## **Philadelphia University**



### Student Name:

# Faculty of Engineering

#### **Student Number:**

# Dept. of Computer Engineering First Exam, First Semester: 2014/2015

Course Title: Real-Time Computer Control Systems
Course No: (630512)
Lecturer: Dr. Mohammed Mahdi
Date: 20/11/2014
Time Allowed: 1 Hour
No. of Pages: 1

Question 1: (12.5 Marks)

Objectives: This question is about the basic concepts RTCCS.

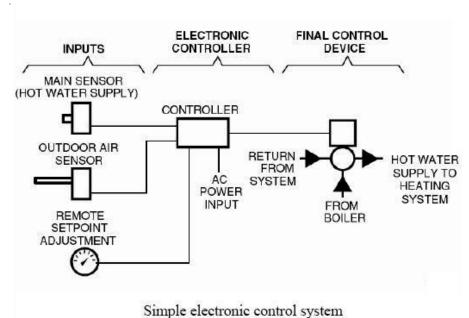
Answer the following briefly: -

- 1. Define the term RTCCS. Explain its critical design parameter?
- 2. Sketch the schematic diagram of I/O pulse interfacing.
- 3. Write down a comparison between analog and DDC control schemes.
- 4. What is the main role of computer in supervisory control scheme?
- 5. A process receives two analog signals and generates two digital signals. It is required to sketch its interfacing schematic diagram.

Question 2: (7.5 Marks)

# Objectives: This question is about DDC system design.

Given the following system block diagram, it is required to replace its analog controller with a microprocessor based one. Sketch its DDC real-time computer control I\O interfacing scheme, then add what is necessary from your point of view.



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