Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 72043

03/08/2017 FN

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2017.

Sixth/Seventh Semester

Information Technology

IT 6004 — SOFTWARE TESTING

(Common to B.E. Computer Science and Engineering)

(Regulations 2013)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Mention the role of test engineer in software development organization.
2. What are the sources of defects?
3. Mention the ways by which test cases may be generated. Generate a test case for a scenario.
4. Error Vs Defect Vs Failure. Discuss.
5. Differentiate Black box with white box testing.
6. Why is it important to design test harness for testing?
7. State the limitations of statement coverage.
8. Differentiate decision and condition coverage.
9. Mention the challenges in automation.
10. Mention the types of testing amenable to automation.

PART B — (5 × 16 = 80 marks)

11. (a) State and explain all Software Testing principles. (16)

Or

(b) What are the typical origins of defects? Explain the major classes of defects in the software artefacts. (16)

12. (a) Illustrate with an example the following black box testing techniques:

(i) Equivalence Class Portioning. (8)

(ii) Boundary Value Analysis. (8)

Or

(b) Suppose you are testing defect coin problem artefacts, Identify the causes of various defects. What steps could have been taken to prevent the various classes of defects. (16)

13. (a) Explain the significance of Control flow graph and Cyclomatic complexity in white box testing with a pseudo code for sum of positive numbers. Also mention the independent paths with test cases. (16)

Or

(b) With examples explain the following black box techniques to testing

(i) Requirements based testing (4)

(ii) Positive and Negative testing (4)

(iii) State based testing (4)

(iv) User documentation and compatibility. (4)

14. (a) (i) How data flow testing aid in identifying defects in variable declaration and its use. (8)

(ii) Explain mutation testing with an example (8)

Or

(b) Explain Weyuker's eleven axioms that allow testers to evaluate test adequacy criteria. (16)

15. (a) Explain the various generations of automation and the required skills for each. (16)

Or

(b) Explain the different types of Test defect metrics under Progress metrics based on what they measure and what area they focus on.

Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 41285

05/05/18

AN

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2018

Sixth/Seventh Semester

IT6004 – SOFTWARE TESTING

Common to : B.E. Computer Science and Engineering/B.Tech. Information Technology

(Regulations 2013)

Time : Three Hours | Maximum : 100 Marks

Answer ALL questions

PART – A (10×2=20 Marks)

1. List out the levels of the testing maturity model.
2. Define Test Oracle.
3. What are the factors affecting less than 100% degree of coverage ?
4. Write the formula for cyclomatic complexity.
5. What is the advantage of Bottom up integration ?
6. Give the examples of security testing.
7. Define a Work Breakdown Structure (WBS).
8. What is the function of Test Item Transmittal Report or Locating Test Items ?
9. What are the goals of Reviewers ?
10. What is Walk Through ?

PART – B (5×13=65 Marks)

11. a) Give overview of the Testing Maturity Model (TMM) and the test related activities that should be done for V-model architecture. (13)

(OR)

b) Elaborate on the principles of software testing and summarize the tester role in software development organization. (13)

12. a) Demonstrate the various black box test cases using equivalence class partitioning and boundary value analysis to test a module for payroll system. (13)

(OR)

b) Explain about state transition testing. (13)

13. a) i) Write the importance of security testing and explain the consequences of security breaches, also write the various areas which has to be focused on during security testing. (7)

ii) State the need for integration testing in procedural code. (6)

(OR)

b) i) Explain about the unit test planning. (7)

ii) Explain about configuration testing and its objectives. (6)

14. a) Explain the components of test plan in detail. (13)

(OR)

b) i) List and explain the skills needed by a test specialist. (7)

ii) Name the reports of test results and the contents available in each test reports. (6)

15. a) Discuss the types of review. Explain various components of review plans. (13)

(OR)

b) Narrate about the metrics or parameters to be considered for evaluating the software quality. (13)

PART – C (1×15=15 Marks)

16. a) Explain in detail processing and monitoring of the defects with defect repository.

(OR)

b) Explain the organizational structures for testing teams in single product companies.

Reg. No. :

Question Paper Code : 53225

12.4.19
AN

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2019.

Sixth/Seventh Semester

Information Technology

IT 6004 — SOFTWARE TESTING

(Common to Computer Science and Engineering)

(Regulation 2013)

(Also common to PTIT 6004 – Software Testing for B.E. (Part-Time) – Sixth Semester – Computer Science and Engineering – Regulation 2014)

Time : Three hours | Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Why test cases should be developed for both valid and invalid inputs?
2. What is a defect? Give example.
3. Outline the difference between white box testing and black box testing.
4. What do you meant by test adequacy criteria?
5. Define test harness.
6. What is stress testing?
7. Outline the need for a test plan.
8. What is a test log?
9. Name any two software testing tools.
10. Outline the need for test metrics.

