

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI

Course Schedule: November 2024 – April 2025

Department : MATHEMATICS
Name of the Faculty : DR. ARPUTHA CHRISTY K
Course Title : Automata
Course Code : 19MT/GE/AM22
Shift : II

| Week & No. of hours | Units & Topics | Teaching Methodology | Text & References | Method of Evaluation |
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| Nov 18 – 25, 2024 (Day Order 1-6) 2 Hours | Unit 1 : 1.1 Mathematical preliminaries and notations, Sets, Functions and Relations 1.2 Graphs and Trees, Proof Techniques 1.3 Three Basic Concepts | Lecture & Problem Solving | Peter Linz, <i>An Introduction to Formal Languages and Automata</i> , 3rd Edition. New Delhi: Narosa Publishing House, 2005. | Questioning |
| Nov 26- Dec 3, 2024 (Day Order 1 to 6) 2 Hours | Unit 1 : 1.4 Languages, Grammars and Automata 1.5 Some Applications | Lecture & Group Discussion | Peter Linz, <i>An Introduction to Formal Languages and Automata</i> , 3rd Edition. New Delhi: | Quiz |

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| Dec 4-11, 2024 (Day Order 1 to 6) 2 Hours | Unit 1 : 1.6 Deterministic Finite Accepters 1.7 Deterministic Accepters and Transition Graphs | Lecture & Group Discussion | Peter Linz, <i>An Introduction to Formal Languages and Automata</i> , 3rd Edition. New Delhi:Narosa Publishing House, 2005. | Slip Test |
| Dec 12-19, 2024 (Day Order 1 to 6) 2 Hours | Unit 1 : 1.8 Languages and Dfas, Regular Languages 1.9 Nondeterministic Finite Accepters, Definition of a NDA | Lecture & Group Discussion | Peter Linz, <i>An Introduction to Formal Languages and Automata</i> , 3rd Edition. New Delhi: Narosa Publishing House, 2005. | Questioning |
| Dec 20-21, 2024 (Day Order 1 & 2) (1 hour) | Unit 1: 1.10 Why Nondeterminism? | Lecture & Group Discussion | Peter Linz, <i>An Introduction to Formal Languages and Automata</i> , 3rd Edition. New Delhi:Narosa Publishing House, 2005. | Slip Test |
| Jan 3 – 7, 2025 (Day Order 3 to 6) (1 Hour) | Unit 1: 1.10 Why Nondeterminism? Unit 2: 2.1 Regular Expressions | Lecture & Group Discussion | Peter Linz, <i>An Introduction to Formal Languages and Automata</i> , 3rd Edition. New Delhi:Narosa Publishing House, 2005. | Slip Test |

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| Jan 8 – 17, 2024 (Day Order 1 to 6) 2 Hours | Unit 2: 2.2 Languages Associated with RE 2.3 RE Denote RL , RE for RL | Lecture & Group Discussion | Peter Linz, <i>An Introduction to Formal Languages and Automata</i> , 3rd Edition. New Delhi: Narosa Publishing House, 2005. | Oral Test |
| Jan 18 - 23, 2025 | C.A. Test (No CA Test) | | | |

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| Jan 24 - 30, 2025 (Day Order 1 to 6) 2 Hours | Unit 2: 2.4 RG, Right- and Left-Linear Grammars 2.5 Context Free Grammar | Lecture & Group Discussion | Peter Linz, <i>An Introduction to Formal Languages and Automata</i> , 3rd Edition. New Delhi: Narosa Publishing House, 2005. | Component I Unit 2 Presentation/Seminar and Assignments (15 Marks) |
| Feb 3- 8, 2025 (Day Order 1 to 6) 2 Hours | Unit 2: 2.6 Left Most and Right Most Derivations | Lecture & Group Discussion | Peter Linz, <i>An Introduction to Formal Languages and Automata</i> , 3rd Edition. New Delhi: Narosa Publishing House, 2005. | Quiz |
| Feb 10– 18, 2025 (Day Order 1 to 4) 1 Hour | Unit 2: 2.6 Left Most and Right Most Derivations | Lecture & Group Discussion | Peter Linz, <i>An Introduction to Formal Languages and Automata</i> , 3rd Edition. New Delhi: Narosa Publishing House, 2005. | Slip Test |

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| Feb 19-26, 2025 (Day Order 1-6) 2 Hours | Unit 3: 3.1 Application of Finite Automata and Formal Language | Lecture & Group Discussion | Peter Linz, <i>An Introduction to Formal Languages and Automata</i> , 3rd Edition. New Delhi: Narosa Publishing House, 2005. | CA Test Unit I & Unit II (25 Marks)) |
| Feb 27-Mar 6, 2025 (Day Order 1 to 6) 2 Hours | Unit 3: 3.2 Design of Vending Machine | Lecture & Group Discussion | Peter Linz, <i>An Introduction to Formal Languages and Automata</i> , 3rd Edition. New Delhi: Narosa Publishing House, 2005. | Quiz |
| Mar 7 – 11, 2025 (Day Order 1 to 3) 1 Hour | 3.3 Document Language Design | Lecture & Group Discussion | Peter Linz, <i>An Introduction to Formal Languages and Automata</i> , 3rd Edition. New Delhi: Narosa Publishing House, 2005. | Slip Test |
| Mar 12 – 17, 2025 | C.A. Test – II (No C.A. Test) | | | |
| Mar 18 – 20, 2025 (Day 4 to 6) 2 Hours | 3.3 Document Language Design | Lecture & Group Discussion | Peter Linz, <i>An Introduction to Formal Languages and Automata</i> , 3rd Edition. New Delhi: Narosa Publishing House, 2005. | Quiz |
| Mar 21 - 28, 2025 | 3.4 Cryptography 3.5 DNA Computing | Lecture & Group Discussion | Peter Linz, <i>An Introduction to Formal Languages</i> | Component II Unit 3 |

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| (Day Order 1 to 6) 2 Hours | | | <i>and Automata</i> , 3rd Edition. New Delhi: Narosa Publishing House, 2005. | Assignment (10 Marks) |
| Mar 29- April 3, 2025 (Day Order 1 to 3) 2 Hours | 3.4 Cryptography 3.5 DNA Computing | Lecture & Group Discussion | Peter Linz, <i>An Introduction to Formal Languages and Automata</i> , 3rd Edition. New Delhi: Narosa Publishing House, 2005. | Slip Test |
| | REVISION | | | |