# Answer Sheet

*This sheet should be printed out and handed in during the lab session. It can be completed either electronically or by hand.*

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## Questions from The Lab

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| **Section** | **Question** | **Answer** |
| **2.1 Activity 1** | Briefly describe what the two tasks ‘t\_led’ and ‘t\_button’ are used for. | To store the tasks id, which are the task identifiers for the scheduler |
| **2.1 Activity 1** | A third task is created for a short while; what is its purpose? | It is an idle task which is active while no thread/task is ready for execution |
| **2.1 Activity 1** | How long is the ‘tick’ period? How is this time configured? | The tick period is 10mS and is configured at a macro called OS\_TICK. This is the default value (#ifndef) |
| **2.3 Activity 3** | How quickly does the system respond to the button press? Explain briefly how this is achieved. |  |
| **2.3 Activity 3** | Explain what happens to the timing of the 3 sec period when the flashing restarts? |  |

## Viva Record

You should demonstrate the behaviour of the system in Activity 2.

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| **Section / Item** | **Initials / Date** | **Comment** |
| **Section 2.2 Button controlled flashing** |  |  |

## Question about concepts

Answer the following questions concisely:

1. What is the main capability provided by a simple RTOS such as ARM’s RTX? [***Between 10 and 30 words***]

Enable the implementation of multiple tasks simultaneously without have to worry too much about the scheduling, timing and maintenance issues of a cyclic system.

1. An embedded system needs to monitor multiple inputs and control multiple outputs at the same time. An engineer says ‘*there is no choice; we must use an RTOS*’. Explain whether you agree, giving your reasons. [***Between 15 and 30 words***]

It is not obligatory, as you can implement some cyclic system but, depending of the complexity of the system, a RTOS can simplify the work, removing obstacles from the project and leaving only the real problems to solve.

## Overall Feedback

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| **Marker** | **Date** | **Grade** |
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