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13MCA444

Fourth Semester MCA Degree Examination, June/July 2016
Software Testing and Practices

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 1
 - a. Explain testing and debugging with diagram. (10 Marks)
 - b. What is defect management? List the different activities. (04 Marks)
 - c. What is test metric? Explain in short different types of test metrics. (06 Marks)
- 2
 - a. Explain test generation strategies with diagram. (06 Marks)
 - b. What are the basic principles of test and analysis? Explain then in brief. (10 Marks)
 - c. What is adequacy criteria and comparing criteria? (04 Marks)
- 3
 - a. Define the term software testing. List out any four basic definitions associated with testing. (06 Marks)
 - b. Describe testing life cycle with a suitable diagram. (04 Marks)
 - c. Explain briefly the two testing approaches used to identify test cases with an example. (10 Marks)
- 4
 - a. What is Boundary value analysis? Develop boundary value analysis test for the triangle problem of 3 variables a, b, c. Note that the variable ranges are $1 \leq a \leq 200$, $1 \leq b \leq 200$, $1 \leq c \leq 200$. (06 Marks)
 - b. What is equivalence class testing? What are the different forms of equivalence class testing? Explain each of them with suitable pictorial representation. (08 Marks)
 - c. Explain the decision table based testing. List out the decision table test cases for triangle problem. (06 Marks)
- 5
 - a. What are DD paths? Draw the program graph for commission problem and list out DD paths. (10 Marks)
 - b. Describe the McCabe's basis path method with an example. (06 Marks)
 - c. Briefly explain Rapps-Weyker hierarchy of dataflow coverage metrics. (04 Marks)
- 6
 - a. What is traditional view of testing levels? And explain alternative life cycle models. (10 Marks)
 - b. Explain Pairwise integration and neighbourhood integration. Give examples of each. (10 Marks)
- 7
 - a. What is mutation analysis? Explain fault based adequacy criteria. (08 Marks)
 - b. Explain scaffolding. (04 Marks)
 - c. Explain test oracles and self checks as oracles with diagram. (08 Marks)
- 8
 - a. Describe five major activities in planning and monitoring the process. (10 Marks)
 - b. Write a short note on organizing documents. (05 Marks)
 - c. Explain in short different types of documents. (05 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.