



higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE DIGITAL ELECTRONICS N5

(8080365)

**8 July 2022 (X-paper)
09:00–12:00**

Drawing instruments and nonprogrammable calculators may be used.

This question paper consists of 6 pages.

193Q1A2208

DEPARTMENT OF HIGHER EDUCATION AND TRAINING
REPUBLIC OF SOUTH AFRICA
NATIONAL CERTIFICATE
DIGITAL ELECTRONICS N5
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. Calculation processes and calculated answers must be given in THREE fractional radix spaces, for example $10, 101_2$.
 5. Only use a black or blue pen.
 6. Diagrams must be clear and neat and may be done in pencil.
 7. Write neatly and legibly.
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QUESTION 1

Various options are given as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question number (1.1–1.10) in the ANSWER BOOK.

- 1.1 The Gray equivalent of the binary number 1001011_2 is ...
- A 1110001.
 - B 1101110.
 - C 1100110.
 - D 1110010.
- 1.2 The ASCII code for cq is the following:
- A 1000011 1010001
 - B 1100011 1110001
 - C 1000011 1110001
 - D 1100011 1010001
- 1.3 The decimal number for the code $0010\ 0100\ 1001_{8.4.2.1}$ is ...
- A 358.
 - B 239.
 - C 249.
 - D 348.
- 1.4 The binary equivalent of the Gray number 1001111 is ...
- A 1001010.
 - B 1101000.
 - C 1110101.
 - D 1001101.
- 1.5 A tri-state device is used ...
- A for current sinking and sourcing.
 - B to interface digital devices such as memories to a bus.
 - C to filter spikes caused by switching.
 - D to smooth output ripples.
- 1.6 The process whereby an output establishes a current path from V_{cc} to the input of the following gate, is called ...
- A current sinking.
 - B current sourcing.
 - C contact bounce.
 - D a leakage current.