PART B — (5 × 13 = 65 marks)

11. (a) Outline the goal of software testing and write a note on the software testing principles. (13)

Or

(b) What are the typical origins of defects? Outline the stages in developing a defect repository. (13)

12. (a) Explain boundary value analysis, equivalence class partitioning and state based testing with an example. (13)

Or

(b) Outline the steps in constructing a control flow graph and computing cyclomatic complexity with an example. (13)

13. (a) (i) Outline the importance of system testing with an example. (6)

(ii) What is regression testing? Outline the issues to be addressed for developing test cases to perform regression testing. (7)

Or

(b) Present an outline of testing object oriented systems. (13)

14. (a) (i) Discuss the advantages and disadvantages of having an independent test group, that is, one that is a separate organizational entity with its own reporting structure. (7)

(ii) Why is it so important to integrate testing activities into the software life cycle? (6)

Or

(b) Explain the following test related documents and its components.

(i) Test Case Specification (6)

(ii) Test Incident Report. (7)

15. (a) Developing software to test the software is called test automation. Test automation can help address several problems, Justify. Draw the Framework for test automation. (13)

Or

(b) Outline project, product and productivity metrics with relevant examples. (13)

PART C — (1 × 15 = 15 marks)

16. (a) Assume you are working in an on-line fast food restaurant system. The system reads customer orders, relays orders to the kitchen, calculates the customer's bill, and gives change. It also maintains inventory information. Each wait-person has a terminal. Only authorized wait-persons and a system administrator can access the system. Describe the tests that is suitable to test the application. (15)

Or

(b) Suppose you are developing an online system for a specific vendor of electronic equipment with all the necessary features to run the Shop. Write down a detailed test plan by including the necessary components. (15)

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Reg. No. : | | | | | | | | | | | | |

26/11/16 AN

Question Paper Code : 80592

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2016.

Sixth Semester

Computer Science and Engineering

IT 6004 — SOFTWARE TESTING

(Common to Seventh Semester Information Technology)

(Regulations 2013)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Mention the objectives of Software Testing?
2. Define defects with an example.
3. Sketch the control flow graph for an ATM withdrawal system.
4. Give a note on the procedure to compute cyclomatic complexity.
5. List out types of system testing.
6. Compare and contrast Alpha Testing and Beta Testing.
7. Discuss on the role of manager in a test group.
8. What are the issues in testing object orient systems?
9. Mention the criteria for selecting test tool.
10. Distinguish between milestone and deliverable.

PART B — (5 × 16 = 80 marks)

11. (a) Elaborate on the principles of software testing and summarize the tester role in software development organization. (16)

Or

(b) Explain in detail processing and monitoring of the defects with defect repository. (16)

12. (a) Demonstrate the various black box test cases using Equivalence class partitioning and boundary values analysis to test a module for Payroll system. (16)

Or

(b) (i) Explain the various white box techniques with suitable test cases. (8)

(ii) Discuss in detail about code coverage testing. (8)

13. (a) Explain the different integration testing strategies for procedures & functions with suitable diagrams. (16)

Or

(b) How would you identify the hardware and software for configuration testing and explain what testing techniques applied for website testing? (16)

14. (a) (i) What are the skills needed for a test specialist? (8)

(ii) Explain the organizational structure for testing teams in single product companies. (8)

Or

(b) (i) Explain the components of test plan in detail. (8)

(ii) Compare and contrast the role of debugging goals and policies in testing. (8)

15. (a) Explain the design and architecture for automation and outline the challenges. (16)

Or

(b) What are metrics and measurements? Illustrate the types of product metrics. (16)

20.11.17 AN

Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 50754

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2017
Sixth/Seventh Semester
Computer Science and Engineering
IT6004 – SOFTWARE TESTING
(Common to – Information Technology)
(Regulations 2013)

Time : Three Hours | Maximum : 100 Marks

Answer ALL questions

PART – A (10×2=20 Marks)

1. What are the objectives of software testing ?
2. Define Test Bed.
3. Compare black box and white box testing.
4. What are the basic primes that are used in a structured program ?
5. Define Unit Test. Give an example.
6. Why is it important to design test harness for testing ?
7. List the various skills needed by a test specialist.
8. What is the role of Test Summary Report.
9. What are the challenges in test automation ?
10. What are the uses of walkthrough ?

PART – B (5×16=80 Marks)

11. a) i) Explain various design defects with suitable examples. (8)

ii) Analyse tester's role in software development organization. (8)

(OR)

b) Illustrate with example the principles of software testing. (16)

12. a) Illustrate equivalence class partitioning and boundary value analysis using suitable examples. **(16)**

(OR)

b) Explain the significance of control flow graph and cyclomatic complexity in white box testing with a pseudo code for sum of '*n*' numbers. **(16)**

13. a) Differentiate alpha testing from beta testing and discuss in detail about the phases in which alpha and beta testing is done. **(16)**

(OR)

b) Explain the different integration testing strategies for procedures and functions with suitable diagrams. **(16)**

14. a) Describe the components of test plan. Give examples. **(16)**

(OR)

b) i) Discuss in detail about various skills needed for a test specialist. **(8)**

ii) Explain the steps involved in forming a testing group. **(8)**

15. a) With a neat sketch discuss the design and architecture for test automation. **(16)**

(OR)

b) Discuss various metrics and measurements in software testing. Explain various types of progress metrics. **(16)**

Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 20728

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2018.

