# EE 117 – Applied Physics

## Assignment 1

### Fall 2019

**Name:** _____                                    **Roll Number:** _____

| **Maximum Marks:** 10 | **Due Date:** 5 September 2019 |
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**Instructions:**

- Partially or fully **copied assignments** will be marked as **zero**.
- Only **handwritten** solution on **A4 page** will be accepted.
- Solve all the questions in the given sequence and all the parts of a question must be in proper order. You will be penalized for random and out of sequence answers.
- Clearly indicate all the calculations in your solution. No points will be awarded in case of missing calculations.
- You can submit your assignment only in your class or before time in my office.

| Question No. 1 | Two identical cars except their colour, one is black and other is white. They are about to move toward each other while staying in their adjacent lines. At time instant $t = 0\ sec$. The black car is at position $x_b = 0$ and white car is at $x_w$ is 220 m away. If the black car has a constant velocity $20 km/h$ then both passes each other at $x = 44.5\ m$, and if it has constant velocity of $40\ km/h$ they pass each other at $x = 76.6\ m$. Examine the initial velocity and constant acceleration of the white car. | [5] |
|---|---|---|
| Question No. 2 | An explorer is caught in whiteout while returning to camp. He was supposed to travel 5.6 km due north. But after clearance he found that he is actually at 7.8 km at 50º north of due east. Examine how far and in what direction must now he should travel to reach the camp. | [5] |

> *Good Luck*