

# Logic Gates Advanced Level

## Multiple choice questions

Question 1	Question 2	Question 3
Which logic gate outputs a 'true' signal only when both inputs are 'false'?	What is the primary function of a NOT gate?	What is the purpose of truth tables in relation to logic gates?
<p>A. AND gate</p> <p>B. NAND gate</p> <p>C. OR gate</p> <p>D. NOR gate</p>	<p>A. To combine multiple input signals into a single output</p> <p>B. To invert the input signal</p> <p>C. To output a 'true' signal only when all inputs are 'true'</p> <p>D. To output a 'true' signal only when at least one input is 'true'</p>	<p>A. To represent the physical structure of logic gates</p> <p>B. To demonstrate the historical development of logic gates</p> <p>C. To visualise the behaviour of logic gates for different input combinations</p> <p>D. To explain the mathematical formulas used to calculate logic gate outputs</p>

## Short-answer questions

1. What are the three most basic logic gates, and what are their defining characteristics?
2. Explain the concept of universal gates and provide examples.
3. What is the significance of logic gates in the context of digital systems?

## Open-ended questions

1. Logic gates work with binary signals, representing either 'true' or 'false'. Consider how this concept of binary thinking might be reflected in the way we make decisions, process information, or interact with the world around us. How might our understanding of this binary system influence our perspectives?
2. It is important to understand these gates to comprehend the digital world. Reflect on how your understanding of the underlying principles of technology impacts your own engagement with digital devices and the information they provide.

