PRINCE OF SONGKLA UNIVERSITY
FACULTY OF ENIGNEERING

Midterm Examination : Semester I   Academic Year : 2006
Date :   3 August 2006   Time: 9.00 - 12.00
Subject : 240- 534 ADVANCED COMPUTER ENGINEERING DESIGN AND SYSTEMS   Room : A205
----

1. Describe the common characteristics of FPGA in term of
    a. Logic element
    b. Lookup tables
    c. Memory resources
    d. Routing resources
    e. Configurable I/O
(15 points)

2. When is C language Appropriate for FPGA Design?
(5 points)

3. Please describe the flow of data process to process as shown in Figure 1.
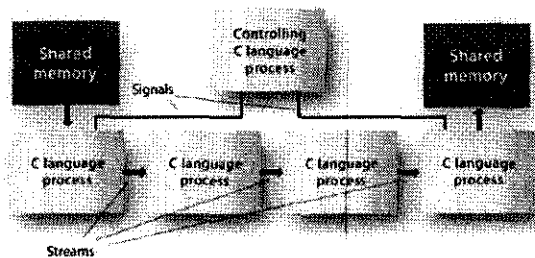

        Figure 1 The data processed by an application flows from process to process
(15 points)

4. Implement the application "Hello FPGA" using Impulse C.
    a. Draw the structure diagram of Hello FPGA between hardware process and software
    test bench *(10 points)*
    b. what is "co.h" ? *(5 points)*
    c. Write Impulse C for Software Test bench and Hardware process of Hello FPGA.
    (25 points)

5. Please explain how to monitor the system using log windows to organize, format and
    display messages and other information from within the executing Impulse C
    application? *(25 points)*