## MICRO-CONTROLLER EXAMINATION QUESTIONS

On behalf of The World Association of Technology Teachers
W.A.T.T.


World Association of Technology Teachers

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Trains are often controlled by traffic lights. These tell the train driver when to stop and when it is safe to move the train forwards. The lights are controlled by the outputs of a microcontroller circuit (seen below).
The table shows the operating cycle.


Outputs 0 to 5 are used to control the sequence of lights
What are the logic levels of the outputs when they are switched on by the microcontroller

Complete the table below to show the output bit pattern required to run the traffic lights for one cycle. Begin with light $A$ on GREEN and light $B$ on RED.

OUTPUT BIT | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
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