Eighth Semester B.E. Degree Examination, June/July 2016
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.   With a neat diagram of a testing life cycle explain following :
         i) Fault   ii) Failure   iii) Incident   iv) Test case   **(10 Marks)**
     b.   With a neat sketch, explain the features of 'The SATM' system.   **(10 Marks)**

2   a.   Explain the following :
         i) Robustness testing   ii) Worst – case testing.   **(08 Marks)**
     b.   Describe the equivalence class test cases for 'The triangle problem'.   **(12 Marks)**

3   a.   Define the program graph. Write a structured triangle program and the program graph.
                                                            (10 Marks)
     b.   For the program graph G(P) and a set of program variable, define the terms 'Defining node
         of a variable', 'Definition use path with respect to a variable 'All-Defs criterion', 'All C-
         uses/some p-used and 'All du-paths criterion'.   **(10 Marks)**

4   a.   Briefly explain the specification – based life – cycle models in levels of testing.   **(10 Marks)**
     b.   What is decomposition based integration? Define the different types of decomposition based
         integration.   **(10 Marks)**

PART – B

5   a.   Briefly explain the basic concepts for requirements specification in system testing. **(10 Marks)**
     b.   Write a short note on: 'taxonomy of interactions' and 'Client/ Server testing'.   **(10 Marks)**

6   a.   List and explain any four principles that characterize various approaches and techniques for
         analysis and testing.   **(10 Marks)**
     b.   Explain how does the goals of quality process improvement can be accomplished for
         analysis and testing of a software.   **(10 Marks)**

7   a.   What is fault – based testing? Define the terminologies 'Program location' and 'Alternate
         expression'.   **(06 Marks)**
     b.   Define scaffolding? Mention the purposes of scaffolding.   **(04 Marks)**
     c.   What is a test oracle? With a neat diagram explain the comparison based test oracle.
                                                            (10 Marks)

8   a.   Discuss the risks generic to process management and risks specific to quality management
         with a suitable example.   **(10 Marks)**
     b.   Discuss the basic elements of analysis and test plan.   **(10 Marks)**

* * * * *