

Course No: SWE 4412
Course Title: Concurrent and Real-time Programming
Date: 5/11/2012
No. of Questions: 4
Time: 11:00 – 12:00
Using Calculator (No)

University of Palestine

Final Exam
First Semester 2012/2013
Total Grade: 20

Instructor: Dr. Mohammed Awad
Student No.: _____
Student Name: _____
Faculty Name: Faculty of Engineering
Department: Software Engineering

Question 1

(3 marks)

Define each of the following terms:

- a. **Encapsulation**
- b. **Multithreading**
- c. **Real-time system**

Question 2

(4 marks)

Show the differences between the following terms:

- a. The difference between **hard real-time** and **soft real-time**.
- b. The difference between **Procedural languages** and **Object Oriented Languages**.

Question 3

(6 marks)

Write a java code that includes one thread called "**up**" and prints "**Welcome to University of Palestine**" through executing the run() method that belongs to "**up**" thread.

Question 4

(7 marks)

Write a java code that includes a synchronized method. This method calculates the balance of the visa card in bank of Palestine. Show how **(3) Three** concurrent threads will execute this method.

END OF QUESTIONS