06CS842

Eighth Semester B.E. Degree Examination, June/July 2011
Software Testing

Time: 3 hrs.

Max. Marks:100

Note: *Answer FIVE full questions selecting*
at least TWO questions from each part.

PART – A

1 a. Explain errors, faults and failures in the process of programming and testing with a flow diagram. **(08 Marks)**

   b. What are the quality attributes of software? Explain in detail. **(12 Marks)**

2 a. Explain control flow graph. Write CFG for the following code:
   1. Begin
   2. Int a, b, large
   3. Input a, b
   4. if a > b
   5.   large = a;
   6. else
   7.   large = b;
   8. Output large
   9. End **(10 Marks)**

   b. Explain the five different types of classifiers. **(10 Marks)**

3 a. Write the systematic procedure for equivalence partitioning. **(10 Marks)**

   b. Explain the steps in the category partition method. **(10 Marks)**

4 a. Explain the notations used in cause effect graphing. **(10 Marks)**

   b. What is decision table? What is its composition? **(10 Marks)**

PART – B

5 a. What is structural (code based) testing? Why to use white box testing, when black box testing is used to test conformance to requirements? **(06 Marks)**

   b. Which are different code based testing and adequacy criteria? Explain in detail. **(14 Marks)**

6 a. Explain data dependence and control dependence graphs. **(10 Marks)**

b. Construct PDG (Program dependence graph) for the following program:
1. Begin
2. Int x, y, power
3. float z
4. input (x, y)
5. if (y < 0)
6.   power = - y;
7. else
8.   power = y;
9. z = 1
10. while (power != 0) {
11. z = z * x
12. power = power – 1;
13. }
14. if (y < 0)
15. z = 1/z;
16. output (z)
17. end **(10 Marks)**

7 a. What is scaffolding? Explain the purpose of scaffolding. **(05 Marks)**

b. What is test oracle? What are its advantages and disadvantages over human oracle? **(05 Marks)**

c. Explain the following testing terms:
Test case, test case specification, test obligation, test suite, test or test execution, adequacy criteria. **(10 Marks)**

8 a. Explain cleanroom with neat diagram. **(10 Marks)**

b. Write short notes on the following :
i)   Regression testing
ii)   Walkthroughs and inspection. **(10 Marks)**

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