



higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE
DIGITAL ELECTRONICS N5

(8080365)

30 August 2021 (X-paper)
09:00–12:00

Drawing instruments and nonprogrammable calculators may be used.

This question paper consists of 6 pages.

199Q1G2105





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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 section on a new page.
 5. Calculation processes and calculated answers must be given in THREE fractional radix spaces, for example $10, 101_2$.
 6. Use only 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–D) next to the question number (1.1–1.10) in the ANSWER BOOK.

- 1.1 Given binary code: 11010_2 . The conversion of this code to Gray yields:
- A 10110
 - B 10111
 - C 11011
 - D 11001 
- 1.2 The ASCII code for AP is:
- A 1000000 1010000
 - B 1000001 1010001
 - C 1000001 1010000
 - D 1000001 1100000
- 1.3 The output of an EXCLUSIVE-OR gate, if both of the inputs are connected to logic 0, is:
- A 1 
 - B 0
- 1.4 The main advantage of using the R/2R method of D/A conversion over the binary weighted A/D converter is that it ...
- A has a lower output impedance.
 - B produces a ramp output. 
 - C requires two resistor values.
 - D produces a non-inverting signal.
- 1.5 A type of non-impact printer where characters are burned onto heat-sensitive paper is called a ... printer.
- A laser
 - B thermal
 - C xerographic
 - D electrostatic 
- 1.6 The device that is used to modulate digital data to audio signals during transmission, and demodulate audio signals to digital data during reception, is referred to as a ...
- A USART.
 - B CPU.
 - C MODEM.
 - D UART.