Microprocessors Lab ECSE426
McGill University
Demo Sheet – Lab 1

Student Name: _____   Student ID: _____
Student Name: _____   Student ID: _____

Part I

1. Demonstrate correct functionality of the code as follows: **(1 Mark)**

    - The output of the assembly encryption subroutine matches the TA output for a specific message and key   (0.4 mark)
    - The assembly decryption subroutine faithfully yields back the original message   (0.4 marks)
    - Assembly subroutines adhere to the calling convention and give correct output if called from within C   (0.1 marks)
    - Output of the C code matches the assembly code   (0.1 marks)

2. TEA algorithm implementation discussion. Students should explain the code clearly and their instruction choices.   **(1 Mark)**

3. Correct test bench and initialization subroutines (assembly and C), following the order of calling the functions   **(0.5 Marks)**

4. Coding requirements and optimization   **(2 Marks)**

    Grades awarded based on best results between groups. (Top 5 groups get highest mark, second top 5 groups get 75% of the marks ...etc.)

    Set simulation speed at 25MHz. Measure the execution time and record it for the same combination of message/keys among all groups)

    Reported Execution time for Encryption is _____ µsec and for decryption is _____ µsec
                                                                                                                      (0.5 marks)
    Number of registers used is _____   (0.5 marks)
    Correct usage of stack   (0.5 marks)
    Code uses minimum memory footprint and/or uses modular design techniques   (0.5 marks)

5. Code documentation. Use of clear functional comments   **(0.5 Mark)**

Part II   **(1 Mark)**

6. Students were able to retrieve the message and crack the keys associated with their group
                                                                                                                      (0.5 marks)
7. Demonstrate correct understanding of basic C programming   (0.5 marks)