Study Questions for CSE 5324-002 Quiz #4

Spring Semester 2022

M15 Software Quality Assurance

1. What is the difference between Software Quality Assurance (big SQA) and software quality assurance (little sqa)? Who is responsible for each?
   - Big SQA is organization level SQA
   - Little sqa is personal level SQA
2. Describe the costs of quality. Understand the costs of quality graph. Understand the costs of preventing failure; understand the costs of failure.
3. Know why we need software metrics. What is the difference between measures and metrics?
4. Know quality review techniques: inspections, walkthroughs, and peer reviews. Know the differences between the review techniques.
5. Know the SQA activities.
6. What is the SQA framework? Know the components of an SQA plan.

M16 Software Testing (part 1 and part 2)

1. Know testing terminology such as:
   a) Verification
   b) Validation
   c) Bug
   d) Defect
   e) Fault
   f) Failure
   g) Error
   h) Mistake
   i) Kinds of technical reviews
   j) Debugging
   k) Troubleshooting
   l) Test oracle
   m) Condition
   n) Decision
   o) Stub
   p) Mock object
   q) Test driver.

2. Know testing techniques:
   a) Equivalence classes
   b) Equivalence partitioning
   c) Boundary value analysis

d) Decision tables

3. Know the 7 testing principles.
4. Know the differences between white box and black box testing. Know the test techniques for each.
5. Know some examples of verification and validation activities throughout the software development lifecycle model.
6. Know the types of test coverage: Statement, decision, condition, modified condition/decision
7. Know how to determine cyclomatic complexity from a diagram.
8. Know how to determine basis paths
9. Know the generic test process.
10. Know how to generate use case-based test cases: norm al and abnormal cases
11. Know the V-model and categories of test: unit, Integration, System, acceptance
12. Understand what Regression test is for and techniques for implementing regression tests
13. Understand when do we stop testing and why.

M17 Project Management – Estimating Software Effort with COCOMO II

1. Understand what the 3 cost models of COCOMO II are and when they are used: Application composition, early design, and post architecture
2. Understand what the cost drivers are, what they model, and how they are used in constructing a software cost estimate.
3. Understand what the scale factors are, what they model, and how they are used in constructing a software cost estimate.
4. Understand how reuse is accounted for in a code module
5. Know the general formula for the post architecture model effort Estimates: the general formula, how the scale factors are incorporated into the model, and how the cost drivers are incorporated into the model.