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13MCA444

Fourth Semester MCA Degree Examination, Dec.2016/Jan.2017
Software Testing and Practices

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 1 a. Differentiate between testing and debugging. Explain test and debug cycle with illustration. (08 Marks)
b. Discuss various strategies for test generation briefly. (06 Marks)
c. Write short notes on :
i) Walkthrough
ii) Inspections. (06 Marks)
- 2 a. What are the principles for analysis and testing? Explain any two in detail. (10 Marks)
b. Define the terms : test case, test suite, test case specification and test adequacy criterion. Give one example. (10 Marks)
- 3 a. Explain a typical testing life cycle with illustration. (07 Marks)
b. Discuss the specified, implemented and tested behavior of software with the help of a Venn diagram. (08 Marks)
c. Discuss the information required for a typical test case. (05 Marks)
- 4 a. What is boundary value analysis? Discuss the following testing with example :
i) Robustness testing ii) Worst case testing. (07 Marks)
b. Discuss different forms of equivalence class testing with suitable graphical representation. (08 Marks)
c. Write the guidelines for equivalence class testing. (05 Marks)
- 5 a. What is DD – Path? Explain briefly. (08 Marks)
b. Explain McCabe’s basis path method with one example. (08 Marks)
c. Write short note on slice-based testing. (04 Marks)
- 6 a. Discuss waterfall spin-offs model and system testing briefly. (08 Marks)
b. Draw context diagram of SATM and discuss the type of testing for which it can be used. (05 Marks)
c. Draw a neat finite state machine diagram of SATM. Briefly discuss. (07 Marks)
- 7 a. Discuss the fault-based testing along with necessary assumptions to be made. (06 Marks)
b. Discuss mutation analysis and various possible modifications for mutation analysis. (07 Marks)
c. What is scaffolding and what is the purpose of it? Differentiate between generic and specific scaffolding. (07 Marks)
- 8 a. How you can improve the process through root cause analysis? (07 Marks)
b. Discuss different types of risks involved in process management and quality management. (06 Marks)
c. Write a note on analysis and test plan. (07 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and/or equations written eg, 42+8 = 50, will be treated as malpractice.