USN | | | | | | | | | | 

# Eighth Semester B.E. Degree Examination, June/July 2013
## Software Testing

Time: 3 hrs.

Max. Marks:100

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

## PART – A

1 a. Discuss the quality attributes in detail, to determine the software quality. **(08 Marks)**
  b. Discuss the types of test metrics used in software testing, in detail. **(12 Marks)**

2 a. Explain with an example, how the testing is classified. **(12 Marks)**
  b. Briefly discuss the defect management system. **(08 Marks)**

3 a. Discuss in detail, the systematic procedure for equivalence partitioning method. **(08 Marks)**
  b. Explain in detail, category partition method. **(12 Marks)**

4 a. Define cause and effect and discuss the notations used for the cause –effect graph. **(10 Marks)**
  b. Define the following terms with examples :
     i)   Predicate @ compound predicate
     ii)  Singular Boolean expression. **(06 Marks)**
  c. Create an abstract syntax tree for the Boolean expression :
     $(a < b) \cap (\neg P) \cup (r > s)$. **(04 Marks)**

## PART – B

5 a. Define the following terms :
     i)   Statement adequacy criteria and statement coverage
     ii)  Condition adequacy criteria and condition coverage
     iii) Path adequacy criteria and path coverage
     iv)  Brach adequacy criteria and branch coverage **(12 Marks)**
  b. Write short notes on :
     i)   Procedure call testing
     ii)  The infusibility problem. **(08 Marks)**

6 a. Draw the control dependency tree for the following procedure :
```
Public int ged (int X, int Y) {
Int temp ;Y
While (Y ! = 0) {
Temp = X%Y
X = Y ;
Y = temp
}
Return X;
}
```
  **(05 Marks)**
  b. Define the following terms and show where these exists in Q6(a) procedure
     i) Definition of variable      ii) Use of variable      iii) Kill
     iv) Definition clear path      v) Immediate dominator. **(10 Marks)**
  c. Briefly discuss inter-procedural analysis. **(05 Marks)**

7  a. Define scaffolding. What is its purpose in testing?                    (04 Marks)
   b. Define the following terms in IEEE definition:
      i)   Test case
      ii)  Test case specification
      iii) Adequacy criterion
      iv)  Test obligation
      v)   Test suite
      vi)  Test execution.                                                   (06 Marks)
   c. Explain the following :
      i)   Test oracles
      ii)  Comparison based oracle
      iii) Partial oracle.                                                   (10 Marks)

8  a. Discuss quality goals in software testing.                             (04 Marks)
   b. Write short notes (any four)
      i)   System testing
      ii)  Acceptance testing
      iii) Regression testing
      iv)  Usability
      v)   Integration testing strategies.                                  (16 Marks)

* * * * *