**Assignment # 1**

**Due Date: 3/12/ 2020 Total Marks 50**

**Instructions to Solve Assignments**

The purpose of assignments is to provide you with hands on practice on database design. It is expected that students will solve the assignments themselves. Following rules will apply during the evaluation of assignment.

* Cheating from any source will result in zero marks in the assignment.
* Any student found cheating in any two of the assignments submitted will be awarded "F" grade in the course.
* In case of question No. 03 direct copy and paste from the research paper will be awarded zero marks.
* **No assignment after due date will be accepted.**

**Problem No. 1 (10 Marks)**

Prove that By

Truth Table

**Problem No. 2 (10 Marks)**

Let A and B are two sets as follows:

A = {♢, ♡, ♣, ♠}

B = {♢, △, ♡, ♣, ♠},

Determine each of the following:

1. ∈ (△, B)
2. ⊆ (B, A)
3. ∪ (A, B)
4. ∩ (B, A)
5. ⊆ (A, B)

**Problem No. 3 (10 Marks)**

1. Let P(x) denotes the statement . What will be the truth values of P (1) & P (5)?
2. Suppose P (x, y) denotes the equation, what will the truth values of the Propositions P (1,2), P (4,0).

**Problem No. 3 (20 Marks)**

Read the paper entitled as “**Design and Analysis of Algorithms Reconsidered**” available in the zip folder.

1. Give critical analysis of the above paper in your own words.
2. Suggest any other efficient method which increase the efficiency of algorithms.