USN ☐☐☐☐☐☐☐☐☐☐

10CS842

# 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)**

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