USN ☐☐☐☐☐☐☐☐☐☐

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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