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Question Paper Code : 53225

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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