

**Unit – I**

Introduction to Finite Automata, Deterministic, Non-deterministic and Example applications.

**Unit – II**

Finite Automata & Regular Expressions, Applications of Regular Expressions, Algebraic laws for Regular Expressions, Properties of Regular Languages, Equivalence and Minimization of Finite Automata

**Unit – III**

Context-free grammars, Parse Trees, Applications of CFGs, Ambiguity in Grammars and Languages.

**Unit – IV**

Pushdown Automata, Equivalence of PDAs and CFGs, Properties of Context-Free Languages.

**Unit – V**

Introduction to Turing Machines, Undecidability and Intractable problems.

**TEXT BOOK**

J. E. Hopcroft, R. Motwani, and J. D. Ullman, "Introduction to Automata Theory, Languages, and Computation," Pearson Education, 2001

**REFERENCE**

Peter Linz, "An Introduction to Formal Language and Automata", Narosa Pub. House, Reprint 2000