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10IS51

Fifth Semester B.E. Degree Examination, June/July 2018

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. Explain the different attributes of a good software. (06 Marks)
- b. Mention the different stages involved in system engineering process. Explain any four phases. (10 Marks)
- c. Explain any four emergent system properties. (04 Marks)
- 2 a. Explain with a neat figure, a simple safety critical system. (06 Marks)
- b. Explain with a figure, the waterfall model of software development process. (10 Marks)
- c. Explain the four principle dimensions of dependability. (04 Marks)
- 3 a. Explain the terms:
 - i) Functional requirements (03 Marks)
 - ii) Non-functional requirements (04 Marks)
 - iii) User requirements (03 Marks)
- b. Explain the requirement elicitation and analysis process. (05 Marks)
- c. Explain the structure of a IEEE software requirement document. (05 Marks)
- 4 a. What is a data flow model? Explain with a figure, the data flow model of an insulin pump. (10 Marks)
- b. Explain with a figure, the risk management process. (10 Marks)

PART – B

- 5 a. Explain with a figure:
 - i) The repository model (05 Marks)
 - ii) The client-server model (05 Marks)
- b. What are the stages involved in the object-oriented design process? (04 Marks)
- c. Explain with a figure, the state diagram for weather station. (06 Marks)
- 6 a. Explain the different principles of agile methods. (05 Marks)
- b. List and explain the various tools included in rapid application development. (05 Marks)
- c. Explain with a figure, the different stages involved in system evolution process. (10 Marks)
- 7 a. What are the advantages of inspection over testing? (04 Marks)
- b. Explain with a figure, the different stages involved in clean room development process. (10 Marks)
- c. Explain with a figure, the incremental integration testing. (06 Marks)
- 8 Write short notes on the following:
 - a. Critical factors in people management (05 Marks)
 - b. The people capability maturity model (05 Marks)
 - c. Cocomo model (05 Marks)
 - d. Factors affecting software pricing (05 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.