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**Presidency University**

**Bengaluru**

 **School Of Computer Science and Engineering & Information Science**

**Summer Term End-Term Examinations, Aug 2024**

**Date**: 07.08.2024

**Time**: 01:00 pm to 04:00pm

**Max Marks**: 100

**Weightage**: 50%

**Odd Semester**: 2023 - 24

**Course Code**: CSA2006

**Course Name**: Fundamentals of Software Engineering

**Department: B.Tech**

 **Instructions:**

1. *Read the all questions carefully and answer accordingly.*
2. *Do not write any matter on the question paper other than roll number.*

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| **Q.No** | **Questions** | **Marks** | **CO** | **RBT** |
| 1 | 1. What does the software planning activity start and end in software life cycle
 | 4 | CO1 | L1 |
| 1. Draw a diagram for pure waterfall life cycle
 | 6 | CO1 | L2 |
| 1. Demonstrate the use of Prototyping Model with an example.
 | 10 | CO1 | L3 |
| OR |
| 2 | 1. Define Software Requirements Engineering.
 | 4 | CO1 | L1 |
| 1. What is the difference between SRS document and design document? What are the contents we should contain in the SRS document and design document.
 | 6 | CO1 | L2 |
| 1. Examine the characteristics of Good SRS.
 | 10 | CO1 | L3 |

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| 3 | 1. Define primary and secondary actors.
 | 4 | CO2 | L1 |
| 1. Differentiate Includes and Extends Relationship in a use case diagram with one example.
 | 6 | CO2 | L2 |
| 1. Sketch a Use Case Diagram for Bank Transaction Management with explanation.
 | 10 | CO2 | L3 |

OR

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| 4 | 1. List out the representation of swim lane diagrams.
 | 4 | CO2 | L1 |
| 1. Explain the Design principles of Architectural styles.
 | 6 | CO2 | L2 |
| 1. Demonstrate the Eight Golden rules of User Interface Design.
 | 10 | CO2 | L3 |

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| 5 | 1. List out the key Values and principles of the Agile Manifesto.
 | 4 | CO3 | L1 |
| 1. Differentiate Sprint and Scrum.
 | 6 | CO3 | L2 |
| 1. What are Scrum activities? Examine the activities in detail.
 | 10 | CO3 | L3 |

OR

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| 6 | 1. Define Agile Estimation.
 | 4 | CO3 | L1 |
| 1. Describe the types of stakeholders.
 | 6 | CO3 | L2 |
| 1. What is Agile Technology? Examine in detail.
 | 10 | CO3 | L3 |

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| 7 | 1. Define Manual and Automated Testing.
 | 4 | CO4 | L1 |
| 1. Explain about the different SCRUM Roles
 | 6 | CO3 | L2 |
| 1. Demonstrate Triangle Problem using Black Box Testing.
 | 10 | CO4 | L3 |

OR

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| 8 | 1. Compare verification and validation
 | 4 | CO4 | L1 |
| 1. Explain about different SCRUM activities briefly
 | 6 | CO4 | L2 |
| 1. What is Cyclomatic Complexity? Draw the Control Flow Graph (CFG) for the following code:

min = A[0]; I = 1; while (I < N) {if (A[I] < min) min = A[I]; I = I + 1; } print minCompute the Cyclomatic Complexity of the resultant CFG of the above code and list out the number of paths  | 10 | CO4 | L3 |

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| 9 | 1. Define Software Configuration Management
 | 4 | CO4 | L1 |
| 1. Explain about the different testing strategies
 | 6 | CO4 | L2 |
| 1. Explain about the steps in SCM
 | 10 | CO4 | L3 |

OR

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| 10 | 1. Define Software Maintenance
 | 4 | CO4 | L1 |
| 1. Explain any two software maintenance models with diagrams
 | 6 | CO4 | L2 |
| 1. A telephone company uses the following rate structure for long-distance calls
* Call duration <= 20 min, $0.05 per minute

•Call duration > 20 min, $0.10 per minute•Call duration > 120 min, $0.20 per minute.Using the Equivalence Partitioning Technique, find the partitions and test cases for valid and invalid. | 10 | CO4 | L3 |