



10IS51

**Fifth Semester B.E. Degree Examination, Dec.2019/Jan.2020**  
**Software Engineering**

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 engineering? What are the key challenges facing software engineering? (05 Marks)  
b. What is software process? What are the activities of software processes? Explain. (05 Marks)  
c. Define system engineering. Mention the stages system development. Explain any four. (10 Marks)
- 2 a. Define system dependability. What are dimensions of dependability? Explain. (10 Marks)  
b. What is process iteration? Explain Boehm's spiral model with figure. (10 Marks)
- 3 a. Explain (i) User requirements and (ii) System requirements. (08 Marks)  
b. Describe the requirements elicitation and analysis with example of bank ATM. (07 Marks)  
c. Explain the structure of Software Requirements Documents. (05 Marks)
- 4 a. What is data flow model? Write data flow diagram of insulin pump and explain notations used in data flow model. (08 Marks)  
b. Explain state machine model for a simple microwave oven. (05 Marks)  
c. What a project management activities? Explain. (07 Marks)

**PART - B**

- 5 a. Define system organization. Explain shared repository system. Mention merits and demerits. (08 Marks)  
b. Explain with figures (i) Central control system and (ii) Event-based control. (05 Marks)  
c. Briefly explain Object-Oriented Design process. (07 Marks)
- 6 a. Explain rapid software development with figures. (08 Marks)  
b. What are agile methods? Explain extreme programming practices. (05 Marks)  
c. Explain software maintenance in detail. (07 Marks)
- 7 a. Explain software inspection process in detail. (08 Marks)  
b. Explain clean-room software development with diagrams. (05 Marks)  
c. Explain system testing and phases of system testing. (07 Marks)
- 8 a. Explain People Capability Maturity Model with figures. (10 Marks)  
b. Explain algorithmic cost modeling, the COCOMO model. (10 Marks)

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24 FEB 2020

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.

