Mid-term Exam Instructions

Course Code: CSE 425

Course Title: Microcontroller, Computer Peripherals and Interfacing

Department of Computer Science and Engineering, Varendra University

Session: Summer-2020

Marks Distribution: (For mid-term only)

Project	**10 marks**
Presentation	**10 marks**
Viva	**10 marks**
Total	**30 marks**

Project: (10 marks)

Canvas: Shormy, Tamim and Raj are final year CSE students who have formed a team for their hardware project. They named their team as "Newbies". After a success of their first ever arduino project "LIMA" which was a response aid device for deaf and autistic people, their Robotics Club instructor prepares a simple task for them— to help the people of their vicinity. The concern is to build an embedded system that would make the roadside/ground floor lights automatically on during night-time and automatically off during day-time. Also the system must include a backup plan to save the lights from being stolen.

So, team Newbies now have two problems: 1) Make an automated light system and 2) Add alarm with that system. Before creating the actual project they want to test it on a simulation platform but they don't know how to.

Your task is to create a simulation based embedded system project that would serve purpose to the problems of team Newbies.

****Read the instructions carefully and thoroughly**

Instructions:

1) Use the digital pins in arduino that match last 2 digits of your class ID. Of course, **you can use as much as pins you want** but **among them two pins must have to match with last two digits of your ID.** For example: ID 171311135 can use as much digital pins he wants but he must have to use digital pin 3 and digital pin 5.

   i) For someone whose ID is like 171311013, 171311003, 171311022 or 163311008, he just have to match last digit of his ID. Which means, ID 171311013 must have to use digital pin 3; ID 163311008 must have to use digital pin 8 and ID 171311022 must have to use digital pin 2.

   ii) No rule is applicable to them whose ID's last two digits are 0 and 1. For example: 163311010, 171311110, 171311111, 171311001

2) Must include adequate comments with your code**.**

3) You have to build the project within your respective class section in tinkercad**.** The class link and nick-names have already been shared with you.

Presentation: (10 marks)

1) A template of your project presentation has been shared with you. It's up to you if you want to follow that or not. You are free to use PowerPoint or Prezy or any other presentation tool.
2) You must have to present in English.
3) Your time limit is 5 minutes.

Viva: (10 marks)

1) Syllabus for viva : Class lecture-1 to class lecture-5
2) You have to turn your camera on.

P.S : Use this link to get access to your class in tinkercad. You already know your nick-name.

Section - A	https://www.tinkercad.com/joinclass/TWPFZUN4N8SS
Section - B	https://www.tinkercad.com/joinclass/NSXE7XNZAVIH
Section - C	https://www.tinkercad.com/joinclass/NRU7GA9WFB45

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