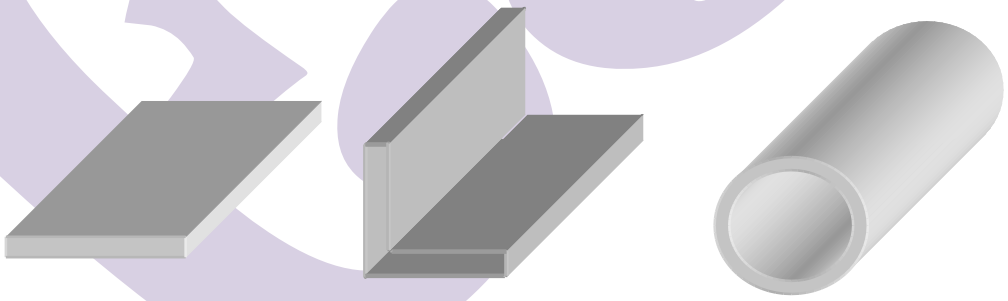
[15]

QUESTION 2

2.1 List FOUR types of pliers that are used during a rigging process. (4)

2.2 State ONE purpose of each plier that is mentioned in QUESTION 2.1. (4)

2.3 The FIGURES below shows different types of steel profiles (A–C) that are used during rigging. Write the letters (A–C) and next to the letter the name of each profile in the ANSWER BOOK.



A **B** **C** (3)

2.4 Define the following terms with regard to heat treatment processes.

2.4.1 Normalising

2.4.2 Heating

(2 × 2) (4)

[15]

QUESTION 3

3.1 Name THREE safety precautions with regard to scaffolding. (3)

3.2 Name FOUR advantages of steel planks with regard to scaffolding. (4)

3.3 Explain what is meant by the following terms with regard to scaffolding:

3.3.1 Base plate

3.3.2 Rot or decay

3.3.3 Toe boards

3.3.4 Hollow heart

(4 × 2) (8)
[15]

QUESTION 4

4.1 State SIX types of synthetic fibre ropes (6)

4.2 Name FIVE advantages of steel wire ropes. (5)

4.3 Name FIVE types of turnbuckles (swivels) used on steel wire ropes. (5)

4.4 Explain TWO caring methods that must be exercised in the handling of non-spin ropes. (2 × 2) (4)
[20]

QUESTION 5

5.1 List FOUR types of hitches done with ropes. (4)

5.2 Illustrate by means of a neat sketch how the sheet bend knot is done on a sling. (3)

5.3 Explain how a monkey fist knot is made on a rope. (5)

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5.4 The FIGURES below show different types of wire rope fittings (A–C) in manufacturing slings. Write the letters (A–C) and the name of each rope fitting in the ANSWER BOOK.



A



B



C

(3)
[15]

QUESTION 6

6.1 Explain the lighting-up process in oxyacetylene equipment. (5)

6.2 Illustrate by means of a neat sketch the difference between a cutting and welding nozzle. (4)

6.3 State the colour of the acetylene cylinder in the oxyacetylene equipment. (1)

6.4 Describe each of the following splices done in slings listed below.

6.4.1 Back splice

6.4.2 Eye splice

6.4.3 Short splice

(3 × 2) (6)

6.5 List FOUR disadvantages of chain slings. (4)
[20]

TOTAL: 100

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