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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