

COMP 5/6710 Software Quality Assurance

Test 1 – February 15, 2013

Total: 100 points

Name:_____

1. What is the 60/60 rule of software process? (8)

2.
 - a. Define software failure and software fault. (4)
 - b. Why is it possible that some faults would cause more failures than others? (3)
 - c. What is the Pareto Principle? (4)
 - d. How would Pareto Principle affect testing? (4)

3. In the context of software configuration management, which entity has the authority to prioritize and approve change requests? (5)
What is the composition of this entity (or who are those people in this entity)? (5)

4. What is a software baseline? (5)
What does it consist of? (5)
What purposes does it serve? (5)
5. Define static and dynamic testing. (5)
Specification testing is considered static black-box testing. How is specification testing done?
Give one example and explain. (5)
6. What are the two most common causes for run-away software projects? (6)
7. Describe why software productivity may suffer reduction when a software organization moves from CMM level 2 to 3. (6)
What payoff the organization may gain by doing so? Be specific. (6)

8. Describe why it is the case that the reliability of a software system may be perceived very differently by different users. Give one example. (7)

9. (Circle one answer) The power of peer-review/inspection mainly comes from: (5)

- a. The increasing speed of CPU and the density of memory chips
- b. The effectiveness of the pervasive hand-held devices
- c. Human intellectual power to detect flaws
- d. The seating order/arrangement of the review process
- e. The good ole Moors Law

12. A portion of our ATM machine requirements is given below:

... Among many functions, it should be able to do withdraw, deposit, transfer, inquiry, and currency exchange. The allowed withdraw range is somewhere between \$40 and \$450, and the withdraw amount must be multiples of \$20. It is very important to have an easy-to-use, modern, and effective user interface. In case of unusual usage, the machine should lock down itself and stop delivering any cash. ...

Point out (by circling the words) and explain potential problems for this portion of requirements. Also, suggest how the problems can be resolved, e.g., using different words, eliminating or adding words. (12)