higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

T730**(E)**(J31)T

NATIONAL CERTIFICATE

FOUNDRY THEORY N1

(11020221)

31 July 2018 (X-Paper)
09:00–12:00

This question paper consists of 4 pages.

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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.

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QUESTION 1

Explain *die casting*. **[6]**

QUESTION 2

Name TWO types of compressors that are used in the foundry industry. **[2]**

QUESTION 3

Why are bot sticks used? **[5]**

QUESTION 4

What is *patternmaker's contraction*? (5 × 2) **[10]**

QUESTION 5

Why is the moisture content essential in moulding sand? **[10]**

QUESTION 6

Name the properties that a good quality moulding sand should have. **[11]**

QUESTION 7

What is the importance of coal dust and pitch in moulding sand (green-sand system)? **[6]**

QUESTION 8

Make a neat, labelled drawing of a simple gating system. **[10]**

QUESTION 9

Name THREE main parts usually found in all gating systems. **[3]**

QUESTION 10

What is a *snap flask*? **[2]**

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QUESTION 11

Match each metal with its corresponding density by writing only the letter (A–E) next to the question number (11.1–11.5) in the ANSWER BOOK.

DENSITY		METAL	
11.1	Cast iron	A	8,89
11.2	Steel	B	7,80
11.3	Brass	C	7,20
11.4	Copper	D	2,70
11.5	Aluminium	E	8,70

(5 × 1) **[5]**

QUESTION 12

Make a neat, labelled drawing of a bottom-pour ladle. **[10]**

QUESTION 13

Name EIGHT defects that are found in castings. **[8]**

QUESTION 14

Why is a riser or feeder used? (6 × 2) **[12]**

TOTAL: 100

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