higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T730**(E)**(A4)T

NATIONAL CERTIFICATE

FOUNDRY THEORY N1

(11020221)

4 April 2019 (X-Paper)
09:00–12:00

This question paper consists of 4 pages.

Copyright reserved

DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE
FOUNDRY 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. Write neatly and legibly.

Copyright reserved

QUESTION 1

Name the alternatives to casting when choosing a production method. **[4]**

QUESTION 2

Give ONE hazard of compressed air. **[2]**

QUESTION 3

Explain a pattern maker's role in casting production. **[25]**

QUESTION 4

Choose a description from COLUMN B that matches a type of sand in COLUMN A. Write only the letter (A–F) next to the question number (4.1–4.6) in the ANSWER BOOK.

COLUMN A		COLUMN B	
4.1	Green sand	A	moulding sand prepared artificially
4.2	Dry sand	B	moulding sand from cast-up moulds
4.3	Facing sand	C	sand used against the face of a pattern
4.4	Backing/Floor sand	D	sand free of moisture
4.5	Black sand	E	sand that has had contact with hot metal
4.6	Synthetic sand	F	sand containing moisture

(6 × 1) **[6]**

QUESTION 5

Name the most important physical properties of moulding sand. **[7]**

QUESTION 6

Explain *sieve analysis*. **[30]**

QUESTION 7

Why is it important to control the milling time of sand? **[4]**

Copyright reserved

QUESTION 8

What determines the flow of metal into a mould? **[8]**



QUESTION 9

Determine the mass required on a box covering a mould in which a plate, cast iron 1 m × 0,5 m, is to be poured. The cope is 150 mm deep with the runner bush 100 mm above it (this gives a head of 250 mm). **[14]**

TOTAL: 100

Copyright reserved