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06CS842

Eighth Semester B.E. Degree Examination, December 2012
Software Testing

Time: 3 hrs.

Max. Marks:100

Note: *Answer FIVE full questions atleast*
TWO questions from each part.

PART – A

1   a. Define software quality. Explain the different measures of software quality.   (10 Marks)
    b. With the help of a test and debug cycle, explain testing and debugging process.   (05 Marks)
    c. Write a sample test plan and test cases for the sort program.   (05 Marks)

2   a. Define path. What do you mean by complete, feasible and infeasible path? Give one example for each and explain, with diagram.   (10 Marks)
    b. What is goal directed testing? What are different goal directed testing techniques available to test the computer software? Explain each of them, in detail.   (10 Marks)

3   a. Write the steps involved in creating the equivalence classes.   (08 Marks)
    b. What is category partition method? With diagram explain the different steps in category partition method.   (12 Marks)

4   a. Which are the basic elements of a cause – effect graph? Explain with diagram. Also write the cause – effect graph for the web based computer sale application.   (12 Marks)
    b. Discuss predicate testing, with respect to Boolean operator fault, relational operator fault and arithmetic expression fault.   (08 Marks)

PART – B

5   a. Explain statement testing and branch testing criteria.   (08 Marks)
    b. Define path adequacy criterion. Explain condition and path testing analysis of structural testing with an infeasibility problem.   (08 Marks)
    c. Compare structural testing criteria.   (04 Marks)

6   a. What are definition use pairs? Write an algorithm for finding the GCD of two positive integers, identify definition – use pairs, definition clear path, also write the data dependence and control dependence graph of GCD method.   (12 Marks)
    b. Describe data flow testing criteria, in detail.   (08 Marks)

7   a. Define the different testing terms used in the construction of test specifications and test cases.   (08 Marks)
    b. What is scaffolding? Explain the purpose of scaffolding, in detail.   (06 Marks)
    c. Discuss the importance of test oracles.   (06 Marks)

8   a. Discuss the dependability properties.   (08 Marks)
    b. Describe the different integration testing strategies.   (08 Marks)
    c. What are the different steps in the process of verifying and validating the usability? Explain.   (04 Marks)

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