Total No. of Questions : 8]   [*Total No. of Printed Pages :2*

Roll No ....

MSE-204

M.E./M.Tech., II Semester

Examination, December 2016

Software Verification Validation and Testing

Time : Three Hours

Maximum Marks : 70

Note: Attempt any five questions. All questions carry equal marks.

1. a) What are the different audits planned during development life cycle?   7
   b) Discuss the differences between verification and validation and explain why validation is particularly difficult process.   7

2. a) Explain the evolution of software testing from debugging to prevention based testing.   7
   b) Explain the process of developing test methodology.   7

3. a) Describe modified top down approach for integration.   7
   b) What is a software failure? Discuss the conditions of a failure. Mere presence of faults may not lead to failures. Explain with the help of an example.   7

4. a) What is worst-case testing? How is it different from boundary valve analysis list the advantages of using this technique?   7
   b) What are differences between a directed graph and in-directed-graph? Which one is more relevant in software testing and why?   7

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5. a) How is data flow testing performed? Is it possible to design data flow test cases manually? Justify your answer.   7
   b) What is Mutation testing? What is the purpose of mutation scare? Why are higher order mutants not preformed?   7

6. a) Differentiate between system testing and acceptance testing.   7
   b) Discuss the basic model of software reliability. How can we calculate $\Delta \mu$ and $\Delta \tau$?   7

7. a) Explain various levels of test process maturity model. 7
   b) Explain regression testing and load testing.   7

8. Write short note on :   14
   a) Test plans
   b) Scalability test
   c) Test Director
   d) Agile methodology

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