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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 algorithmatic cost modeling, the COCOMO model. **(10 Marks)**

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