

Problem Set 2
CSCE 440/640

Due dates: Electronic submission of the pdf file of this homework is due on **9/14/2016 before 2:50pm** on ecampus.tamu.edu, a signed paper copy of the pdf file is due on **9/14/2016** at the beginning of class.

Name: (put your name here)

Resources. (All people, books, articles, web pages, etc. that have been consulted when producing your answers to this homework)

On my honor, as an Aggie, I have neither given nor received any unauthorized aid on any portion of the academic work included in this assignment. Furthermore, I have disclosed all resources (people, books, web sites, etc.) that have been used to prepare this homework.

Signature: _____

Read chapters 2 and 3 in the lecture notes and chapter 5 in the textbook.

Quantum Circuits

Problem 1. (10 points) Exercise 2.11 in the lecture notes. Hint: $X = HZH$.

Solution.

Problem 2. (10 points) Exercise 2.16 in the lecture notes.

Solution.

Problem 3. (15 points) Exercise 2.22 in the lecture notes.

Solution.

Problem 4. (15 points) Exercise 2.23 in the lecture notes.

Solution.

Entangled States and Teleportation.

Problem 5. (15 points) Exercise 3.1 in the lecture notes.

Solution.

Problem 6. (15 points) Exercise 3.2 in the lecture notes.

Solution.

Problem 7. (20 points) Exercise 3.3 in the lecture notes.

Solution.

Checklist:

- Did you add your name?
- Did you disclose all resources that you have used?
(This includes all people, books, websites, etc. that you have consulted)
- Did you sign that you followed the Aggie honor code?
- Did you solve all problems?
- Did you submit the pdf file resulting from your latex source file on ecampus?
- Did you submit a hardcopy of the pdf file in class?