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## 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) Branch 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)

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