Code No: 07A50502 **R07** **Set No. 2**

III B.Tech I Semester Examinations,November 2010
SOFTWARE TESTING METHODOLOGIES
Common to Information Technology, Computer Science And Engineering
Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Explain the following in the context of node reduction procedure:
   (a) Cross term step
   (b) Parallel term step
   (c) Loop term step. [16]
2. Explain the following:
   (a) Linearizing transformations
   (b) Missing boundary
   (c) Convex domains
   (d) Orthogonal boundaries. [4+4+4+4]
3. (a) Explain state testing.
   (b) Write the tester comments about state graph. [8+8]
4. (a) Define Software bug.
   (b) Define Pesticide Paradox and Complexity barrier.
   (c) Explain different phases of tester's mental life. [2+6+8]
5. Minimize the given expression using a four variable k-map.
   F(A,B,C,D)= $\sum(0, 2, 4, 7, 9, 12, 14)$.
   [16]
6. (a) What are the different data object states in data-flow graphs.
   (b) List nine possible two-letter combinations of the object states of data flow anomalies. Classify them as buggy, suppicioos and ok. [8+8]
7. (a) Explain process block, junction, 100% path coverage and Predicate.
   (b) How do you ensure 100% node coverage if every process link is covered at least once? [8+8]
8. Explain about Matrix of a Graph in detail. [16]

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Code No: 07A50502 **R07** **Set No. 4**

III B.Tech I Semester Examinations,November 2010
SOFTWARE TESTING METHODOLOGIES
Common to Information Technology, Computer Science And Engineering
Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Explain the following:
   (a) Domain Dimensionality
   (b) Systematic Boundaries
   (c) Linear Boundaries
   (d) Co-incidental correctness. [16]
2. Define structured code. Explain lower path count Arithmetic with an example.[16]
3. (a) Explain the process of achieving (C_1+C_2) coverage.
   (b) How do you convert a flow-chart into a flow graph. [8+8]
4. (a) Define du path and definition-clear path segment.
   (b) Why All-du-Paths (ADUP) is the strongest data-flow testing strategy?[6+10]
5. (a) Define state . Explain about state table
   (b) Discuss about software Implementation of state graph. [8+8]
6. What is a decision table and how does it is useful in testing. Explain it with help of an example. [16]
7. (a) What are Test and test design bugs, explain.
   (b) The importance of a bug type is calculated by multiplying the expected cost of the nightmare by the probability of the bug and summing across all the nightmares. How? [8+8]
8. What are graph matrices and their applications? [16]

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Code No: 07A50502 **R07** **Set No. 1**

III B.Tech I Semester Examinations,November 2010
SOFTWARE TESTING METHODOLOGIES
Common to Information Technology, Computer Science And Engineering
Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) What are the advantages of matrix representations?
   (b) Write about loops in matrix representation. [8+8]
2. Define Path sensitization and write Heuristic the procedure used in path sensitization. [16]
3. (a) Differentiate between good state graphs and bad state graphs.
   (b) What are principles of state testing? Explain its advantages and disadvantages. [8+8]
4. (a) Explain different Ugly domains.
   (b) How programmers and testers treat Ugly Domains. [8+8]
5. (a) Explain the Model for Testing?
   (b) What are the beliefs of testers which make them unable to test effectively? [8+8]
6. Minimize the function using Karnaugh Map method
   F(A,B,C,D)= Σ (1,2,3,8,9,10,11,14)+ Σ d(7,15) [16]
7. Explain the process finding the mean processing time of a routine with an example. [16]
8. (a) Explain the procedure to construct a Data Flow Graph.
   (b) Construct the Data flow graph for the following problem.
      i. Given L, t, and d, solve for Z .
      ii. cos(C) = cos(L) sin(t)
      iii. tan(M)= cot(L) cos(t)
      iv. tan(Z+F)= -sin(L) tant(t)
      v. tan (F) = cos(M) tan(M+d). [8+8]

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Code No: 07A50502 **R07** **Set No. 3**

III B.Tech I Semester Examinations,November 2010
SOFTWARE TESTING METHODOLOGIES
Common to Information Technology, Computer Science And Engineering
Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Explain the construction of control flow graph.
   (b) How does a nested loop can be tested? [8+8]
2. (a) What are Decision table processors.
   (b) Whether the predicates are restricted to binary truth value or not ? Explain. [8+8]
3. (a) How domain testing can be used in both functional and structural testings?
   (b) Explain the different domain errors. [8+8]
4. (a) Explain how the transaction flow-graph is used in functional testing.
   (b) Explain Births and mergers in Transactions. [8+8]
5. Write short notes on:
   (a) Path Products
   (b) Path Expressions.
   (c) Path Sums
   (d) Loops. [16]
6. (a) What are the software implementation issues in state testing ?
   (b) Explain about good state and bad state graphs. [8+8]
7. Write the steps involved in Node Reduction Procedure. Illustrate all the steps with help of neat labeled diagrams. [16]
8. (a) Explain the procedure used in quantifying the nightmare list to stop testing?
   (b) Explain the 5 types of Structural bugs. [8+8]

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