CS202	Theory of Computation		T	P
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Formal Language and Grammar: Production systems, Chomsky Hierarchy, Right linear grammar and Finite state automata, Context free grammars, Normal forms, Derivation trees and ambiguity.

Finite state Automata: Non deterministic and deterministic FSA, NFSA with ε- moves, Regular Expressions, Equivalence of regular expression and FSA, Pumping lemma, closure properties and decidability, Myhill - Nerode theorem and minimization, Finite automata with output.

Pushdown automata: Acceptance by empty store and final state, Equivalence between pushdown automata and context-free grammars, Closure properties of CFL, Deterministic pushdown automata.

Turing Machines: Techniques for Turing machine construction, Generalized and restricted versions equivalent to the basic model, Godel numbering, Universal Turing Machine, Recursively enumerable sets and recursive sets, Computable functions, time space complexity measures, context sensitive languages and linear bound automata.

Decidability: Post's correspondence problem, Rice's theorem, decidability of membership, emptiness and equivalence problems of languages.

Suggested Readings:

1. J. E. Hopcraft, R. Motwani, J. D. Ullman, Introduction to Automata Theory, Languages and Computation, Pearson.
2. H. R. Lewis, C. H. Papadimitrou, Elements of the Theory of Computation, PHI. 3. P. Linz, An Introduction to Formal Language and Automata, Narosa Publisher. 4. K. L. P. Mishra, N. Chandrasekaran, Theory of Computer Science: Automata, Languages and Computation, PHI.