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## Eighth Semester B.E. Degree Examination, June 2012

### 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 with a supporting flow graph the concept of errors, faults and failures in the process of programming and testing. (10 Marks)
- b. Explain the types of metrics used in software testing and their relationships. (10 Marks)
- 2 a. Explain the elements of static testing and distinguish between walkthroughs and inspections. (10 Marks)
- b. Explain how saturation effect is observed during the testing of complex software systems with supporting figure. (10 Marks)
- 3 a. List the techniques for test selection from informal and rigorously specified requirements and with an example explain any one technique from this list. (10 Marks)
- b. Explain the steps in the category-partition method. (10 Marks)
- 4 a. Explain the procedure for generating a decision table from a cause-effect graph. (10 Marks)
- b. Explain fault propagation by giving example. (10 Marks)

#### PART – B

- 5 a. Explain different elements in control flow, discuss them with regard to testing, adequacy criterion and coverage. (15 Marks)
- b. Write short notes on procedure call testing. (05 Marks)
- 6 a. Define the following by giving necessary examples: i) Use of a variable; ii) Definition of a variable; iii) Direct data dependency; iv) Definition of clear path. (08 Marks)
- b. Define the various data flow testing criteria. (08 Marks)
- c. Write a short note on data flow coverage with complex structures. (04 Marks)
- 7 a. Explain the following:
  - i) Test case
  - ii) Test case specification
  - iii) Test suite
  - iv) Adequacy criteria
  - v) Test obligation. (10 Marks)
- b. With reference to test execution, explain the concept of scaffolding and test oracles. (10 Marks)
- 8 a. Explain integration testing strategies. (08 Marks)
- b. Compare system, acceptance and regression testing. (08 Marks)
- c. Write short notes on clean room process model. (04 Marks)