USN | | | | | | | | | | 10IS65

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

Time: 3 hrs.

Max. Marks:100

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

PART – A

1 a. Define the following :
   i) Error
   ii) fault
   iii) failure
   iv) incident
   v) test
   vi) test case. **(06 Marks)**
   b. Differentiate between functional testing and structural testing. **(06 Marks)**
   c. With a neat diagram, explain the SATM(Simple Auto Mated Teller Machine) system. **(08 Marks)**

2 a. What are the limitations of boundary value analysis? **(04 Marks)**
   b. Differentiate between weak robust equivalence class testing and strong robust equivalence class testing with an example. **(08 Marks)**
   c. Explain about decision tables. Construct decision table of the triangle problem, it accepts three integers a, b and c as 3 sides inputs : equilateral, scalene, isosceles or not a triangle and satisfy the following conditions a < b + c, b < a + c and c < a + b. **(08 Marks)**

3 a. Explain the different structural test coverage metrics. **(08 Marks)**
   b. Write a program of the commission problem, the statement of the problem : A rifle salesperson in the former Arizona Territory sold rifle locks, stocks and barrels made by a gunsmith in Missouri. Locks cost $45, stocks cost $30 and barrels cost $25. The salesperson had to sell atleast one complete rifle per month and production limits were such that at the most the sales person could sell in a month was 70 locks, 80 stocks and 90 barrels. At the end of a month, the salesperson sent a very short telegram showing – 1 locks sold. The gunsmith then knew the sales for the month were complete and computed the salesperson's commission as follows : 10% on sales up to $1000, 15% on the next $800 and 20% on any sales in excess of $1800. The commission program produced a monthly sales report that gave the total number of locks, stocks and barrels sold, the salesperson's total dollar sales, and finally, the commission. Construct the program graph and define /use nodes for variables in the above problem. **(12 Marks)**

4 a. With a neat diagram, explain the traditional view of testing levels of waterfall-life cycle and rapid prototyping life cycles. **(10 Marks)**
   b. With an example, explain the top-down integration and Bottom–up integration. **(06 Marks)**
   c. Explain the decomposition based integration with an example. **(04 Marks)**

PART – B

5 a. Explain the basis concepts for requirements specifications. **(08 Marks)**
  b. With a neat diagram, explain the transition probabilities for the SATM system. **(08 Marks)**
  c. Write a note on client/server testing. **(04 Marks)**

6 a. With a neat diagram, explain the validation and verification activities check work product against actual user requirements. **(10 Marks)**
  b. Explain the following:
   i) Redundancy
   ii) Partition. **(04 Marks)**
  c. Explain the dependability properties. **(06 Marks)**

7 a. Explain the fault–based adequacy criteria. **(08 Marks)**
  b. Describe the test oracles with a neat diagram. **(08 Marks)**
  c. What is scaffolding? Explain. **(04 Marks)**

8 Write short notes on :
  a. Quality process
  b. Risk management
  c. Organizing documents
  d. Test and analysis reports. **(20 Marks)**

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