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Eighth Semester B.E. Degree Examination, Dec.2013/Jan.2014
Software Testing

Time: 3 hrs.

Max. Marks: 100

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

PART – A

1.
 - a. List all the human errors in testing. (05 Marks)
 - b. Explain with a figure, errors, faults and failures in the process of programming and testing. (10 Marks)
 - c. Explain the different dynamic quality attributes. (05 Marks)
2.
 - a. Explain with example, the execution history of 'C' program. (06 Marks)
 - b. Explain the following methods of testing :
 - i) Walkthroughs ii) Inspections iii) Use of static code analysis tools. (06 Marks)
 - c. Write a 'C' program to search the element in a list by using binary search method and represent :
 - i) All the basic blocks present in the program
 - ii) Flow graph for the above program. (08 Marks)
3.
 - a. Explain with a figure, the different steps involved in the generation of tests using the category partition method. (10 Marks)
 - b. An application takes two inputs x and y where $3 \leq x \leq 7$ and $5 \leq y \leq 9$
 - i) Partition the input domains using unidimensional and multidimensional partitioning.
 - ii) Give the geometric representation of equivalence classes. (10 Marks)
4.
 - a. Write a procedure for generation a decision table from a cause effect graph. (10 Marks)
 - b. Explain with examples, the predicates and Boolean expressions. (10 Marks)

PART – B

5. Explain the following structural testing with the help of 'C' program and its control flow graph
 - a. Statement testing
 - b. Branch testing
 - c. Path testing
 - d. Procedure call testing. (20 Marks)
6.
 - a. Write a 'C' program to find the GCD of two positive integers and draw the
 - i) Control flow graph of GCD ii) Data dependence graph of GCD. (10 Marks)
 - b. Write the algorithm for reaching definition. (05 Marks)
 - c. Explain the data flow testing criteria, with suitable example. (05 Marks)
7.
 - a. Explain the test specifications and cases, with suitable example. (10 Marks)
 - b. Explain with a figure, the test harness with a comparison based test oracle. (06 Marks)
 - c. Explain the capture and replay process. (04 Marks)
8. Write short notes on :
 - a. Integration testing strategies
 - b. System testing
 - c. Regression testing
 - d. Test case prioritization and selective execution. (20 Marks)
