



higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE COMMUNICATION-ELECTRONICS N5

(8080235)

**26 July 2021 (X-paper)
09:00–12:00**

Drawing instruments and nonprogrammable calculators may be used.

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

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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. Only use a black or blue pen.
 6. Write neatly and legibly.
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QUESTION 1

1.1 A supply of 20 V at a frequency of 50 Hz is connected across a parallel circuit consisting of a 1 kΩ resistor, a coil of 0,5 H and a 10 μF capacitor.

1.1.1 Draw the circuit.  (2)

1.1.2 Calculate the following:

(a) The total supply current (8)

(b) The phase angle (2)

1.2 Draw the phasor diagram.  (4)

1.3 Refer to FIGURE 1 (below) and do the following for a supply current of $50\text{ A} \angle 30^\circ$:

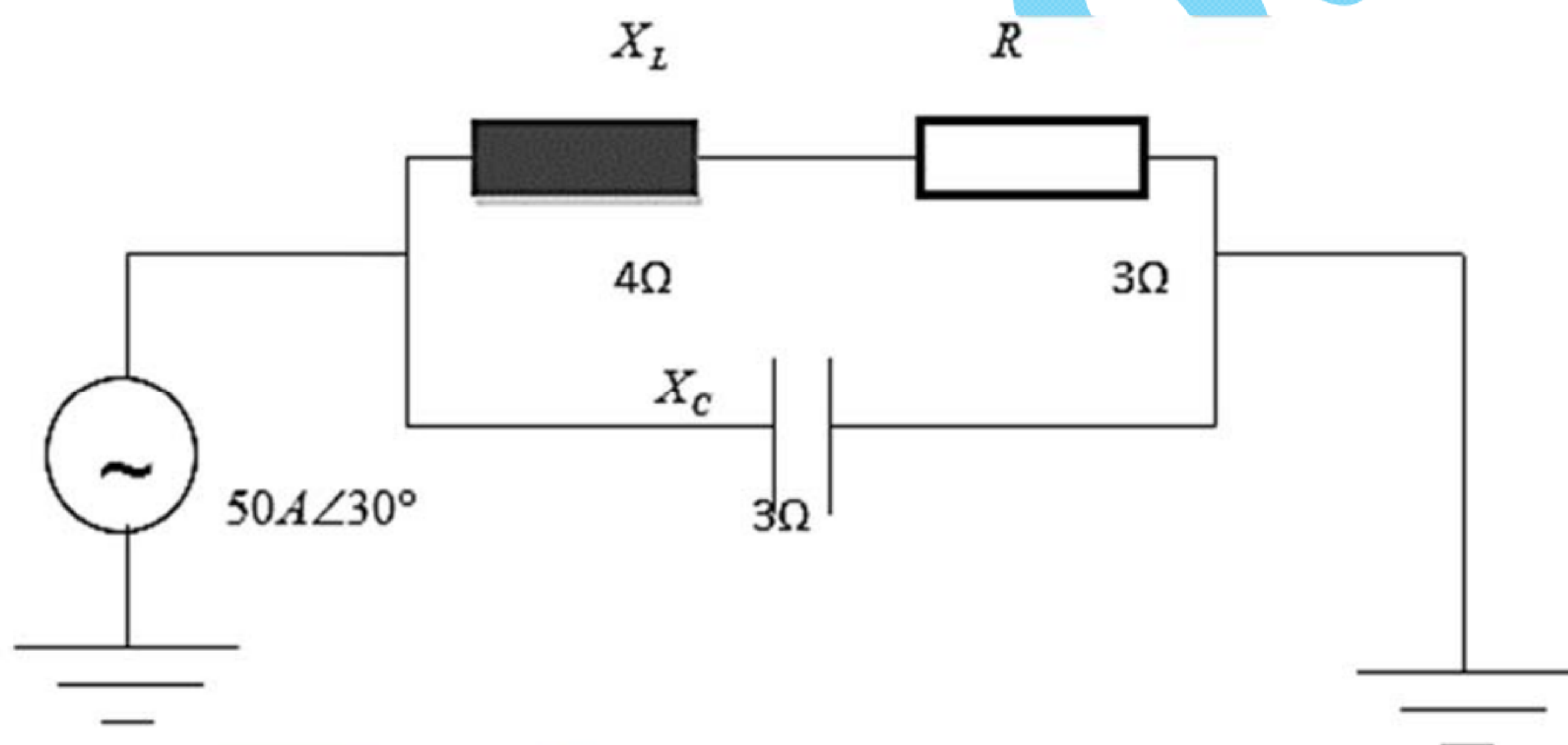



FIGURE 1

1.3.1 Calculate I_{LR} .  (5)

1.3.2 Determine I_C . (4)

[25]