Sixth Semester B.E. Degree Examination, June/July 2016
Software Testing

Time: 3 hrs.   Max. Marks:100

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

PART – A

1   a. What is software testing? Why it is so important in software development life cycle?
      (06 Marks)
    b. Define the following : i) Error ii) fault iii) failure iv) incident v) test vi) test case.   **(06 Marks)**
    c. Explain with a neat diagram the currency converter and Saturn wind shield wiper controller.
      (08 Marks)

2   a. Justify the usage of boundary value analysis with function of two variables and highlight the limitations of BVA.   **(08 Marks)**
    b. Briefly explain weak normal and strong robust equivalence class testing with an example.
      (08 Marks)
    c. Write a short note on random testing.   **(04 Marks)**

3   a. What is cyclomatic complexity? Explain how to calculate cyclomatic complexity of a given program by considering the biggest of three number logic.   **(08 Marks)**
    b. Explain slice –based testing guidelines and observations in detail.   **(08 Marks)**
    c. Write a short note on define/use testing.   **(04 Marks)**

4   a. With a neat diagram explain the waterfall life cycle and clearly show partial functional decomposition of the ATM system.   **(08 Marks)**
    b. List and explain pros and cons of the water fall model.   **(04 Marks)**
    c. With supporting diagrams and examples explain top-down and bottom-up integration.
      (08 Marks)

PART – B

5   a. Explain the basis concept for requirements specification.   **(12 Marks)**
    b. Explain with supporting diagram the client server testing.   **(08 Marks)**

6   a. Define validation. With a neat sketch explain the relation of verification and validation activities with respect to artifacts produced in a software development project.   **(10 Marks)**
    b. Explain sensitivity and redundancy.   **(06 Marks)**
    c. Define the terms reliability and availability.   **(04 Marks)**

7   a. Distinguish between :
      i) Competent programmer hypothesis and coupling effect hypothesis
      ii) Distinguished mutant and equivalent mutant.   **(04 Marks)**
    b. Explain the fault–based adequacy criteria.   **(08 Marks)**
    c. What is scaffolding? Explain briefly generic versus specific scaffolding.   **(08 Marks)**

8   Write short notes on :
    a. Clean room process.   **(06 Marks)**
    b. Different types of risks specific to the quality process.   **(06 Marks)**
    c. A standard organization of an analysis and test plan.   **(08 Marks)**

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