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10IS65

**Sixth Semester B.E. Degree Examination, Dec.2018/Jan.2019**  
**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. Define the following with respect to software testing :  
(i) Error (ii) Fault (iii) Failure (iv) Incident (v) Test case. (05 Marks)  
b. What are the differences between functional and structural testing? (05 Marks)  
c. Define Test case. Explain each component of test case template. Write a sample test case for "Gmail login with valid user". (10 Marks)
- 2 a. Explain with example the boundary value analysis process for single input and two inputs. (08 Marks)  
b. Explain weak and strong Robust equivalence testing for 2 inputs. (04 Marks)  
c. Explain decision table and its technique to solve triangle problem. (08 Marks)
- 3 a. Define predicate Node, du-paths dc-paths. Give due paths for stocks, locks, total locks, sales and commission for commission sale problem. (12 Marks)  
b. Explain slice based testing. (08 Marks)
- 4 a. Explain the differences between Top-down and Bottom-up integration. (04 Marks)  
b. Explain SATM system in brief. Draw and explain data flow diagram and context diagram of SATM. (16 Marks)

**PART – B**

- 5 a. Define the following :  
(i) Treads (ii) Events (iii) Actions (iv) Ports. (08 Marks)  
b. Explain Event based, Port based and Data based thread testing concept. (12 Marks)
- 6 a. Define verification and validation. Draw the neat diagram of verification and validation activities. List and briefly explain verification activities and also validation activities. (12 Marks)  
b. List and briefly explain the 8 testing and analysis activities. (08 Marks)
- 7 a. Explain test oracles in details. (08 Marks)  
b. What is scaffolding, explain. What is generic versus specific scaffolding? (08 Marks)  
c. Explain mutation analysis in brief. (04 Marks)
- 8 Explain the following in brief :  
a. Cleanroom process model  
b. Extreme programming  
c. Risk generic to process management  
d. Test design specification documents. (20 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.