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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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