



higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE
DIGITAL ELECTRONICS N5

(8080365)

11 February 2022 (X-paper)
09:00–12:00

Drawing instruments and nonprogrammable calculators may be used.

This question paper consists of 7 pages.

191Q1E2211

DEPARTMENT OF HIGHER EDUCATION AND TRAINING
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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. Start each question on a new page.
 5. Calculation processes and calculated answers must be given in THREE fractional radix spaces, for example 10, 101₂.
 6. Only use a black or blue pen.
 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–C or A–D) next to the question number (1.1–1.10) in the ANSWER BOOK.

- 1.1 The 8.4.2.1 code for decimal 101 is ...
- A 0001 0000 0001.
 - B 0010 0000 0010.
 - C 0101 0101 0101.
 - D 001 000 001.
- 1.2 **GIVEN:** The binary number 1100110_2 . The conversion of this code to Gray yields ...
- A 1101101.
 - B 1010110.
 - C 1011001.
 - D 1010101.
- 1.3 Which of the following TTL-series has the highest power dissipation?
- A 74L00
 - B 74LS00
 - C 74S00
- 1.4 If the input to a tri-state buffer is 0 and the select input is 1, then ...
- A the output is in the high-Z state.
 - B the output is 1.
 - C the output is 0.
- 1.5 The process whereby closing a switch results in voltage spikes, which is unacceptable in digital equipment, is called ...
- A latching.
 - B propagation delay.
 - C static electricity.
 - D contact bounce.
- 1.6 A 16K memory can store a number of words. Give the decimal label of the last address.
- A 15999
 - B 16000
 - C 16383
 - D 16384