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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