**National University of Computer & Emerging Sciences, Karachi** **Spring 2021**Assignment II

**Instructions:**

* Read the following scenario carefully before performing the given tasks
* You can use Google if you need to (although it's likely that you won't have to)
* Don't share your solutions with each other
* Use comments to explain your code wherever applicable

**Submission:**

* You'll need to submit a single .***docx*** file containing separate solutions for each task
* Before submission, rename your file as your ID e.g. ***k20-1234.docx***
* **Deadline:** *Monday, 20th of March, 2021 (07:00 am)*
* To be submitted on Google Classroom *(code:* cj6dvs2*)*

Q1. Simplify using k-map F(A, B) = Σ(0, 1,2,3)

Q2. Simplify .

Q3. A certain system contains two identical circuits operating in parallel. As long as both are operating properly, the outputs of both circuits are always the same. If one of the circuits fails, the outputs will be at opposite levels at some time. Devise a way to monitor and detect that a failure has occurred in one of the circuits.

Q4. Show that how NOR and negative-AND are equal.