CSSE 3113: Introduction to Software Engineering
Fall 20 Assignment 1

Deadline Date: 4/NOV/2020 4:30 PM

Instructions:

➢ **Viva/Quiz will be conducted for evaluation in next class**

➢ **SUBMIT HANDWRITTEN SOLUTION IN MY OFFICE/CLASS AND SCANNED COPIES ON REQUIRED MEDIUM BEFORE DEADLINE. (LATE PENALTY IS 25% PER DAY)**

➢ **PRINT AND ATTACH THIS TITLE PAGE TO YOUR ASSIGNMENT FILL INFO IN ALL BOXES BEFORE SUBMISSION**

➢ Write in your own words to answer the following, if you use material from any book/website apart from your recommended book please provide relevant references. All work will be assumed yours otherwise.

➢ **Justify your answers where needed. Explain briefly and concisely**

➢ **This is an individual assignment.**

Question no 1:

a. Read following paper and write a two- or three-page paper that discusses the impact of "chaos" on software engineering.

https://pdfs.semanticscholar.org/ec5c/9cc0306031237104363df0da9ee7f921e8e7.pdf

b. Read following business problem and suggest your solution:

Problem Statement − Suppose the problem statement at hand is to contain the attrition that happens in companies worldwide. High quality employees leave the organization, mainly after the appraisal cycle. As a result, an average company loses its valuable human resources and suffers from an overhead of transferring the knowledge to a new employee. This takes time and additional human resource in the form of a trainer, which adds to the company's costs. Devise a plan to contain attrition in the company.

Question no 2:

a. What is a Systems approach? What are its components? Write in detail and give an example
b. How it can be applied to Distance Education? Show all details
c. Name any five quality factors from mccall's quality model. Provide 1 example for each.

Question no 3:

Which life cycle model would you follow for developing software for each of the following applications? Mention the reasons behind your choice of a particular life cycle model. **Clearly Justify your answer**

a. A well-understood data processing application.
b. A new software that would connect computers through satellite communication. Assume that your team has no previous experience in developing satellite communication software.
c. A software that would function as the controller of a telephone switching system.
d. A new cinema booking software that automates and link various cinemas in the city

Question no 4:

a. What is safety-critical software? Give examples.
b. What is a prototype? What is user interface prototyping? Give an example of both
c. Differentiate between Error, fault and failure. Give examples of each.
d. Explain why the effort, time, and cost required to develop a program using the build and fix style increase exponentially with the size of the program? How do software engineering principles help tackle this rapid rise in development time and cost?