

Code No: V3126**R07****Set No: 1**

III B.Tech. I Semester Supplementary Examinations, November/December - 2012

SOFTWARE TESTING METHODOLOGIES

(Common to Computer Science and Engineering & Information Technology)

Time: 3 Hours**Max Marks: 80**

Answer any FIVE Questions

All Questions carry equal marks

- 1 a) What is meant by a software bug? Discuss in detail the consequences of bugs.
b) What are the requirements, features and functionality of bugs? (8+8)
- 2 a) What is meant by program's control flow? How is it helpful for path testing?
b) What is a flowgraph? Discuss its elements and notations. (8+8)
- 3 a) Explain about the transaction flow testing strategies.
b) Explain the APU and ACU strategy of data flow testing. (8+8)
- 4 a) Give the schematic representation of domain testing and explain it.
b) Explain about nice and ugly domains. (8+8)
- 5 a) Discuss in brief the applications of paths.
b) State Huang's theorem and explain its use with example. (8+8)
- 6 a) What is a decision table? Discuss the role of decision table in a test case design.
b) Explain about the ambiguities and contradictions in the specifications. (8+8)
- 7 a) Discuss the types of bugs in state graph.
b) Explain with example how to convert a specification into a state graph. (8+8)
- 8 a) Discuss about the performance testing of a database application.
b) Explain cross-term reduction and node-term reduction optimization. (8+8)

Code No: V3126

R07**Set No: 2**

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SOFTWARE TESTING METHODOLOGIES

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Time: 3 Hours**Max Marks: 80**

Answer any FIVE Questions

All Questions carry equal marks

- 1 What are structural bugs, coding bugs, data bugs, and system bugs? Discuss how these bugs can be caught. (16)
- 2 a) What is meant by path sensitization? Discuss clearly the heuristic procedure for sensitizing paths.
b) Discuss the following
i) Predicates ii) Predicate expression (8+8)
- 3 a) State and explain various transaction flow junctions and mergers.
b) Compare the path flow and data flow testing strategies. (8+8)
- 4 a) List and explain the different domain boundaries.
b) Explain about the testing of one dimensional domains. (8+8)
- 5 Explain the following.
a. Distributive laws.
b. Absorption rules
c. Path sums
d. Path products. (4x4)
- 6 a) Explain the expansion of the immaterial cases in the decision table.
b) Explain prime implicant, sum-of-product, product-of-sum forms. (8+8)
- 7 a) What are the good state and bad state graphs? How they differ?
b) Write the design guidelines for building the finite state machine into code. (8+8)
- 8 a) Illustrate the application of node reduction algorithm.
b) Discuss about the WinRunner tool. (8+8)

Code No: V3126**R07****Set No: 3**

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SOFTWARE TESTING METHODOLOGIES

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Time: 3 Hours**Max Marks: 80**

Answer any FIVE Questions

All Questions carry equal marks

- 1 a) What is meant by functional testing and structural testing? Discuss its differences.
b) Discuss in detail how the consequences of bugs are measured? (8+8)
- 2 a) Discuss about coincidental correctness with example.
b) What is meant by statement coverage and branch coverage? (8+8)
- 3 a) What are the transactional flows? Why transactional flows are structured?
b) Explain different types of data flow anomalies and data flow anomaly state graphs. (8+8)
- 4 a) Discuss about variations, tools and effectiveness of domain testing.
b) What is the purpose of domain testing? What are the domain bugs? How to test for it? (8+8)
- 5 a) Explain about lower path count arithmetic.
b) Explain the following.
i) Distributive laws. ii) Absorption rules (8+8)
- 6 a) Explain the procedure for specification validation using KV charts.
b) Explain about ambiguities and contradictions in the specifications. (8+8)
- 7 a) What are the principles of state testing? Explain its advantages and disadvantages.
b) Explain about essential and inessential finite state behavior. (8+8)
- 8 a) Discuss the relative merits and demerits of different graph matrix representations.
b) Write an algorithm for node reduction. (8+8)

Code No: V3126**R07****Set No: 4**

III B.Tech. I Semester Supplementary Examinations, November/December - 2012

SOFTWARE TESTING METHODOLOGIES

(Common to Computer Science and Engineering & Information Technology)

Time: 3 Hours**Max Marks: 80**

Answer any FIVE Questions

All Questions carry equal marks

- 1 a) Explain how software testing ensures the quality of software.
b) Differentiate between testing and debugging. (8+8)
- 2 a) What is meant by program's control flow? How is it helpful for path testing?
b) Explain the conversion of a multi-entry routine to an equivalent single entry routine with example. (8+8)
- 3 a) What is data flow testing? Explain its strategies.
b) Explain the transactional flow testing with an example. (8+8)
- 4 a) Explain about domains and testability.
b) How ugly domains are treated by programmers and testers? (8+8)
- 5 a) Discuss about path sum and path product.
b) Write the steps involved in node reduction procedure. (8+8)
- 6 a) What is a decision table? What are its applications?
b) What is a KV chart? What for it is used? (8+8)
- 7 a) Write the design guide lines for building the finite state machine into code.
b) Explain about the state testing and testability tips. (8+8)
- 8 a) What operations does a toolkit consist for the representation of graphs?
b) Explain cross-term reduction and node-term reduction optimization. (8+8)
