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Sixth Semester B.E. Degree Examination, June/July 2015
Software Testing

Time: 3 hrs.   Max. Marks:100

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

PART – A

1 a. Define Error, Fault, Failure, Incident, Test and Test case. Explain testing life cycle, with neat diagram.   **(10 Marks)**
   b. Define all the faults classified by severity.   **(05 Marks)**
   c. Explain database diagram for a structural triangle program.   **(05 Marks)**

2 a. Explain the limitations of boundary value analysis and develop a formula for the number of robust worst case test cases for a function of two variables.   **(08 Marks)**
   b. Describe weak and strong normal equivalence class testing, with a neat diagram. **(06 Marks)**
   c. Explain the basic decision table terms.   **(06 Marks)**

3 a. Explain Millers test coverage metrics which are based on program graphs.   **(10 Marks)**
   b. Explain Rapps – Weyuker dataflow coverage metrics with a neat diagram.   **(10 Marks)**

4 a. With a neat sketches, briefly explain different alternative life cycle models.   **(14 Marks)**
   b. Describe top down and bottom up integration strategies.   **(06 Marks)**

PART – B

5 a. Explain basic concepts for requirement specification with E – R model and modeling relationships among basic constructs.   **(10 Marks)**
   b. Explain different types of interactions with example.   **(10 Marks)**

6 a. Discuss : i) Verification   ii) Validation.   **(04 Marks)**
   b. Explain basic principles that characterize various approaches and techniques for analysis and testing.   **(10 Marks)**
   c. Explain dependability properties.   **(06 Marks)**

7 a. Briefly explain the terminologies of fault based testing and mutation analysis. **(10 Marks)**
   b. Discuss : i) Scaffolding   ii) Test oracle.   **(10 Marks)**

8 a. Explain clean room process, with neat diagram.   **(10 Marks)**
   b. Give the standard structure of an analysis and test plan.   **(10 Marks)**

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