

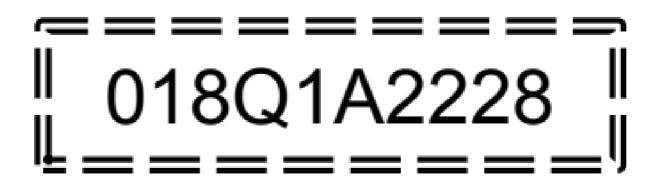
NATIONAL CERTIFICATE COMMUNICATION-ELECTRONICS N5

(8080235)

28 June 2022 (X-paper) 09:00-12:00

Drawing instruments and nonprogrammable calculators may be used.

This question paper consists of 6 pages and a formula sheet of 5 pages.



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DEPARTMENT OF HIGHER EDUCATION AND TRAINING REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE
COMMUNICATION-ELECTRONICS N5
TIME: 3 HOURS
MARKS: 100

INSTRUCTIONS AND INFORMATION

- Answer all the questions.
- 2. Read all the questions carefully.
- Number the answers according to the numbering system used in this question paper.
- 4. Start each section on a new page.
- 5. Write neatly and legibly.

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QUESTION 1: AC NETWORKS

1.1 Define the follow	ing terms:
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- 1.1.1 Selectivity
- 1.1.2 Q-factor



 $(3 \times 2) \qquad (6)$

1.2 A series circuit consists of a coil with a DC resistance of 5 Ω and an inductance of 22,5 mH and a variable capacitor of unknown value. The circuit is connected across a 220 V/50 Hz supply.

Determine the following:

- 1.2.1 The capacitor value at resonance (3)
- 1.2.2 The voltage drop across the inductance (4)
- 1.2.3 The voltage drop across the capacitor (1)
- 1.2.4 The Q-factor of the circuit (2)
- 1.3 Prove that VL = Q x Vs [22]

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