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**Fifth Semester B.E. Degree Examination, Dec.2018/Jan.2019**

**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 the key challenges facing software engineering. (05 Marks)
- c. Explain the different phases of the system engineering process with a neat diagram. (10 Marks)
- 2 a. Explain the four principle dimensions of dependability. (04 Marks)
- b. Illustrate with a figure, the mapping of a software system from input to output. (04 Marks)
- c. Explain with a figure, the following process models:
  - i) Water fall model
  - ii) Evolutionary development (12 Marks)
- 3 a. What are the different metrics for specifying the non-functional requirements? Explain any two of them. (06 Marks)
- b. Explain with a figure, the requirement elicitation and analysis process. (08 Marks)
- c. List and explain the different types of checks that should be carried out on requirements in a requirement document. (06 Marks)
- 4 a. Draw the data flow diagram for order processing and explain the different process activities involved in it. (10 Marks)
- b. List and explain the different activities involved in software project management. (10 Marks)

**PART – B**

- 5 a. Explain with a figure, the shared repository model and give its advantages and disadvantages. (10 Marks)
- b. Explain the different stages involved in object oriented design process. (05 Marks)
- c. With a neat figure, explain the different layers in the weather station software. (05 Marks)
- 6 a. What is a pair programming? List its advantages. (05 Marks)
- b. Explain with a diagram, the process of prototype development. (08 Marks)
- c. Explain the different factors used in application assessment. (07 Marks)
- 7 a. What are advantages of inspection over testing? (04 Marks)
- b. Explain with a figure, the clean room software development process. (08 Marks)
- c. Explain with example:
  - i) Block-Box testing
  - ii) Path testing (08 Marks)
- 8 a. List and explain the factors governing staff selection. (10 Marks)
- b. Explain in detail algorithmic cost models in project planning. (10 Marks)

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