Fifth Semester B.E. Degree Examination, December 2011

Software Engineering

Time: 3 hrs.   Max. Marks:100

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

PART – A

1   a. What is software? Explain the essential attributes of a good software. (05 Marks)
    b. List and explain any five software engineering code of ethics and professional practices. (05 Marks)
    c. Describe briefly the phases of the system engineering process, with a neat diagram. (10 Marks)

2   a. Define critical systems. Explain the four principle dimensions of system dependability. (05 Marks)
    b. Briefly discuss the reliability terminologies and mention the approaches to system reliability enhancement. (05 Marks)
    c. What is software process? With a neat diagram, explain the software design process activities, in detail. (10 Marks)

3   a. What are the different metrics for specifying non-functional requirements? Explain any two of them. (05 Marks)
    b. Write the IEEE standard format for requirement document. (05 Marks)
    c. Give reasons why requirement elicitation and analysis is a difficult phase in requirements engineering process. (05 Marks)
    d. What are volatile requirements? Briefly discuss the classification of volatile requirements. (05 Marks)

4   a. Draw and explain the sequence diagram for ATM system. (08 Marks)
    b. Mention the weaknesses of structured methods when used to produce system models. (04 Marks)
    c. Explain the risk management process, with a neat diagram. (08 Marks)

PART – B

5   a. Define architectural design. With an example, describe the repository model and give its advantages and disadvantages. (08 Marks)
    b. Briefly discuss the architectural design decisions. (06 Marks)
    c. Draw and explain the state diagram for weather station system. (06 Marks)

6   a. What is pair programming? Highlight its advantages. (04 Marks)
    b. Explain with a diagram, rapid application development environment. (06 Marks)
    c. Explain the activities involved in reengineering process, with an illustrative figure. (10 Marks)

7   a. Briefly discuss some of the automated static analysis checks. (05 Marks)
    b. Explain the five key strategies of clean room software development. (05 Marks)
    c. What is test automation? Explain with figure the tools that might be included in a testing workbench. (10 Marks)

8   a. Name and explain any five factors governing staff selection. (05 Marks)
    b. Briefly discuss the advantages and disadvantages of group cohesiveness that influence group working. (05 Marks)
    c. Explain in detail algorithmic cost models in project planning. (10 Marks)

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