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13MCA444

Fourth Semester MCA Degree Examination, June/July 2017
Software Testing & Practices

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 1
 - a. Briefly explain about functional testing and structural testing. (10 Marks)
 - b. Explain about quality attributes. (05 Marks)
 - c. Differentiate between testing and debugging. (05 Marks)
- 2
 - a. Generate the BOR – constraint set and construct an abstract syntax tree of predicate $P_r = (a + b) < c \wedge !P \vee (r > s)$. Write an algorithm to generate a minimal BOR-constraint set from an abstract syntax tree of a predicate P_r . (10 Marks)
 - b. Explain the six basic principles of software testing. (10 Marks)
- 3
 - a. Brief out the program behavior to draw the venn diagram. (10 Marks)
 - b. State and explain the data flow diagram for the triangle problem. (05 Marks)
 - c. Describe about SATM screens with the problem statements. (05 Marks)
- 4
 - a. Explain boundary value analysis and generalizing boundary value analysis. (10 Marks)
 - b. Write equivalence class test cases for triangle problem. (05 Marks)
 - c. Define the decision table with an example and explain. (05 Marks)
- 5
 - a. Define the DD-path and write the DD-path for triangle program. (10 Marks)
 - b. Write the program-graph for the triangle program. (05 Marks)
 - c. Explain the data flow testing and slice – based testing with example. (05 Marks)
- 6
 - a. Differentiate between the traditional view of testing levels and alternative life cycle models. (10 Marks)
 - b. Explain about levels of testing. (10 Marks)
- 7
 - a. Explain about mutation analysis and fault based adequacy criteria. (10 Marks)
 - b. Brief about test oracles, self check as oracle. (05 Marks)
 - c. Describe about capture and replay. (05 Marks)
- 8
 - a. Justify with an example why document analysis is required. (10 Marks)
 - b. Briefly describe the test analysis document, design specification and report. (10 Marks)

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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.