USN | | | | | | | | | | | **10CS/IS51**

Fifth Semester B.E. Degree Examination, June/July 2023

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 a software process? Explain the fundamental process activities.   (06 Marks)
   b. Explain the different phases of the systems engineering process.   (06 Marks)
   c. What is a legacy system? Explain the logical parts of legacy system and their relationships.
                                                                                        (08 Marks)

2 a. Define dependability. Explain the dimensions and system properties to dependability.
                                                                                        (06 Marks)
   b. With diagram, explain the software life cycle.   (06 Marks)
   c. Define software design and implementation. Also explain the design process activities.
                                                                                        (08 Marks)

3 a. Draw and explain the sequence diagram showing the actions performed in a bank ATM withdrawal.
                                                                                        (06 Marks)
   b. Write and explain the structure of a requirements document.   (08 Marks)
   c. Define requirements validation. Explain how to check the requirements in the requirement document.
                                                                                        (06 Marks)

4 a. With a neat diagram, explain the state machine model of a simple microwave oven.
                                                                                        (08 Marks)
   b. What is project plan? Explain the different sections included in the project plan. (08 Marks)
   c. Explain the different categories of risk.   (04 Marks)

PART – B

5 a. List the advantages and disadvantages of a shared repository model.   (08 Marks)
   b. With block diagram, explain the function oriented pipeline model of an invoice processing system.
                                                                                        (06 Marks)
   c. Explain the different stages of an object oriented design process.   (06 Marks)

6 a. Explain the practices involved in the extreme programming.   (08 Marks)
   b. Explain the reengineering process in detail.   (08 Marks)
   c. Discuss any four laws proposed by Lehman.   (04 Marks)

7 a. Explain the structure of a software test plan.   (06 Marks)
   b. With block diagram, explain clean-room development process.   (08 Marks)
   c. What is software prototyping? Give benefits of software prototyping.   (06 Marks)

8 a. List the factors governing staff selection.   (07 Marks)
   b. Differentiate between black box testing and white-box testing.   (06 Marks)
   c. Name the various estimation techniques in software systems.   (07 Marks)

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