## PROGRAMMING A MICRO-CONTOLLER - EXAMINATION QUESTION



World Association of Technology Teachers

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The traffic control system shown below has INPUTS and OUTPUTS. Each input and output has a number these are listed on the diagram below.


Write the control sequence for the following sequence of events: Please note, when the barrier is raised/open it is 'ON'. When the barrier is lowered/closed it is 'OFF'. The first five stages have already been completed.

TRAFFIC LIGHT - RED
BARRIER IN CLOSED POSITION INPUT 1 AND INPUT 2 OFF TRAFFIC LIGHTS RED + AMBER
ON
WAIT 5 SECONDS
TRAFFIC LIGHTS - RED + AMBER
OFF
TRAFFIC LIGHTS GREEN ON
BARRIER OPENS
WAIT 60 SECONDS
TRAFFIC LIGHTS - GREEN OFF
TRAFFIC LIGHTS - AMBER ON
WAIT FIVE SECONDS
TRAFFIC LIGHTS - AMBER AND RED ON
WAIT 5 SECONDS
TRAFFIC LIGHTS - AMBER OFF
BARRIER LOWERED.

OUTPUT 1 ON
OUTPUT 4 OFF
IF INPUT 1 OFF AND OUTPUT 2 OFF
OUTPUT 1 AND OUTPUT 2 ON
WAIT 5
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Suggest two improvements to the traffic control system shown in the diagram above.
1.
2.
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