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10CS842

Eighth Semester B.E. Degree Examination, June / July 2014
Software Testing

Time: 3 hrs. Max. Marks:100

Note: ***Answer FIVE full questions, selecting at least TWO questions from each part.***

PART – A

1 a. Explain errors, faults and failures in the process of programming and testing with a flow diagram. **(08 Marks)**

b. Briefly explain about functional testing and structural testing. **(08 Marks)**

c. Draw the dataflow diagram for a structured triangle program implementation. **(04 Marks)**

2 a. With example, explain about boundary value analysis and mention its limitation. **(04 Marks)**

b. With neat figure, explain about i) Robustness testing ii) Worst case testing. **(06 Marks)**

c. Explain about,
   i) Strong normal equivalence class testing.
   ii) Strong Robust equivalence class testing. **(04 Marks)**

d. Write equivalence class test cases for the triangle problem. **(06 Marks)**

3 a. Write a structured triangle program draw the program graph and find the DD paths, DD path graph for the triangle program. **(08 Marks)**

b. For the program graph G(P) and a set of program variable V define the following :
   i) Defining node of variable.
   ii) Usage node of variable.
   iii) Definition use path with respect to variable.
   iv) Definition clear path with respect to variable. **(04 Marks)**

c. Explain about,
   i) du-path test coverage metrices with data flow diagram.
   ii) Style and technique to find slice of program. **(08 Marks)**

4 a. Explain about specification - based life cycle model. **(06 Marks)**

b. Briefly explain about SATM system, draw the context diagram, ER model and decomposition tree for SATM system. **(08 Marks)**

c. Explain about path-based integration. **(06 Marks)**

PART – B

5 a. Briefly explain about functional strategies for thread testing. **(10 Marks)**

b. Explain about client / server testing. **(10 Marks)**

6 a. With a neat diagram, explain the relation of verification and validation activities with respect to artifact produced in software development project. **(08 Marks)**

b. Explain the six principles that characterize various approaches and technique for analysis and testing. **(12 Marks)**

7 a. Define Scaffolding Distinguish between Generic versus specific Scaffolding briefly. **(08 Marks)**

b. Explain about:
   i) Test oracles ii) Capture and Relay iii) Test cases **(12 Marks)**

8 Write a short note on the following:

a. Quality and processes.

b. Risk planning.

c. Test and analysis strategies & plan.

d. Quality goal. **(20 Marks)**

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