

Code No: RT41054

R13

Set No. 1

IV B.Tech I Semester Regular/Supplementary Examinations, October/November - 2017
SOFTWARE TESTING METHODOLOGIES

(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 70

Question paper consists of Part-A and Part-B

Answer ALL sub questions from Part-A

Answer any THREE questions from Part-B

PART-A(22 Marks)

1. a) Write about bug prevention. [3]
- b) Describe about unit test plan. [3]
- c) Define Control flow graph in testing? [4]
- d) Describe about Incremental integration testing. [4]
- e) How does a process affect the quality of a product? [4]
- f) Give any 4 benefits of automation of testing tool. [4]

PART-B(3x16 = 48 Marks)

2. a) Discuss in detail about evolution of software testing. [8]
- b) Differentiate between effective and exhaustive software testing? [8]
3. a) What are the various activities performed by a tester in project development [8]
- b) What are all various types of errors detected by black box testing? [8]
4. a) What is the need of white box testing? Discuss briefly. [8]
- b) Nested loops are problematic areas for testers. Discuss. [8]
5. a) What is recovery testing? Illustrate with an example. [8]
- b) Discuss various benefits of designing stubs and drivers in unit validation testing. [8]
6. a) Describe about Risk analysis table. [8]
- b) What is test maturity model? What are its components? [8]
7. a) What is Inheritance testing? What are the issues in Inheritance testing? [8]
- b) What is the role of invariants in class testing? Illustrate with an example. [8]



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Set No. 2

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Time: 3 hours

Max. Marks: 70

Question paper consists of Part-A and Part-B

Answer ALL sub questions from Part-A

Answer any THREE questions from Part-B

PART-A(22 Marks)

1. a) What do you mean by bug discovery? [3]
- b) What is V diagram? [3]
- c) Describe about notations used in flow graph. [4]
- d) Describe about Non incremental integration testing. [4]
- e) Why does a test suite grow? [4]
- f) What are all the types of tools required for test planning? [4]

PART-B(3x16 = 48 Marks)

2. a) Discuss about Myths related software testing and its facts. [8]
- b) Explain about life cycle of Bug. [8]
3. a) How to verify high-level decision? Discuss briefly. [8]
- b) A program calculates the GCD of three numbers in the range [1, 50]. Design test cases for this program using BVC, robust testing, and worst-case testing methods. [8]
4. Explain in detail about Cyclomatic Complexity. Illustrate with an example. [16]
5. a) Write and explain about Top-down integration testing. [8]
- b) Discuss about Selective Retest Technique. [8]
6. a) What is the need for minimizing test cases in a project? Illustrate with an example. [8]
- b) What is Six Sigma? Explain briefly. [8]
7. a) List and explain various guidelines Automated testing. [8]
- b) What is the procedure for performing thread-based integration testing? Discuss briefly. [8]



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Set No. 3

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SOFTWARE TESTING METHODOLOGIES

(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 70

Question paper consists of Part-A and Part-B

Answer ALL sub questions from Part-A

Answer any THREE questions from Part-B

PART-A(22 Marks)

1. a) What is the need for verification? [3]
- b) What do you mean by backward and forward traceability? [3]
- c) Define *independent path* in path testing terminology. [4]
- d) Give the objectives of regression testing. [4]
- e) Define Test suite Minimization Problem. [4]
- f) Differentiate an object and a class with example. [4]

PART-B(3x16 = 48 Marks)

2. a) Write about software testing Models. [8]
- b) Draw the Software Testing Life Cycle (STLC) and explain briefly. [8]
3. a) How to verify code? Explain briefly? [8]
- b) Which type of testing is possible with BVA? Illustrate with an example. [8]
4. How do you calculate the number of decision nodes for switch-case? Illustrate with an example. [16]
5. a) Write and explain about Bottom-up integration testing. [8]
- b) Discuss about Path-based Integration. [8]
6. Discuss the following. Illustrate with an example
 - a) Total statement coverage prioritization [8]
 - b) Total branch coverage prioritization. [8]
7. a) What are the quality aspects to be considered in web testing? Discuss briefly. [8]
- b) What are the testing and maintenance problems introduced with object-oriented software? [8]



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Set No. 4

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SOFTWARE TESTING METHODOLOGIES

(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 70

Question paper consists of Part-A and Part-B

Answer ALL sub questions from Part-A

Answer any THREE questions from Part-B

PART-A(22 Marks)

1. a) Give "James Bach" definition for software Testing [4]
- b) What is the need for validation? [3]
- c) Distinguish between decision node and junction node? [3]
- d) Define regression testing. [4]
- e) What do you mean by Version-Specific Test case prioritization? [4]
- f) Describe the role of invariants in Class Testing. [4]

PART-B(3x16 = 48 Marks)

2. a) Discuss about Goals of Software testing. [8]
- b) Why do occur bugs? Discuss in detail. [8]
3. a) Write about "**Validation TestExecution**". [8]
- b) How do you expand immaterial test cases in decision table testing? Illustrate with an example. [8]
4. How do you calculate the cyclomatic complexity number of the program having many connected components? Illustrate with an example. [16]
5. a) Compare and contrast Integration testing with functional testing. [8]
- b) What are the different parameters for evaluating test selection testing? Discuss briefly. [8]
6. a) Write short notes on (i) Quality types (ii) Quality factors. [8]
- b) Discuss about Additional statement coverage prioritization. [8]
7. a) Explain about UML-based Object Oriented Testing. [8]
- b) List the quality aspects of a website and perform performance testing for it. [8]

