



Daffodil International University
Department of Computer Science and Engineering
Faculty of Science and Information Technology
Final Examination, Semester: Fall 2019
Course Code: CSE423 Course Title: Embedded Systems

Time: 120 minutes

Full Marks: 40

[Answer all the Questions]

1. a) What is Memory? Explain different types of Memories of Atmel AVR. [7+3]
b) Suppose you are working with LDR in your lab. Unfortunately, you found that the "Serial Monitor" via which you are monitoring the system is providing some values which are completely irrelevant. As a troubleshooter, what will be your initial steps to identify and resolve the problem?
2. Let's consider the scenario-A well reputed shopping mall asked a company to design an Automated Escalator System which will be activated if the PIR sensor detects any motion. Write a sketch- [5+5]
a) If the PIR sensor detects any motion then the escalator starts running.
b) If no motion is detected by the PIR sensor, the escalator will be OFF and LCD display will show a comment "No Motion Detected".
3. Let's say you are working on a project where you need to design a Street Lighting System which should be completely Eco-friendly and all the required energy should be harvested from the natural sources. In this scenario, list all the required components along with sketch to develop a prototype in the lab. [Provide necessary justification] [10]
4. In temperature monitoring systems, three different temperature levels such as less than 20, 20 to 40, greater than 40 degrees centigrade are detected by three different LEDs green, blue, and red respectively. Besides, an alarming system is also attached where a buzzer will give an alarm with 500 Hz frequency if the temperature value is greater than 40 degrees centigrade. Write a sketch for this system that reads temperature values detected by LEDs and alarmed by buzzer. [10]