



## 1.4.3 D-Type Flip flops Questions

1. What is the purpose of a D-type flip flop?

\_\_\_\_\_ [2]

2. What are the inputs of a D-type flip flop?

\_\_\_\_\_ [1]

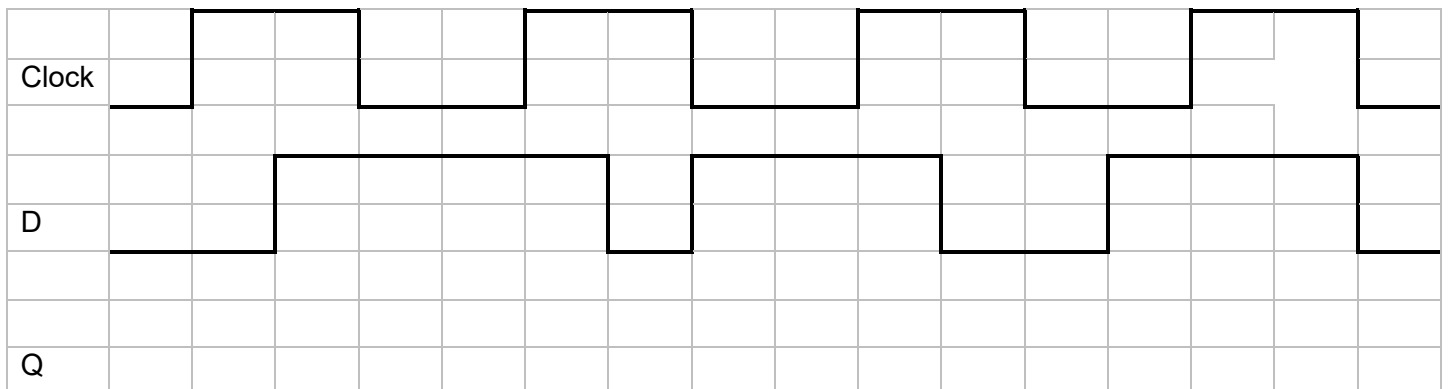
3. Describe what is meant by a rising edge

\_\_\_\_\_ [2]

4. Describe the inputs and outputs of a D-type flip flop explaining how the outputs are affected by the inputs.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ [4]

5. Draw the output of a flip flop (Q) on the diagram below



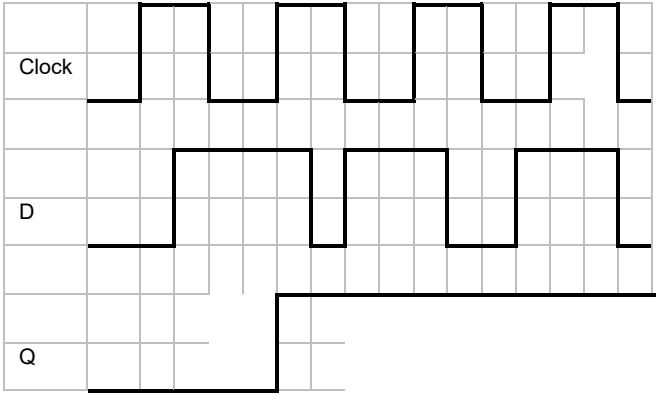
[2]

END OF QUESTION PAPER



## 1.4.3 D-Type Flip flops Questions

### Mark scheme

Question			Answer/Indicative content	Marks	Guidance
1			<ul style="list-style-type: none"> <li>To store a value</li> <li>... of 1 bit</li> </ul>	1	
2			<ul style="list-style-type: none"> <li>D or data</li> <li>C or Clock</li> </ul>	1	
3			<ul style="list-style-type: none"> <li>The rising edge refers to the output only changing</li> <li>... in correspondence with the clocks rising pulse.</li> </ul>	2	
4			<ul style="list-style-type: none"> <li>Data input (D)</li> <li>Clock input (C)</li> <li>Q output</li> <li>Q changes corresponding to the clock's high pulse</li> </ul>	4	
5			 <p>1 mark for each two correct clock cycles.</p>	2	
<b>Total</b>				<b>10</b>	