Sixth/Seventh Semester

Information Technology

IT 6004 — SOFTWARE TESTING

(Common to Computer Science and Engineering)

(Regulations 2013)

(Also common to PTIT 6004 – Software Testing for B.E. (Part-Time) Sixth Semester – Computer Science and Engineering – Regulations 2014)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Mention the role of process in software quality.
2. What is meant by Feature Defects?
3. Compare black box and white box testing.
4. Define COTS Components.
5. List the levels of Testing.
6. What is Regression testing?
7. Mention the duties of component – wise testing teams.
8. What is the need of Test Incident Report?
9. What is the need for Automated Testing?
10. Define Progress Metrics.

PART B — (5 × 13 = 65 marks)

11. (a) Discuss in detail about Software testing principles. (13)

Or

(b) (i) Write short notes on Origins of defects. (7)

(ii) Describe about Tester Support for Developing a Defect Repository. (6)

12. (a) Explain about the following methods of black box testing with example.

(i) Equivalence class partitioning.

(ii) Boundary value analysis. (13)

Or

(b) Discuss in detail about static testing and structural testing. Also write the difference between these testing concepts. (13)

13. (a) State Unit Test and describe about planning and Designing of Unit Test. (13)

Or

(b) Explain elaborately about the various types of system testing. (13)

14. (a) Explain the concepts of test planning in detail. Also mention the way of defining test plan. (13)

Or

(b) Describe the concepts of building a test group. (13)

15. (a) Write short notes on following. (13)

(i) Classifications of automation testing.

(ii) Scope of an automation.

Or

(b) Discuss in detail about selecting the test tool in test automation. (13)

PART C — (1 × 15 = 15 marks)

16. (a) Case Study : Several kinds of tests for a web application.

Abstract :

A UK based company entrusted us to test this project. It's a web application for government to collect data and calculate them to prioritize all the tasks.

Description :

This client is from Hertfordshire in UK, the project is an application for the government. In fact, it includes two parts: web site for data collection and presentation purpose, in parallel a windows application for administration purpose. Here the task is ensuring the quality of the web application, includes many aspects, such as function correctness, performance acceptance, UI appropriateness, and so on. Moreover, for testing function, we had to use the windows application to edit users, services and other data.

The client only gave us the software requirement specification and the applications tested, there wasn't any test plan, test strategy, test cases, even test termination criterion. On the one hand, we had to spend much time in communicating with client to make clearly about some important points; on the other hand, we had to get familiar with the application via operating it and reading requirements.

Then, how to improve the efficiency of regression test?

Or

(b) Illustrate various components of Test plan with an example. (15)

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8/11/19 /AN

Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 91760

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2019

Sixth/Seventh Semester

Computer Science and Engineering

IT 6004 – SOFTWARE TESTING

(Common to Information Technology)

(Regulations 2013)

(Also Common to PTIT6004 – Software Testing for B.E. (Part-Time) – Sixth Semester Computer Science and Engineering – Regulations 2014)

Time : Three Hours | Maximum : 100 Marks

Answer ALL questions

PART – A **(10×2=20 Marks)**

1. Mention the role of process in Software Quality.
2. Mention the various sources of defects.
3. What is Error, Defect, Bug and Failure ?
4. What are the components of COTS ?
5. Compare Black box testing and White box testing.
6. Why it is important to design test harness for testing ?
7. What are the issues in testing Object Orient Systems ?
8. List the skills needed by a test specialist.
9. What are the challenges in test automation ?
10. Define progress metrics and process metrics.

PART – B **(5×13=65 Marks)**

11. a) Elaborate the software testing principles and summarize the tester role in software development organization.

(OR)

b) Explain Testing Maturity Model (TMM) and the test related activities that should be done for V-Model Architecture.

12. a) Discuss in detail about static testing and structural testing. Write the difference between these two testing concepts.

(OR)

b) Explain about the various black box test cases using equivalence class partitioning and boundary value analysis to test a module.

13. a) Explain briefly about the various types of system testing.

(OR)

b) Explain about the :

i) Unit test planning **(7)**

ii) Configuration testing and its objectives. **(6)**

14. a) i) Discuss in detail about various skills needed for a test specialist. **(7)**

ii) Write about Mutation Testing with an example. **(6)**

(OR)

b) Explain the components of test plan in detail.

15. a) Discuss the design and architecture for automation with neat sketch.

(OR)

b) Write short notes on :

i) Classification of automation testing.

ii) Scope of automation.

PART – C **(1×15=15 Marks)**

16. a) Explain the importance of security testing and explain the consequences of security breaches, also write the various areas which has to be focused during security testing.

(OR)

b) Explain in detail processing and monitoring of the defects with defect repository.