

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)